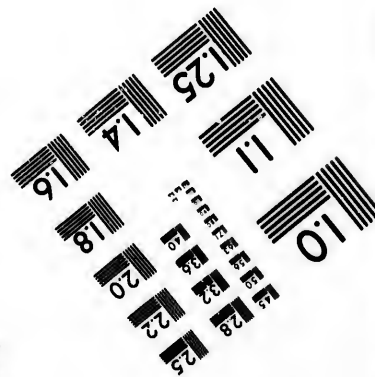
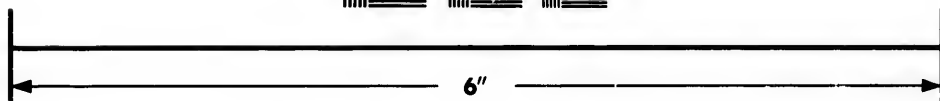
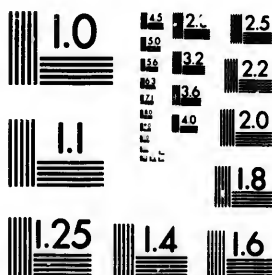


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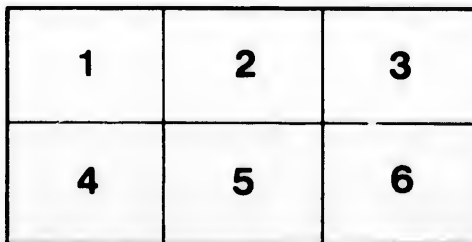
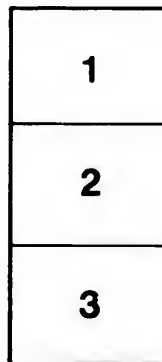
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VOL.

HISTORY OF THE
NEW WORLD CALLED AMERICA

PAYNE

VOL. II.

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New York
HENRY FROWDE



91 & 93 FIFTH AVENUE

HISTORY
OF
THE NEW WORLD
CALLED AMERICA

BY
EDWARD JOHN PAYNE
FELLOW OF UNIVERSITY COLLEGE, OXFORD

VOL. II

Oxford
AT THE CLARENDON PRESS
1899

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1847

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Oxford

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PREFACE

Four centuries after its discovery, America still remains for us the New World; and the title is still justified, for the scroll containing its message to mankind is still being unfolded, and seems never to come to an end. As we pass from the geographical to the ethnographical aspect of the Discovery, it becomes invested with greater interest. That a continent half as large as the Old World, and peopled in every part, existed across the Atlantic was a surprising revelation. It would have been more surprising had this continent been known to be peopled by a branch of the human race which had from remote antiquity been as completely severed from the original stock as if transported to another planet; which wandered into it, like other animal species procreated on the soil of the Old World. when the two worlds, afterwards parted by a depression of the earth's restlessly-heaving crust, and the consequent formation of a shallow strait connecting the Arctic Sea with the Pacific Ocean, were as yet continuous; which thus early, perhaps, spread over it in all its parts, and was driven back, or pressed forward, or penned up, by the increasing ice-fields of successive glacial periods, returning or escaping as the ice diminished—at one time confined to the coasts and the tropical or subtropical tracts of the interior, at another exploring the temperate zones and the lower slopes of the

mountain ranges ; which as yet was distinguished from the inferior animals only by some painful and strenuous form of articulate speech, the possession of rude stone weapons and implements, and a knowledge of the art of fire-kindling. Such, it may be supposed, were the condition under which man inhabited both the Old and the New World in the palaeo-ethnic age. Both worlds are still strewn with palaeo-ethnic remains ; and during long ages, perhaps, man roamed over both, as a single oecumenic area. Even when a geological change had separated them, some intercourse by sea was perhaps maintained—an intercourse which became less and less, until the American branch of humanity became practically an isolated race, as America itself had become an isolated continent.

Countless years pass, and the race emerges under a new aspect. In Eastern North America, the Antilles, Mexico, and Peru, neo-ethnic man is unconsciously preparing the way for European settlers. Is this change due to fresh immigrations, or to simple physical development on American soil ? The latter explanation appears sufficient, for the best-developed American stocks have diverged less widely from the aborigines of Northern Asia than have the big-horn sheep and the Rocky Mountain goat from their Old World cognates, or the turkey from its probable progenitor the peacock. The physical change seems to point to a prolonged residence on the part of the more robust tribes in temperate regions where subsistence was comparatively easy, alternating, no doubt, with migrations of which all trace is lost, except in the case of the series immediately preceding the Discovery. Whatever may be the cause, or causes, of the change, man has become physically stronger, more numerous, and more adventurous. A new era of migration seems to begin, and the new movement has separate centres

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in the Northern and Southern continents. In each case the foremost tribes appear to have gained in strength, numbers, and advancement by the same process—the pursuit of sea-fishing—the one group on the north-west coast of North America, the other on the shore of the great inland sea which once filled the basin of the Plate River¹. Exchanging fishing for hunting, and quitting these shores in successive swarms, the migratory tribes of the British Columbian shore spread eastward and southward over the Northern continent, those of the Argentine sea, northward, eastward, and westward over South America. In each continent one stock reached a destined seat of higher progress, previously occupied in each case by lower tribes—the Nahuatlacæ from the north-west coast settling in Analacac or Mexico, the Aymara-Quichua, from the low lands which bordered the ancient Argentine Sea, in the sierra of Peru. Here each elaborated for itself, by similar methods, though out of other materials, an advancement closely corresponding with those of the Old World; systematically propagated, by artificial means, indigenous food-plants; domesticated all such indigenous animals as were capable of and worth

¹ Probably also on the shores of the great 'Moxos Lake,' which Colonel G. E. Church, in his Presidential Address in the Geographical Section at the meeting of the British Association, 1898, shows to have once existed to the north of the ancient Mediterranean Sea of South America. During four months of the year this lake still partially reappears, covering 35,000 square miles with water which cannot find an exit over the falls of the Madeira river, these falls not being yet sufficiently worn down to give complete drainage to the Moxos basin. The partial disappearance of this lake and the total disappearance of the Argentine sea, which must have been almost tideless, are due to an upheaval of the earth's crust, so recent that the shells found in the ancient beaches still retain their colour. The plain of Argentina is believed to be still slowly rising; and some part of this vanished sea may well have existed in comparatively recent times—from 2,000 to 3,000 years ago.

domestication ; erected permanent buildings of stone and sun-dried clay ; inferred from the order of nature the existence of beings superior to man, embodied them in images, enshrined them in stately houses dedicated to their service, assigned them property, and established them as the principal members of the community ; organised the tribe on the double basis of a fighting and an industrial class under hereditary chiefs administering a customary rule of life, and thus produced the permanent pueblo—the unit of history. Out of the conflict of neighbouring pueblos, particular ones in each case emerged and rose to predominance, reduced less powerful ones to compulsory alliance or absolute servitude, and formed permanent dominions, having something of the character and aspect of kingdoms or states. At the Conquest two such dominions existed—that of Mexico spanning the narrowing continent from sea to sea, and that of Cuzco, extending over one of the loftiest and least accessible mountain districts in the world for a distance of 1,500 miles. Neither of these great dominant pueblos had been the original seat of the advancement on which its power was founded, nor was their domination over their neighbours of long standing. Each had developed with mushroom-like rapidity in the space of a single century, in the midst of older pueblos whose culture it had largely borrowed, and which the course of natural and historical events had enabled it to reduce to a dependent position. Mexico inherited its power and its advancement from Azcapozalco and Culhuacan. Cuzco derived both partly from the valley pueblos of middle Peru, but more largely from those of the Titicaca basin, especially Tiahuanaco. To some extent the changes which a century had witnessed were due to a natural cause, which is still at work—the diminution of water in the lakes. Tiahuanaco (the 'llama's rest'), founded at a point where

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several llama routes converge, had once been the head of navigation on the lake of Titicaca, from which it is now several miles distant. Culhuacan and Azcapozalco were left inland by the same process which enlarged the marshy island of Mexico, and made its people masters of the lake and of the older pueblos to which they had previously been tributaries. Mexico itself has now been added to the mainland, and is three miles from the shore of the lake by which it was surrounded at the Conquest.

The peculiar interest of early American history, however, lies less in the mere details of its facts and events than in the circumstance that it represents more fully and illustrates more clearly than any other the transition from the natural or savage life to the artificial state which we call civilisation. Both the Mexicans and the Peruvians rightly believed their advancement to be indigenous. The latter people attributed the existing differences between the various tribes within their knowledge to the will of the creator Pachacamac, who had fashioned each, together with their distinctive dresses and head-gear, out of the clay of the Titicaca valley, had taught each the language it was to speak, and the songs it was to sing, had given to each the roots and seeds it was to cultivate, and had levelled for them the terraces where these were to be planted, and dug the water-courses by which they were to be irrigated¹. The Nahuatlacâ, on the other hand, ascribed their advancement to Quetzaleohuatl, a god who had descended in the form of a bird from the Sun, and communicated to them the arts of life—had invented the house, the canoe, the fishing-net, and the stone hatchet, and discovered the use of maize and pulque; and this account of the origin of advancement, substantially brought by the Nahuatlacâ from their original seat in British Columbia, was

¹ Markham, Rites and Laws of the Incas, pp. 4, 124.

communicated to and generally accepted by the tribes in whose midst they ultimately settled. Every fact within our knowledge indicates American advancement as of purely native origin; and it is some confirmation of this view to find that it was shared by the aborigines themselves. When, however, the advanced peoples of America became known to Europe a few years after the Discovery, the elements of their advancement were at once supposed to have been imported from the Old World; and this hypothesis in a modified form has survived to the present day, though it has of late years been more and more discredited. It was natural that such a view should be entertained at the time. In the outward aspect of Mexican life few of the elements of ordinary civilisation were altogether wanting. Cities, palaces, temples, government, religion, law, chronology, arithmetic, commerce, painting, sculpture, arms, military discipline and costume, agriculture, cotton-spinning and weaving, metallurgy, cookery, alcoholic and other artificial drinks, were all represented. It was natural to suppose these to have been introduced by the first inhabitants, who must have been descended from Adam, and consequently must have immigrated from the Old World. Except in the history of Adam and Eve, Holy Scripture furnished no hint of man in his natural or savage state, much less of civilisation as the accumulated result of ages of human effort. Its opening pages, literally understood, attributed a knowledge of religion and sacrifice, agriculture, herdsmanhip, and building to Adam's two sons, metallurgy and music to his descendants in the seventh generation, and the possession of all the ordinary elements of advancement, including fermented liquors, to the family which reseeded the earth after the deluge. Presumably these formed part of the general 'knowledge of good and

evil' which had been gained by eating the forbidden fruit, and were the common inheritance of all mankind. What is extraordinary is that the view thus inconsiderately adopted in an age of imperfect knowledge, should have been maintained or revived, though to a limited extent, and on certain technical grounds, by eminent modern authorities. If the writer's labours have not been in vain, the theory of imported advancement has now been driven from its last stronghold. The cobweb of sophistry by which Alexander von Humboldt sought to establish a connexion between the calendar of Mexico and that of China has been destroyed. The fabulous 'corrections,' bissextile and secular, alleged by the Spanish antiquaries, have been exposed, and the Mexican calendar is shown to stand alone among the world's time-reckonings, and to have been no nearer to the truth than one which respect for antiquity retained in use two thousand years ago in ancient Egypt, two thousand years after the error involved in it had been discovered and its relation to the true course of the sun calculated¹. Incredible as it may seem, it is nevertheless true that Americanists (see note at p. 342) have hitherto accepted as a fact the idle fiction that a people who were absolutely ignorant of astronomy, who had not made the rudest approximation to a co-ordination of the sun's course with the moon's, and whose arithmetic, vicenary in principle, recognised no other fractions than the half and the quarter, nevertheless ascertained the length of the year in terms of the day with greater accuracy than the astronomers of the Old World at the Discovery. The climax of this credulity is perhaps marked by a statement actually made in the present year (1898) to a traveller by a Mexican savant, who assured his visitor that the Gregorian correction of the Julian year

¹ Greswell, *Fasti Catholici*, vol. i. p. 348.

was undoubtedly suggested by the greater accuracy of the Mexican year, due to the superior astronomical skill of the Mexicans! Corrections, on the Gregorian principle, of the $365\frac{1}{4}$ -day year had been made long before Julius Caesar adopted that year as the basis of civil chronology; and mediæval astronomers were perfectly aware of the extent to which the calendar year from time to time anticipated the course of the natural one. Roger Bacon calculated this anticipation at one day in 125 years, which is nearly correct. Three centuries before Pope Gregory's brief of 1582 restored the calendar year to its true place and provided a simple method of rectifying it for the future. The fact is that the only systematic time-reckoning of the New World, so far from being in advance of contemporary chronology in the Old World, was about 3,500 years behind it.

In the self-produced advancement of America the familiar elements of Old World civilisation are exhibited in their rudimentary forms. History follows the same course: migration, settlement, social organisation on the basis of a distribution of land, war, conquest, colonisation, succeed each other, and are wrought out in similar ways; the arts of life are developed on similar lines. When a certain degree of intellectual progress has been reached, speculation and knowledge assume the same tendencies: theology, ethics, arithmetic, history, geography, ethnology, and even the theory of human advancement, are all in some degree represented. The most remarkable illustration of this mental advance is the application of arithmetic and pictography to the reckoning of time and tribute in Mexico. Arithmetic entered into Mexican daily life as fully as was possible for people who had no coinage, lineal measures, or division of the day into aliquot parts; and they possessed a symbolical notation of numbers not less complete than

that employed in ancient Egypt, though their reckoning must have been hampered by the cumbrous nature of vicenary numeration. Yet it is improbable that numbers were ever conceived by them as odd and even, or that they had any knowledge of fractions beyond the half and the quarter, or any method of multiplication and division but by repeated processes of addition and subtraction. We have roughly computed that in their estimate of the length of the year they had reached a stage corresponding to that attained in Egypt 3,500 years previously. In arithmetic they were far more backward. The Egyptians, at or about that time, had invented the modern fraction having unity as its constant numerator, added and multiplied such fractions, solved equations of one unknown quantity, and calculated the area of the circle within $\frac{1}{67}$ of the truth by deducting $\frac{1}{16}$ from the diameter and squaring the remainder¹. The Mexicans had no unit of lineal measurement, and no conception of an area as a measurable quantity. We need be at no loss to account for this. One of the greatest of philosophers and mathematicians has recorded his conviction that the pursuit of abstract science is foreign to human nature. Only in extremely exceptional circumstances was man likely ever to drift into it².

The first reflection suggested by all this is that these isolated peoples were far beneath us; this is gradually succeeded by the conviction that they were nearer to our level than we are willing to think, and that if they were not nearer still, the fault lay rather in nature's parsimony in dispensing the materials of advancement than in man's incompetence to make use of them. The Mexicans pos-

¹ Papyrus of Ahmes (British Museum), before 1700 B.C. Ed. Eisenlohr (see p. 106, 2nd ed. 1891). The Chaldean fraction had a constant denominator (60).

² Pascal, *Œuvres*, ed. 1779, vol. ii. p. 125.

essed no domesticable quadruped but the dog. How would the scheme of their life have been changed had they possessed a single animal available for food and capable of being trained to labour, such as the Peruvian llama! How completely would it have been transformed had they possessed the domesticated quadrupeds of the Old World! To such animals man owes wealth, leisure, cerebral development, the possibility of multiplying in numbers far greater than can be sustained by hunting or mere manual tillage of the soil, and freedom from the degrading practice of cannibalism. Had the Nahuatlacâ been more fortunate in this respect, their advancement would certainly have equalled, and possibly far exceeded, that of their nearest cognates in Eastern Asia.

On the whole it will doubtless be concluded that the ethnology and aboriginal history of the New World disclose but little that is unexpected. In one matter only is the contrary the case. The languages of the American tribes, who left the Old World in an age when speech was as yet imperfectly developed, still retain the impress of its earliest elaboration. Long before creating for himself artificial bases of subsistence, man moulded for himself out of his natural cry an artificial basis of thought. The investigator of the American languages has not proceeded far in his task before discovering that he is unwittingly excavating the rude foundations of speech—foundations deeply laid in the nature of thought, animal life, and human society. In the languages of civilisation these foundations are hidden in the structure reared around and above them by the action of analytical thought. In the American languages, though analysis is universally at work, the foundations are plainly visible. The beginnings of speech appear, simple and archaic, as it grew out of the imperfectly significant

ery of primitive man. From a nearer point of view than is afforded by the languages of the Old World, we see the human animal learning the elements of speech by semi-instinctive utterances—utterances at first subjective, as in the lower animals, but gradually becoming capable of symbolising objects; behold thought ranging from thing to thing, rudely classifying things by the personal relations affecting them, and extending its method of designating these personal relations over the whole external world; watch these personal relations adapting themselves, even in the pre-grammatical ejaculation, to the moods of wish, question, answer, and command, and the unit of significance embodying itself in the holophrase, or polysyllabic unit of utterance. We trace the growth of articulation from the stage in which it was still based on the strenuous movements used in the mastication and ingestion of food; observe guttural and nasal sounds becoming slowly displaced by increasing oralisation, and strenuity giving place to relaxation and adjustment; mark the advance of expression from a narrow range of ejaculations, originally repetitive, which became habitual in the food-group and gradually lost their repetitive character through the use of variations adopted for the purpose of distinguishing personality, to a vocalisation becoming more versatile as its elements increase in number; watch significance, at first extremely limited, gradually enlarging its scope, and indications of personal distinction multiplying by the progressive subdivision of the human group in which speech is developing; behold the absent and the imaginary, equally with the real and present, brought within the range of speech, and becoming substantial extensions of the realm of speech-based thought. We see the holophrase increasing in volume as it gradually gains in significance and deter-

minateness, moulding itself by prefixation or suffixation, or both, to the sequence of ideas, and at length breaking up by the combined effect of its own cumbrousness and of the progress of mental analysis; the elements of relation, comparatively few in number, separated from the elements denoting things, which are over multiplying with increasing knowledge, mental activity, and power of expression; the verb, at first imperfectly distinguished from the noun, invested with a character and assuming a development of its own, conjugated by its object as well as its subject, and gathering into the scope of expression the manifold relations of circumstance. Thus has grammar established itself, not indeed in the place of a phonetic chaos, but in the place of a monotonous flux of repetitive and imperfectly-significant articulation, while things are as yet conceived for the most part under personal relations.

Out of the complicated grammatical schemes thus developed—schemes widely different in different tribes—labyrinths at first bewildering by their complexity and diversity, but explored without difficulty when the clue has once been found—we behold emerging the system of general names; the foundation of universal reasoning and calculation, so far as these processes are carried on by language, and constituting a new and broader basis of thought, which becomes coextensive with the world of things, so far as the world of things is mentally apprehended. The problem of the origin of general names, one of the standing puzzles of philosophy since the time of Plato, is solved by the American languages; such names are proved to have originated in holophrases of the third person, and to have acquired their universal character by dispersonalisation. This process could only have taken place in three ways: and all of these are illustrated in the

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American languages. We see with equal clearness how Abstract Terms and Number, the foundation of scientific reasoning, were developed out of general terms: how abstraction created a system of artificial things on which reason based itself as on a second and higher stage, and how abstract numbers led to the development of arithmetic, the first of the sciences. Lastly, we see how grammar facilitated the repetition of fixed and familiar elements, whether in the names of things, qualities, or beings and doings, and thus created that etymological character which gives to advanced languages so much of their force and flexibility, but is present only in a slight degree, or is wholly wanting, in rudimentary ones.

The general investigation of the American languages which has yielded these results arose out of the necessity of comparing these languages with those of the northern parts of the Old World, in which enough is still left of the archaic elements which more largely compose the American languages, to show that the two groups are fundamentally identical in structure. Such an investigation superficially conducted, or left incomplete, would have been worth little; and this must be the writer's apology for the length to which it has extended. Long as it is, it has been much curtailed and compressed; nor can the writer, in the nature of things, claim to have explored the whole ground covered by the subject. A few grammars, among which Lafone-Quevedo's 'Idioma Abipón' and Pelleschi's admirable 'Indios Matacos y su Lengua' may be mentioned, reached him too late to be of use; and much remains to be done before the South American field of language can be considered to have been thoroughly examined. Probably, however, fresh information, though it may supply deficiencies, will not affect the principles here deduced. The

matter lies in a small compass. Language began in the food-group, by symbolising the belongings (nouns), and beings and doings (verbs), of different persons, and of different things conceived as persons; it was elaborated by developing the distinctions of personality thus established. All names were at first personalised, and were therefore, in the speaker's mouth, names for the particular things designated, not names for things in general. The transition from such personalised names to general terms, and to the scheme of advanced grammar, was not only easy and natural, but followed of necessity.

A professed philologist, unexpectedly arriving at such conclusions as are here advanced, and looking back on the labours of his predecessors during more than two thousand years, might well feel the hesitation feigned by the old poet:—

*ἴσταμαι δὴ ποσὶ κούφοις, ἀμπνέων τε
πρὶν τι φάμεν. πολλὰ γὰρ πολλᾶ λέλεκται,
νεαρὰ δ' ἐξευρόντα δόμεν βασάνῳ
ἐς ἔλεγχον, ἅπας κίνδυνος. . . .*

The historian and the ethnologist are differently circumstanced. For them the development of speech is simply the oldest chapter in history, and language itself an important species of evidence. If they undertake to investigate it by their own methods, they are entitled to maintain their own conclusions.

The writer gladly tenders his thanks to those friends who have in various ways assisted him, especially to Colonel George Earl Church, without whose unrivalled knowledge of the New World and its peoples he would often have been at a loss. To Mr. Francis Cloughton Mathews, and to Professor Thomas Case, he is also deeply indebted for counsel, encouragement, and valuable suggestions.

E. J. P.

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HISTORY OF AMERICA.



BOOK II.

ABORIGINAL AMERICA.

(Continued.)



WE concluded our first volume by pointing out the necessity for military organisation in agricultural communities. The argument may be presented in a deductive form. The activity of man, traceable, like that of other animals, to the universal instinct of self-preservation, has two main branches; (1) Food-provision, necessary to the prolongation of his existence, (2) Defence, necessary to prevent his becoming the prey of other animals, whether of his own or of other species. Advancement proceeds concurrently on both lines; for the organisation of the food-supply on the artificial basis renders the necessity of defence more pressing. An agricultural tribe, permanently settled upon productive lands which its labour has rendered additionally valuable, stands in a new relation to neighbouring tribes, whether such tribes remain in the savage state, or are themselves concurrently advancing. While its permanently

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Aboriginal America.

Military organisation and advancement.

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 Aboriginal
 America.

stationary condition exposes it to attacks, which its women, food-stores, and miscellaneous possessions naturally invite, the social changes produced by increasing reliance on agriculture render its members as a whole incapable of offering effectual resistance. Hence the warrior class. Such a class, having as its primary function the defence of the community against external aggression, is found in all advancing agricultural tribes; where an aggregate of such tribes, as happens in favourable circumstances, has been welded into a nation, and has consequently come to make a figure in history, this class has always been the principal agent in the process. An advancement not defended by an adequate military organisation would be foredoomed to extinction; while one so defended is manifestly in a position not only to maintain its ground against aggression, but to extend its boundaries when occasion arises. Such extension, we find, does in fact take place, and that by a process having two stages. (1) Although defence is the primary function of military organisation, the exercise of this function cannot be confined to the repulse of attack. Barbarians and savages do not readily acquiesce in defeat. Still tempted by the prize which has escaped them, and thirsting for revenge, they renew the assault as early as they dare, even after being severely worsted. Against such peoples permanent conquest is the only effectual form of defence: and permanent conquest consolidates and extends the military organisation¹. (2) The conquering tribe or tribal group thus acquires a power which enables and often induces it to extend its advancement, and to spread its religion, which has been shown to be an integral part of its advancement, peacefully but compulsorily, among its savage neighbours. This ulterior stage, which may be called missionary civilisation, is best illustrated in aboriginal

¹ This observation is equally true of civilised powers; e.g. Rome and the Gauls, Carthage, Africa and Spain, England and India, the American Colonies and the Indian tribes.

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America by the so-called 'reductions' of the Incas, a species of missionary enterprise adopted and extended, on a Christian basis, by the Spanish missionaries after the Conquest¹. Missionary civilisation of this kind, we shall find, is not prompted by mere philanthropy, as Garcilasso would in the case of the Incas have us believe². Like all else within the scope of history, it rests on a solid economic basis; the civilised or 'reduced' tribes become tributary to the power which has changed their basis of subsistence. Civilisation and conquest, it thus appears, have naturally gone hand in hand; history affords no instance of a bloodless advancement, founded on the arts of peace alone. All advanced nations have at some time been powerful in war; and their degree of civilisation, in their most flourishing times, has usually been in the direct ratio of their military capacity.

We have spoken of a warrior class; the term 'class' is at once inclusive and exclusive. If some of a community form a class, the residue must constitute another class, or other classes. At an early stage of advancement we always find the community, broadly speaking, divided into a fighting class possessed of the property, that is, of the materials of subsistence, and a working class, in subordination to the fighting class, and provided by it with subsistence on the condition of performing in return the general manual labour which the maintenance of the social organisation requires.

¹ Compare the spread of Christianity in Northern Europe, and the great Mahomedan conquests. The 'reduced' districts formed a very large part of the Inca dominions: Garcilasso describes the process of reduction as the chief element in the Inca policy. The Spanish Conquest, as will appear in the sequel, assumed a distinctly missionary character, its pretext being the conversion of the Indians to Christianity. It was in this sense regarded as a continuation of the conquests from the Moors in Andalusia.

² Garcilasso even makes the process of peaceful reduction the beginning and basis of the Inca dominion (lib. i. c. 16). Polo de Ondegardo (Markham, *Rites and Laws*, p. 152) correctly says that the Incas 'at first extended their conquests by violence and war.'

Book II.
*Aboriginal
 America.*

A similar division exists in civilisation. The artificial system which we call Society, like the world of matter, appears to have its law of gravitation, in obedience to which those whose subsistence is mainly or exclusively secured by the possession of property, and those whose subsistence is mainly or exclusively earned by daily labour, always fall into separate classes. The latter group, essential to any appreciable degree of advancement, we call the industrial class. Its formation is a consequence of the establishment of agriculture as the main basis of subsistence. For labour, in the economic sense, is the creation of agriculture. Agriculture is the school in which mankind has learned the great lesson of regular industry: as all wealth other than food is food in a state of transformation, so all organised labour not directly agricultural is agricultural labour in a state of transformation. In the savage state every one shares the desultory toil of the food-quest. In pure herdsmanhip labour remains undeveloped, being confined to the members of the proprietor's family, and to the small number of slaves which this method of food-production will employ. Neither organised free labour, nor slavery on any important scale, make their appearance: these owe their origin to agriculture.

Force,
 Property,
 and Au-
 thority.

We have denominated the materials of subsistence 'property.' In the early stages of advancement whatever is denoted by this term represents either (1) past or spent food, food which has taken the shape of products of labour, labour which the consumption of this food has sustained, (2) actual or present food, or (3) something capable of being employed in the production of future food. In primitive social economy members of the strong or fighting class keep these forms of property strictly under their own control, if not actually in their own possession; what is held by others is held by their favour, and comes to be regarded as their gift. To a large extent, indeed, such is actually the fact. Social and political power, though it

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may originate in superior force, is chiefly exercised through that control over property by which superior force is always accompanied. Hence a phase of authority so conspicuous in early advancement as to have been sometimes considered a separate species of sovereignty, and to have received the distinctive name of Dorocracy, or the 'rule of the gift-givers.' We are unable to discover any good reason why power exercised through the distribution of wealth should be thus distinctively classified. The association of power and property is natural and necessary. Property, over and above what its owner can consume, can only be useful to him when distributed among others: power is most conveniently and naturally exercised by means of this distribution. The chiefs of many low tribes levy contributions on other members, partly for maintenance, partly for distribution among those by whom their authority is supported¹. The same thing happens in civilisation: hence Harrington's law that 'power follows the balance of property².' Political philosophers, however, well know the danger of relying on property as an effective instrument of power³. Originally acquired by force, property must always rest on force for its defence: the same arts, in the words of Marvell, that have gained power, must be exercised in order to maintain it⁴.

We have suggested that the division of society into a ruling and an industrial class may be the practical result of some universal law, analogous to the physical laws which rule in the world of matter. Such an explanation appears preferable to that of Aristotle, who accounts for the division of classes by postulating original differences between indi-

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Aboriginal
America.

Dynamics
of primitive
Society.

¹ Powers, Tribes of California, &c.

² 'Valerius and Publicola.'

³ Burke, Select Works, Clarendon Press ed., vol. i. p. 250.

⁴ Horatian Ode on Cromwell, concluding lines. (From Sallust's Catiline: 'Imperium facile iis artibus retinetur quibus initio paratum est.')

BOOK II.
*Aboriginal
 America.*

viduals, in virtue of which some are qualified for the duty of direction, while others are only fitted to obey¹. As equality both in status and in the possession of property usually prevails among the lowest savages, while inequality of both kinds, accompanied by the exercise of authority, makes its appearance with the beginnings of advancement, it would seem more probable that the change is connected with the process of advancement itself. These beginnings, when manifested in any important degree, result, if our conclusions are correct, from the discovery that as the need for food is regular and constant, so the supply of food can by the method of artificial production be made regular and constant also. Man determines that his energy, produced by the consumption of food, shall in the first place be employed in replacing what he has consumed, and accumulating food for future use. The methods by which this has been done were not adopted, we think, simultaneously by entire tribes. Probably only the strongest families adopted them in the first instance. The adoption of artificial food-production as a definite basis of life, assuming that these are able to defend what they have thus acquired, would place the principal members of such families in the position of advantage described in the last paragraph : while others would be admitted to share in the benefits enjoyed by them only on the terms of submitting to labour under their direction. When this has once taken place, the social machine has obviously been set in motion ; and in accordance with the law of inertia, the directing and defending force, on the one hand, the industrial force on the other, continue to act as they originated. Each gains in strength as numbers increase ; and the distinction between the two classes, each developing a more distinctive character as it becomes more firmly consolidated, becomes in time more and more prominent. Were either force withdrawn, a society thus constituted must collapse, as the

¹ Politics, I.

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cosmic arrangement of nature would collapse by the cessation of motion or of gravitation.

To explain the formation of the industrial class it is only necessary to make a single deduction of the greatest simplicity. The establishment of agriculture as the substantial basis of life renders obsolete that simple division of employments between the men and the women, which suffices for the organisation of the hunting tribe. Among savages, we have seen, a rudimentary and limited agriculture, merely supplementary to the principal method of food-provision, and in partial substitution for the toilsome quest of wild roots and seeds, is practised by the women; the men remain engaged in hunting and fishing, the substantial mainstay of life. Let the hunting tribe be now considered as gradually varying its basis of subsistence by the diminution of hunting and the proportionate increase of agriculture: let it also be supposed, as the fact must necessarily be, that the tribe has at some point before the basis is actually shifted become permanently stationary, has reduced to cultivation a considerable tract of soil, has erected buildings for the storage of crops, and perhaps constructed acequias and terraces. Certainly at such a point as this, probably much earlier, the labour of the females of the tribe, even when assisted by the children and old men, becomes insufficient to produce the quantity of roots or corn necessary for its maintenance. How is this deficiency of labour supplied? There are several methods of doing it: we will first describe the most important, the permanent employment in agriculture of a part of the rising male generation.

Besides the able males, who are employed in hunting, the savage tribe consists (1) of women, (2) of adult males who are physically or intellectually feeble, and hence are disqualified from learning to hunt (weak males), (3) of children, and (4) of old people. The last-mentioned group, which has no permanence, may be disregarded: and when the numbers of the women and the weak males are compared,

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America.*

Origin of
the industrial class.

Woman
the primitive
labourer.

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it is found that the former predominate. The weak males, who are treated, as will presently appear, like an inferior species of women, never form a separate and permanent class: nor would the women, ever attaching themselves to the strong, associate conjugally with them. On woman, then, in early society, falls the main burden of all constant labour that has to be performed in the community, including that of tilling the soil. The children render the mothers such feeble aid as they can. The men, to do them justice, usually perform the severe work of ridding the land of timber. But the labour of digging and of planting the seed, the daily watering of the plant, the often-repeated hoeing of the interspaces, so necessary in climates where noxious vegetation rapidly springs up, the harvesting and storing of the crop, all these, like the preparation of the ripe seed for food, fall mainly upon the women. If that which is undoubtedly true of the New World is equally true, as there is little reason to doubt, of the Old¹, agriculture, the basis of civilisation, was originally founded upon the servitude of woman. Agriculture did not create this servitude: it merely took advantage of it. Strictly speaking, it grew out of it. To the humble toil of his patient helpmate man owes the beginnings of all that makes life, to our modern way of thinking, worth the living. The genius which watched over early advancement was the female slave. Ancient theology, while it created the male slave-god Hercules, neglected this more pathetic historical figure, so touchingly embodied in the fettered marble of Canova.

Transition
 from ex-
 clusive
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Woman therefore, by the conditions of early society, is doomed to a double servitude. By periodical reproduction she must ensure the continuance not merely of the species itself, but also of the vegetable foods on the constant supply of which its continuous existence comes to depend. This

¹ Long after the burden of agricultural labour had been shifted from the women they continued to take the principal part in the great agricultural festivals, as in that of Demeter Thesmophoros.

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double slavery of his partner commends itself to primitive man as perfectly according with the fitness of things. He declines to intermeddle with the work of agriculture, and affects to regard it as dependent for success on some peculiar faculty in woman intimately connected with that of child-bearing. 'When the women plant maize,' said the Indian to Gumilla, 'the stalk produces two or three ears; when they set the manioc, the plant produces two or three baskets of roots. Why? Because women know how to produce children. They only know how to plant the corn so as to ensure its germinating. Then let them plant it; they know more than we know¹.' The time comes when this ingenious paralogism, invented by the savage drone to excuse his laziness, no longer commands assent. In particular cases this time arrives very suddenly; a radical change may take place in the course of a single generation. The village has become permanently fixed in one spot. While the game is disappearing, population is not diminishing; the plantations have to be rapidly extended, and that on a considerable scale. At such a stage the males must necessarily engage in field labour; the growing generation of male children, moreover, already accustomed from infancy to assist their mothers in the tillage of the soil, are not withdrawn from this employment, but permanently continue in it, with the exception, probably, of the sons of the principal chiefs, and of any who may evince a special aptitude for war and the chase². A separate male industrial class is thus formed; a class inheriting the general status of the women whose labour it has been created to share. Such appears to be the primary source of the industrial class in agricultural communities. To this natural process there is an alternative, more likely to take effect

¹ Ante, vol. i. p. 464.

² To attach the growing male generation to agriculture instead of hunting required severe discipline. On the Orinoco the youths were regularly whipped with twisted *pita*, to compel them to prepare the land for cropping (Gumilla, *Orinoco Ilustrado*, vol. i. p. 188).

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 America.

Capture
 and pur-
 chase of
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 women.

wherever communities in the stage under consideration exist within moderate distances of each other. This alternative process, often carried on concurrently with that above described, leads to important ethnological changes: we shall therefore examine it with some minuteness.

In order to raise the increased and increasing quantities of food which the shifting of the basis of subsistence makes necessary, more women may be imported into the tribe. This alternative, based on the woman-capture which already exists among savages, has advantages over the previous one. It at once saves the dignity of the male sex and provides it with additional slaves. Often, we may suppose, such women were voluntary immigrants, who fled, like the daughters of Danaus, from the doom of compulsory endogamy¹, or perhaps simply transferred their labour to a field where it was more amply rewarded than at home. In a tribe becoming more and more dependent on agriculture such immigration would be welcomed; for the more women, the more labour, and the more labour, the more food, that is, the more wealth. The change would obviously ameliorate the lot of the new-comers. In return for their regular labour they would receive constant food and kind treatment, and the males of the tribe into which they were adopted, to one of whom they would naturally be assigned for protection, would readily associate with them on a conjugal footing. Spontaneous immigration, as agriculture spreads in the district, must in time be checked, and be ultimately superseded by the more regular methods of capture and purchase. A lower tribe, insufficiently supplied with food, would gladly exchange its surplus women against food from the stores of its more advanced neighbours: and the systematic capture of alien women, when once recognised as valuable chattels, would follow naturally on the development of the military organisation.

¹ Æschylus, Suppliants. The poet has seized this aspect of primitive life with marvellous accuracy.

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Woman-capture, a rude and cruel institution among savage tribes, is placed on a new footing in agricultural communities. The lot of the female captive is ameliorated in an important point: she is allowed to rear her young. Before an industrial class has been formed, her children are not permitted to survive; considered as a supplement to the food-basis, they are killed and eaten¹. They are now destined to the same lot with their mothers, and remain attached to the soil as cultivators. The same thing happens in the case of the children of purchased females. Nothing is more natural, when advancing tribes are settled within easy reach of each other, than a regular traffic in women. In high savagery and barbarism the wife taken within the tribe is commonly purchased from her father by the husband. Exogamous purchase is a mere extension of this natural practice, a simple application to it of the principle already established in the antecedent practice of woman-capture. Such appears to be the second source of the industrial class in early agricultural communities. Tribes thus robbed of their women would necessarily assign their male youth to agriculture in the manner above described.

The suggestion that spontaneous emigration of women coexisted with capture and purchase for agricultural purposes receives confirmation from an ethnological fact apparently common to both worlds—the existence of agricultural communities exclusively composed of women, formed, it would seem, by the same process of spontaneous emigration, and deriving their continuity from periodical visits, usually once a year, and lasting for a month in the spring, by males from other tribes. Columbus, while coasting Hayti on his return from his first voyage (Jan. 13,

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America.*

Female
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¹ Such, Columbus notes, was the practice with the Carib islanders. 'Dicen tambien estas mugeres que estos usan de una crueldad que parece cosa increíble; que los hijos que en ellas han se los comen, que solamente crian los que han en sus mugeres naturales' (Navarrete, tom. i. p. 353).

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1493), heard of such a community from an Indian who visited him on board the Niña. The account was precise; the women of 'Matinino' admitted annually, as temporary members of their tribe, a certain number of male visitors, who carried back with them, on departing, the male children born in each interval, the women retaining the girls to replenish their own society¹. Later accounts afford a body of evidence strongly tending to prove the existence of such societies in the valley of the mighty stream on which these communities have indelibly stamped the name of River of Amazons. He who summarily rejects these accounts knows little of the realities of the transition from savagery to barbarism. Women, as the Spaniards often found to their cost, can use the bow and arrow not less effectively than men². In possession of this deadly weapon, as well as of the materials of subsistence, they might easily form independent communities, and maintain them, by the means adopted by the South American Amazons, for an indefinite period. When women, says Southey, in his vindication of the accounts of these communities, have been accustomed to accompany their husbands to battle, there is nothing that can be thought improbable in their establishing themselves as an independent race, and thus securing that freedom for their daughters which they had obtained for themselves³. What is interesting

¹ Las Casas, H. de las Indias, tom. i. p. 434. Las Casas, unable to credit the story, thinks that the Admiral must have misunderstood his informant, or that there had been some mistake on the part of the copyist of his log. But precisely similar accounts were given of the Amazons of Guiana, in later times, by travellers who never heard of 'Matinino.'

² In recent times the women of the Californian tribes went out to battle with their husbands, sometimes taking the front rank, the males crouching behind them. Powers, Tribes of California, p. 248.

³ History of Brazil, vol. i. p. 609 ('Had we never heard of the Amazons of antiquity, I should without hesitation believe in those of America'). Southey regarded the Amazons of antiquity as fabulous: it is strange that it never struck him that these also might equally be

in these ancient female communities, which seem to have existed in considerable numbers in Africa, Asia and Europe, is that they prove the Revolt of Woman, sometimes ranked among the fruits of advanced civilisation, to have in fact originated in the transition from savagery to barbarism. It would not be impossible to organise similar societies under modern conditions. Most arts and trades, except ocean navigation, which is unnecessary to such societies, could be carried on exclusively by women: some modern females handle the rifle as effectively as those of the stone age handled the bow and arrow. Such societies, however, would perish from the same causes which probably led to the disappearance of these strong-minded females of antiquity—not from man's hostility, but from his indifference, and his unwillingness to play the undignified part required of him to ensure their continuance; from internal dissension, from ennui, from the inextinguishable desire for male society in the community itself. Man ultimately comes to an agreement with woman on his own terms. Struggle as she may, she is born for subjection, and will in the end return to her master.

The process above sketched out appears to throw light on a series of changes which have occasioned some controversy among ethnologists—the transition from endogamy, or conjugal association with women born in the tribe, to exogamy, or conjugal association with alien women, the

genuine. No European traveller appears to have actually visited these female communities; a circumstance explained by the fact that no Indian, with the fear of the deadly arrow before his eyes, would have dared to act as his guide. 'They are said,' writes Raleigh, 'to be very cruel and bloodthirsty, especially to such as offer to invade their territories.' The evidence collected successively by Orellana, Raleigh, Acunha, and Condamine, covering a period of nearly two centuries, appears practically conclusive as to the reality of the Amazon communities. Mr. Powers (*Tribes of California*, p. 160) mentions a tradition, that when the Spaniards first arrived in California, they found a tribe of Amazons in what is now Mendocino County, and thinks that the account was not without foundation.

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America.*

The Food-
quest and
Marriage.

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subsequent disappearance of the latter form of association, and the reestablishment of endogamy. It is well known that endogamy is not necessarily abandoned by a tribe which has admitted exogamy. Let us recur for a moment to the primitive principles of conjugal association. These are evidently closely connected with the food-supply: for the appetites for food and for conjugal association are correlative. Man wins woman, as Lucretius knew, by providing her with food¹. Hence the conjugal group will tend to be the same as the food-group: those who are engaged in a common food-quest will form a sexual association on the same footing. The limited promiscuity found among savages, and known as 'Group-marriage,' appears to be merely a state in which groups of individuals of both sexes, associated for the purpose of the food-quest, add to this the satisfaction of a secondary and occasional appetite. In regard to the latter, however, as Lord Kames pointed out with perfect truth, man is by nature a pairing animal². Even the great anthropomorphous apes and low savages, when they enjoy an ample food-basis, are usually monogamous; witness as to the former Wallace's description of the mias³, as to the latter the practice of the Veddah, embodied in their proverb, 'Only death separates husband and wife⁴.' Hunger may lead to the food-quest in groups, and this to promiscuity in various forms: but as the artificial basis becomes more and more assured, pairing will speedily reassert itself, even in the midst of promiscuity. The Bible, then, is in accord with ethnology in describing pairing as the natural and original state of man, promiscuity as a subsequent degeneration, accompanied by violence and disorder, and shared in by the lower animals, who are consequently involved in the destruction with which the human

¹ Lib. v. 963.

² Sketches of the History of Man, Bk. I. sk. 6.

³ Malay Archipelago, vol. i. ch. 4.

⁴ Transactions of Ethnological Soc. N. S., vol. ii. p. 293.

race is visited ; the regeneration of society after the Deluge is effected by organising it on a monogamous basis in connexion with agriculture as the means of subsistence¹. The human race multiplies most rapidly where pairing prevails, for this form of conjugal association gives the greatest stimulus to food-production and to the consequent accumulation of wealth. Attached pairs have a strong interest in feeding each other, the male, in particular, always taking special pains to provide ample food for her who is to bear and suckle his offspring, and for the offspring itself, which could not, as a rule, be reared to maturity by the single-handed efforts of the mother. In this way monogamous endogamy, or pairing within the tribe, seems to arise naturally in tribes adequately furnished with subsistence, whether natural or artificial, and to be the form of sexual association to which advancement in its later stages naturally tends. We have traced one of the causes which vary this general endogamy in the direction of exogamy ; let us briefly glance at those which tend to vary the practice of monogamy in the direction of polygamy or of polyandry.

The key of this problem is grasped when it is once apprehended that abundance of food or wealth goes hand in hand with abundance of female labour. A tribe which has incorporated, by the methods above indicated, any considerable number of women from other tribes, becomes in virtue of this process polygamous: tribes thus depleted of their women may obviously become from the same cause polyandrous. The tendency to vary from monogamy in the opposite directions of polygamy and polyandry will therefore correspond approximately with the degree in which the food-basis of the community, and with it the numbers of its female labourers, is expanding or contracting: that is, the increase of food or wealth promotes polygamy, its diminution polyandry. Monogamy becomes the state of the moderately prosperous, polygamy of the rich, polyandry

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America.*

Monogamy,
Polygamy,
and Poly-
andry.

¹ Genesis, vi-ix.

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of the poor. As wealth tends generally to increase rather than to diminish, polyandry is less common than polygamy. Its disadvantages are obvious. Peace and order, the great general interests of communities, are endangered by it: it contains essentially the seeds of disturbance based upon jealousy. Only in the poorest communities, where a scanty food-basis keeps male appetites in check, could polyandry permanently establish itself. The strong chief, on the other hand, capable of attracting to himself, purchasing, and capturing the alien woman, rapidly becomes rich through her not unwilling labours. He adds to his female herd or family, replaces old favourites by young ones, builds a capacious house, and multiplies his progeny. Polygamy thus becomes the normal condition of the chief, and monogamy remains that of the labourer: a contrast which is brought prominently into notice in aboriginal America. While the peasant was fain to be content with one wife, the chief usually took as many as his lands were capable of employing and supporting: and in Peru the marriages of both were alike subject to official regulation.

Women
 of the
 warrior
 class.

The introduction of the alien labouring woman leaves unaffected the original relations which subsisted between the chiefs and the females of the tribe belonging to their own class. From among these the principal wife of each continues to be chosen. Through such principal wives the chiefs trace their descent: they are the channels in which the blood of the ruling class is preserved uncontaminated by the baser and alien elements, in accordance with the oldest of social laws, the Law of Maternity¹, under which the status of every member of the tribe is decided by the status, not of his or her father, but of the mother. The intro-

¹ The 'Mutterrecht' of Bachofen. It does not necessarily imply uncertainty as to the paternity, as is often supposed; paternity was simply insufficient to determine the status, which required descent to be traced to the mother. As advancement proceeds, it ceases to operate: in Mexico the sons of peasant and slave women sometimes succeeded to the chieftaincy.

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duction of the alien woman places these mothers and sisters of the chiefs in a new relation to the tribe. She who is the source of its best and purest blood becomes the 'noble lady,' the *palla*, *ñusta*, or *coya* of Peru: the *telecihuatl* or *cihuapilli* (pl. *cihuapiltin*) or female chief of Mexico. We shall use this latter term to denote these women of the dominant class, so important throughout aboriginal America. In Mexico the *cihuapiltin*, in default of males, sometimes succeeded to the subordinate chieftaincies. The status conferred on them by birth, aided by a regular education and considerable shrewdness and command of popular sympathy, conferred on them a certain share of political authority; an advantage which was promptly utilised by the handsome and vigorous warriors of Spain, universally recognised in Mexico as 'gods,' to facilitate the conquest of the country. In the tributary districts, which formed the main part of the Mexican territory, the *cihuapiltin* gladly submitted to be assigned as wives to the conquistadores, assisted them in acquiring the native languages, and through the strong influence they exercised over the native population, rendered material assistance to their husbands in the extension and consolidation of the Spanish rule.

Less important than the purchase and capture of alien women is the practice of permitting the survival of those whom we call 'weak males.' These are a noticeable class in ancient society, and abounded in the New World¹.

¹ See, for example, Powers, Tribes of California, p. 132. Thirty specimens of the *i-wa-musp*, or 'man-woman,' were found by Eberle among the Yuki tribe. Attired as women, they lived in the families of others, performing all the menial tasks imposed on squaws. Occasionally they lived in retirement, like hermits, for periods of a month or so, spending the whole time in rehearsing the tribal history in a sing-song monotone to all who chose to listen. 'The Pit-River Indians have a regular ceremony for consecrating these men-women to their chosen life. When an Indian shows a desire to shirk his manly duties, they make him take his position in a circle of fire; then a bow and a "woman-stick" (vol. i. p. 343, ante) are offered to him, and he is solemnly enjoined, in the presence of witnesses

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America.

Survival
of weak
males.

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Incapable of getting their living by the chase, the weak males would in the earliest savagery probably be killed and eaten, or, in the alternative, left to perish. In more advanced savagery they are allowed to survive, on the terms of systematically sharing the tasks of the women, which include the quest of wild vegetable food. From this the transition is easy to their becoming assistants, when the stage of partial agriculture has been reached, in the cultivation of the soil. Males of this class, wearing female attire, and performing the lowest functions imposed on the female sex, were commonly found, in the latest times, in the most advanced communities of America: those of the Mexican pueblos shocked the moral sense of the conquistadores scarcely less than did the hideous idols, the human sacrifices, and the cannibal feasts¹. Originally the weak males are of necessity celibates. As agriculture advances, and labour is more and more in request, some of them, it would seem, are allowed to become the parents of others; their progeny, weak in physique, are well adapted to form the nucleus of the lowest group in the industrial class, the slaves. Tribes which have been largely depleted of their women, in the manner above indicated, must necessarily rely more and more on their weak males for purposes of labour; their vigour will consequently diminish, and they will be ready for subjugation by stronger ones.

War Cap-
 tives.

The principal source, however, of the supply of slaves, is the regular practice of war. The enslavement of male war-captives, common in the higher savagery, is one of the most important institutions of barbarism, for it serves as a basis of commerce. The able-bodied slave, domesticated and trained to labour, and easily transferred from place to place, is a natural unit of value, and a convenient means of

assembled, to choose which he will, and ever afterward to abide by his choice' (p. 133). (Cp. the *θήλεια νοῦσος* of the Scythians, mentioned by Herodotus, Clio 105, Melp. 67.)

¹ Bernal Diaz, c. 51, &c.

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exchange: in Mexico, where large domestic animals were wanting, he occupied a position which may be compared with that occupied by the large domestic animals in the Old World, serving not only as an animal of labour, but as a food-animal. War-captives, throughout Anahuac, were kept in considerable numbers in the *quauhcalli*, a bamboo pen under the control of the chiefs, and fattened on maize, for slaughter under the guise of sacrifice. The *teocalli* was in fact the abbatoir of the Mexican pueblo: the limbs of the victim, which became after sacrifice the property of the chiefs, were cut up on the spot, and the portions afterwards sold in the public shambles¹. Slaves of both sexes, secured by collars, were also commonly exposed for sale in the markets. In Peru, where there was no commerce, and large food-animals were abundant, this development of slavery is wanting.

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America.

Probably the most important among the results of the transfer of agricultural labour from the women to the men is the increase of population which necessarily follows. No woman who is engaged all day in the field, carries home heavy burdens of vegetable foods and fuel, often by steep and stony paths, performs each night the severe labour of pounding maize for the next day's meal, and who endures this servitude all her life from the age of ten to decrepitude, can possibly produce and rear a numerous offspring. It has been calculated that where agriculture devolves on the women, the number of children reared by each can seldom average more than three or four. Adopting the latter figure, and remembering that even in civilised countries half of those born die before attaining twenty-five, it will follow that two only survive to replace the parents. The population, therefore, under favourable conditions, can only remain stationary². The liberation

Increase of
population
from the
transfer of
Agriculture to
men.

¹ Bernal Diaz, c. 51.

² This argument, capable of general application, is borrowed from Mr. Wallace's Malay Archipelago, vol. i. ch. 6.

Book II. of women from the severer forms of agricultural labour can
 Aboriginal alone produce any considerable increase of population. This
 America. change, nowhere effected in the forest districts, where as
 a rule the whole of the toil of agriculture fell on the women,
 had taken place generally throughout the populous districts
 of Mexico and Peru. Here the women's share in agricul-
 tural labour was chiefly limited to assisting in the gathering
 and storing of the crops, that is, to such assistance as is
 commonly rendered by women at harvest-time in civilised
 countries.

Chiefs, not
 a new
 creation,
 but a
 survival.

Meanwhile, the original male members of the tribe, together
 with their children by its original female members, consti-
 tute a distinct upper class, occupied, as before, in hunting,
 war, and the general direction of the affairs of the tribe.
 To them the industrial class looks for direction and
 for protection. War and administration are their serious
 business, hunting becomes their pastime; the limitation
 of the numbers permitted to engage in it, and the institu-
 tion of a close time, prevent the extinction of this pursuit,
 in which the upper class always ardently engage. They
 are not, we perceive, a fresh element, superadded to the
 tribe for the special purpose of defence, but simply repre-
 sent the strong element in the original savage community,
 from which the weaker elements have been detached to
 form the nucleus of a lower or working class. The mili-
 tary class, then, is no new creation, produced by the
 condition of exposure to attack, but a survival, to which
 this condition has given a new destiny. As time goes
 on, the distinction between the warriors, on the one hand,
 and those who ultimately become the majority of the
 population, engaged in labours in which warlike pursuits
 and methods have no place, on the other, becomes more
 and more marked. Two distinct groups appear, a small
 one which governs, and a much larger one which is
 governed—a ruling class and a labouring class. The
 contrast between these, a prominent characteristic of all

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early advancement, is very strongly marked in aboriginal America. Both in Mexico and in Peru the peasantry were held by a ruling military class in a condition of absolute subjection, more strongly marked, perhaps, in the latter than in the former¹. The government is essentially a military one; this military character, also common to all early advancement, strikes the observer more than anything else in the advanced communities of the New World. Whether we turn to Mexico, to Peru, or to New Granada, it is found that the military organisation guides the whole social machinery; and the degree of advancement universally corresponds to the military capacity of the community, represented by the numbers and the training of its warriors. For agricultural advancement tends to gain in stability, and to spread over wider and wider areas, in proportion to the efficiency of the military organisation which protects it. This, as we shall show, takes place by two distinct but cognate processes—by internal augmentation within the pueblo, and by the formation of new settlements outside it. When a strong pueblo, in the

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¹ While the upper class, says Pedro Pizarro, were continually dancing, howling, and eating and drinking with the dead (ante, vol. i. p. 600), they compelled the lower class to lead a life of severe and monotonous toil. These tyrants described the latter to the Spaniards as 'lazy vagabonds,' 'slothful loungers,' who must be made to work without ceasing, because it was right they should do so, adding that it was good for their health. 'Decian estos Señores de la tierra que a los naturales della los hacian trabajar siempre, porque ansi convenia, porque eran araganes y bellacos y holgazanes, y que haciendoles trabajar vivian sanos' (Doc. para la Hist. de España, tom. v. p. 276). Such was the 'State Socialism' of Peru! The Mexican chiefs bestowed on their *macehuallin*, or vassals, such epithets as *zuquill* (dirt), *tlacolott* (scorpion of the dust), *cuillapilli*, &c. *Macehualli*, the usual name for the peasant in Mexico, means 'he who is held in the hand (of another)': *malli* (pl. *mallin* or *mamallin*) = 'war-captive,' is a variant. The root is *mall* = hand, whence also *maquahuill* (hand-wood) = club: *maca* = give: *macuilli*, five (the whole hand): *mama* = carry (originally, in the hand). Other names are *elimitcqui* = cultivator: *quauhqui* = bearer of wood (fuel): *mayectli* = good (right) hand, &c.

BOOK II. *Aboriginal America.* manner shortly to be described, has become through conquest a dominant or sovereign one, there is sometimes added to these processes a third, already referred to as 'reduction'—the process by which the savage tribes of adjacent districts are induced or compelled to abandon the natural basis of subsistence, to engage in agriculture, and settle in pueblos of their own. This process, begun by the aboriginal chiefs long before the conquest, was continued and applied on a more extensive scale, in other parts of America, by the Spanish missionaries. Modern Paraguay is its principal monument; others, the 'missions' of California, exist in the United States.

Third stage in advancement—creation of an industrial class.

While the warrior class, then, is a survival, the labouring class is a new creation. We rank its formation on a permanent basis as the third of the mighty changes that have transformed human society; the third of the great landmarks on the path by which man has advanced from savagery to civilisation. The first of these has been shown to be the substitution of an artificial for a natural basis of subsistence: the second, the establishment of the gods as the principal members of the community. We define the third as **THE CREATION WITHIN THE COMMUNITY OF AN INDUSTRIAL CLASS, IN SUBORDINATION TO A NON-INDUSTRIAL CLASS WHICH DIRECTS AND PROTECTS IT.** Let us see how this third change, which, like the second, we have shown to be a natural consequence of the first, reacts upon both of the changes which have preceded it. Agriculture, as we have seen, leads the savage to improve and extend that rudimentary philosophy which serves him for religion; it reveals to him, by parallel processes, the beginnings of the exact sciences and the useful arts. Geometry, produced by the admeasurement of the cultivated soil for the purpose of allotment, is further developed in consequence of observations gradually made in the course of the rudimentary architecture and engineering employed in constructing buildings, roads, terraces, and acequias.

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A rude astronomy and geography are begun by observing the phenomena of the sun for the purpose of determining the times of planting: the agricultural calendar is the basis of an elementary chronology and history. Medicine comes of observations made in the preparation of foods, drinks, narcotics, and simple remedies. The fine arts have a similar origin; sculpture comes of making images of the gods and deceased chiefs; poetry and music of the rites employed in their service. Painting, as an art, derives its origin from the same source: the earliest paintings designed to be permanently kept were memoranda depicting the gods and the methods of sacrifice. The formation of an industrial class, destined to liberate the energies of the founders of society from the labour of food-production, gives them leisure in time of peace, and directs these energies to the miscellaneous employments above indicated. This process, then, is the corner-stone of civilisation.

What share had the industrial class in the creation of this inchoate civilisation? Of comparatively recent formation, it can only have contributed in minor details to an advancement which it was brought into existence to support and extend. All the elements of advancement must have already existed when society was homogeneous, consisting merely of that which subsequently became the warrior class. This is shown, amongst other things, by the fact that the service of the greater gods, who undoubtedly make their appearance while society is still homogeneous, always remains the duty of the warrior class, and that the inventors of the arts of life, the so-called Culture-heroes, themselves usually reckoned a species of gods, are assigned as the ancestors of that class. Severe bodily toil, again, save only in exceptional instances, is incompatible with the continuous intellectual efforts involved in the development of the arts and sciences, especially when toil habitually finds its natural relaxation in the excessive enjoyment of intoxicants. Possibly

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Advancement not the work of the industrial class.

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even among the drunken helots of Peru and Mexico there may have existed intellectual gifts and tendencies. But the formation of these industrial herds, trained to labour, appears to have been substantially the same process with the domestication of the lower animals: the labouring class has had the same share in the general development of advancement which the ox and the llama have had in the development of herdsmanship. They are the material on which the founders of advancement have worked, and nothing else.

Agriculture without a division of classes.

In districts poorly furnished with the elements of wealth we occasionally find that agriculture has been pursued for ages without the existence of more than one class. Cases of this kind fall under three descriptions; (1) low tribes which have adopted agriculture and shifted their food-basis, while the original constitution of the savage tribe has continued unaltered; (2) colonies of peasants, who have fled from the tyranny of their masters, and founded communities in places remote from disturbing influences, without creating any higher class; (3) communities in which the dominant class, having once existed, has either wholly vanished, or subsists in a state of attenuation, deprived of influence and vigour. Such a state of things ordinarily produces a base, hide-bound, stunted, rigid barbarism; examples of the first kind existed, and still exist, in abundance on the forested and the arid fringes of the intertropical mountain districts. The Mexicans of Nicaragua, described in the classical work of Oviedo, peasants who had fled from the tyranny of their Toltec masters, are a notable instance of the second kind. We could point to cases of the third kind in the Old World, in districts where the upper class has practically disappeared, and with it the beneficent influence which once stimulated production, protected industry, and educated the labourer in spite of himself. Every state of society, like every state of life, has its compensations: the labourer has never really gained

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by the extinction of the element to which his predecessors owed their very existence. Such is the plain lesson of history: let those look to it who would endeavour, in opposition to natural economic law, to establish a purely labouring class by artificial means as the substance of a civilised community. Man, we repeat, retrogrades as naturally as he advances, and more easily; the result of such an experiment would be a reversion to barbarism. This observation is equally applicable to the derivative industries which owe their origin to agriculture, and only exist by means of concurrent agricultural industries, their necessary economic counterpoises. The labourer might doubtless exist without the capitalist; civilisation could not¹.

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 America.

The reason of this arrest of advancement where a subordinated industrial class cannot be created, and of its correlative disappearance when an upper class disappears, is easily seen. The economic use of the upper class is (1) to ensure, by accumulated knowledge and provident care, that labour shall not be wasted and misapplied; (2) to stimulate labour, by compelling the labourer to perform an adequate amount of work, and (3) to confine consumption on his part within moderate limits. The concurrent enforcement of these conditions is obviously essential to the accumulation of surplus produce—that is, to the production of capital, and capital thus accumulated, if it is to be conserved, must be lodged in the hands, not of the industrial, but of the regulating class. The time arrives when the labourer thinks this an injustice. To his complaints, however, the capitalist has a ready answer, applicable alike in all stages of industrial history. It is true that I compel you to labour, and that in return I assign you only a moderate

Economic
 importance
 of an upper
 class.

¹ It is easy to take the step indicated, and restore the labourer to his original level of barbarism: it is only necessary to deprive him of the stimulus of compulsion, put him in a tropical district, and let him plant the yam and banana. In this way portions of the West Indian islands, practically abandoned to the negro race, are fast becoming once more abodes of barbarism.

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America.*

share of the fruits of your toil. But what if I assigned you the whole? You would only waste it; deprived of the stimulus of compulsion, you would become lazy, you would consume without producing. Hold your peace, then, labour patiently: I am your partner, your banker, your benefactor. The surplus of that which you produce I guard and employ for our common advantage, for that of the rest of the community, for those who are to come after us. Labour, then, and be thankful: labour, my friend, is the great viaticum of life. Labour, my silly brother, as the old poet says, and fulfil the task the gods have set for men¹. Do not I, after my kind, labour also?

Warrior
class direct
the social
system.

This unhappy controversy belongs to a later stage of social history, in which the confusion of thought which comes with advancement is already noticeable, and both the warriors and the industrials conceive of their social interests as separate and antagonistic. Such a confusion of thought happens naturally: man cannot concurrently produce a new social order and trace out the laws by which it is governed. This stage of confusion, we note in passing, had been actually reached in the principal advanced districts of the New World at the time of the conquest: we are at present concerned with primitive times, in which this imaginary antagonism has not yet been discovered. In such times the interests of the two classes are linked by visible bonds. Maize-growing, in passing from the plains, where a crop can be relied on in from one to two months during most or much of the year, to the colder tracts of the mountains, becomes an art; the methods of this art, largely consisting, as we have shown in the preceding volume, of the ceremonies of religion, are retained in the leisured warrior class as a precious tradition. The social machine works under their vigilant care: the labourer never questions their right to direct it. A single mistake on their part may destroy the community: famines, clearly trace-

¹ Hesiod, *Op. Di.* 397.

able, the labourer thinks, to some error or defect in the service of the gods, have taught him their sharp lesson. The comprehensive bond then of life, that which gives the community its force and solidarity, is its religion. The gods have brought in their train assured subsistence, security of property, and wealth, the potent instrument of advancement: it is these which give man confidence in his destiny, which counteract the insidious decay which is ever at work, sapping the vitality of institutions, striving to reduce society again to the rude elements out of which it sprang. The service of the gods, we repeat, is the affair of members of the dominant class. These have effected those successive augmentations of belief and ritual which represent in reality progressive speculations on the nature of things, the scientific theories of the savage and the barbarian. They only know the rites with which the gods would fain be served: they keep the celebration of these rites in their own hands. The priest superintends the education of the youthful warrior, the warrior in old age becomes the priest. We use the term for the sake of emphasis only: in aboriginal America, as in Greece, priesthood in the sense of an exclusive function was unknown. The authoritative director of the sacrifices is merely the chief advanced in years, who in virtue of his age has become the repository of religious tradition, and who knows by experience how the gods may be effectually propitiated. Religious myths are purposely adapted to the leading relation of society: the lesson that the gods have made two classes of mankind, the chiefs and the people, is carefully inculcated¹. The chiefs devise for the benefit of their own class religious rites from which the people are excluded². Only in late civilisation, when the plebeian, the serf, and the slave, are admitted to a common place with nobles and kings in an universal religion, is it conceded that men are made of one blood and of one flesh.

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America.*¹ Ante, vol. i. p. 512.² Id. p. 568.

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Aboriginal
America.
 Religion
 of the
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 class.

Each of the processes which we have identified as working progressive changes in the constitution of society reacts on those which have preceded it. The creation of an industrial class not only modifies the early system of agriculture, but has a marked effect on the primitive forms of religion. This class has a constant tendency to numerical increase; in time, despite the solidarity of which we have spoken, it thinks and feels for itself and becomes separated, in its ideas and sentiments, from the class which dominates it. In these circumstances there is naturally generated a tendency on the part of the lower class if not to create a species of religion for itself, at least to dwell more on certain forms and aspects of religion than on others. Ancient institutions always tend to wear out, to become effete: we trace this tendency first in the earliest institution which is super-added to an artificial society, its religion. A religion which does not adjust itself from time to time to social changes, by opening its doors to let in new social elements, and providing for their spiritual needs, must in the end either perish or become ridiculous. It is in the labouring class, numerically far exceeding the ruling one, or in persons of the ruling class who are penetrated with the thoughts and needs of the labouring class, that the chief historical modifications of religious belief have originated. The labourer demands above all things a religion which shall be simple, intelligible and comforting; something which he can readily understand, and in which he can forget his toils and troubles. We have shown cause for thinking that the devotion of the warrior class was mainly concentrated on the atmospheric powers and the heavenly bodies, especially the Sun, while the popular religion, as in the Old World, remained an earth-worship, and the service of a creating spirit or god, a Paclacamac or Tezcatlipoca. The universal motherhood of the Earth, from whom he drew subsistence, was probably the chief religious faith of the labourer both in Mexico and in Peru; in Peru,

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¹ The Gospels.

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as we have seen, the main object of popular devotion was denied a place in the regular public ritual. We have traced a similar tendency to simple forms of religion in the Old World previously to the Christian era: both in the New World and the Old the way for Christianity was being silently prepared. Based on the broadly comprehensive dogma of the universal fatherhood of one God in heaven, who demanded worship without sacrifice, gave daily food to all creatures, making his Sun to shine alike on the just and the unjust, yet proclaimed himself the special patron of the humble of the earth, the giver of rest and refreshment to the heavy-laden, for whom, in compensation for their mortal toil, he prepared bright mansions in the world beyond the grave, and opportunely preached among the most despised peasantry of the ancient world¹, who groaned under the triple yoke of the land-owner, the tithe-enforcing Pharisee, and the Roman tax-gatherer, Christianity gradually spread throughout a vast empire where the ancient gods had long been losing credit. Supplying the needs of the labouring classes, by this time in an overwhelming majority, a few centuries of it sufficed to destroy those gods once and for all. We here allude to its early history simply because the same thing was to happen in the New World fifteen centuries later, when Pachacamac and Pachamama in Peru, Tezcatlipoca and Cihuacohuatl in Mexico, equally disappeared before, or, if precision requires it, became merged in, the great 'Dios' and the Blessed Virgin of the Spaniards².

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¹ The 'am ha'arets' or 'people of the land' of Palestine. See the Gospels and the Talmud, *passim*.

² The Indians had great difficulty in comprehending the European idea of universal Deity. The Peruvians considered the great 'Dios' of the Spaniards to be a deity so named, who had created Castile, with its inhabitants, animals, and plants, being in fact the local 'Contiesihuiracocha' of that country. When Pizarro invaded Peru, it was supposed that 'Dios' accompanied him, and conquered the Peruvian huacas, as Pizarro defeated the Peruvian chiefs (Molina, apud Markham,

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 America.
 Gods of
 Labour.

Labour has gods of its own; we find them as subordinate deities in the theology of both worlds. Pre-Christian Europe had two widely-spread religions of labour, two gods of help, who for the peasant and the slave obscured the more ancient gods of the atmosphere and the firmament. Bacchus and Hercules are naturally the objects of the labourer's devotion, for they represent the powers which alleviate his fatigue. (1) Probably he worships with the deepest conviction the spirit or deity of the fermented juice which refreshes and comforts him after his labours: less than a god, he thinks, there cannot dwell within those cordial drops, which make him forget his pains, and impart to him the sensation of being almost a deity in his own person. The worship of Soma or Homa among the early eastern Aryans illustrates this tendency in a remote ethnic period; that of Dionysus or Bacchus, west of the Euphrates, affords the best parallel to the service of the pulque-gods called Ome-tochtli, already referred to as a popular worship with the peasantry of Anahuac¹. Peru had no god of this class, because natural fermentable juices were here wanting: chicha is a manufactured beverage, the material of which is the joint gift of the corn spirit, the Earth, and the Sun. (2) No myth of the Old World more precisely reflects the state of things which it was invented to illustrate than the well-known one of Hérakles or Hercules, the great labour-god of the ancient world, a familiar figure throughout southern Europe as the patron of the slave, the apotheosis, in his own person, of humble servile toil. The leading motive in the legend of Hérakles is that he, equally with Eurystheus, is the son of Zeus, and has been cheated, through the cunning of Hère, by simple postponement of his birth, of the blessing of their common father, which falls

Rites and Laws of the Incas, pp. 60, 61). The Mexicans in the same sense considered 'Dios' to be the proper name of the principal teotl or god of the Spaniards.

¹ Ante, vol. i. p. 479.

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in consequence on his brother and future taskmaster¹. We scan the mythology of the New World in vain for anything approaching in interest this unique popular epos, the most brilliant creation of the Hellenic fancy, and compared with which the Iliad and Odyssey themselves appear bald and prosaic. No worship was more general in ancient Europe than that of the great strength-god: we here briefly notice its American parallels. We find these chiefly in Peru, where the toiling earth-tiller or mason invoked to assist him as strength-gods the *huaris*, or giant ancestors of his village², and the heavily-burdened porter (*apac*), groaning as he ascended the steeps of the Andes, and panting for breath in the rarefied atmosphere, flung a stone on the *apachictas*, cairns gradually raised by such offerings wherever the ascent was especially toilsome, in thankfulness to the *apachic*, the god of the peak which dominated the pass, who had given him strength to reach the summit³. Similarly the weaver, puzzled by the baffling problem of working out with the woof the prescribed pattern, would fling a leaf of coca on the ground, crying, 'Tell me, Ccoñiraya Huiracocha, how am I to do this?'⁴

Ccoñiraya (he who shelters from the cold), a beneficent local deity of Huarochiri, the mountain district above Lima, appeared in the form of a wandering Indian clothed in rags: Huatiacuri, the son of Pariacacca⁵, and the subject of many popular legends, assumed a similar guise⁶. These personages introduce us to a new class of deities, gods of the poor, who represented themselves as sons of the greater deities, sojourning among the people in disguise and

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America.

Popular
human
deities.

¹ Iliad, xix.

² Ante, vol. i. p. 490.

³ A practice still in use among the Indians. *Apan* = 'he carries;' factitive, *apachin* = 'he makes, or gives power, to carry,' participle, *apachic*, acc. *apachicta*. The formula of worship was *muchani apachicta* = 'I worship him who gives me power to carry:' hence the latter word was applied to the pile of votive stones.

⁴ Markham, Rites and Laws, p. 124.

⁵ Ante, vol. i. pp. 380, 529.

⁶ Markham, p. 135.

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America.

promoting their welfare. What is common to these personages is their simulated poverty and obscurity, their command over the lower animals, their power of healing disease, their delight in circumventing and humiliating the rich and powerful chiefs who oppress the peasant. Another god of the same class, not unknown to the Inca ritual, but chiefly worshipped by the peasants of the Collao and the Cuzco district, was Tonapa, considered to be a son of the Creator-god¹, who had once journeyed through the Sierra, from south to north, in the guise of an Indian, poor, emaciated, ragged, and filthy, for the benevolent purpose of helping the peasantry in their daily lives. He taught the arts of life, healed the sick, and called the Indians his sons and daughters. Manco Ccapac himself, according to the peasants' legend, owed his establishment as Inca-Capac-Inca to a wooden staff given to his father by Tonapa which turned to gold at the birth of Manco. Of this personage we naturally find few traces in the mythology of the Incas. He is unknown to Garcilasso de la Vega: we hear of him from other sources, from Spaniards who sought the story of the Peruvian people at the lips of the people themselves².

Shamans regarded by the peasantry as gods in modern times.

Such personages, it might perhaps be supposed, were merely mythical. We believe them, on the contrary, to be historical, and to be represented in historical times by a class of itinerant shamans or wizards, found in the district east of the Andes, from which the population of the Sierra had originally emigrated. These impostors, who posed as gods come to deliver the Indians from their slavery, sometimes gave the Spaniards trouble. One of them, popularly known as Ou-Berá (He-is-the-Light)³, an Indian of Parana,

¹ Ante, vol. i. p. 450.

² Markham, Rites and Laws, pp. 71-73.

³ As the work in which these details are given (Hist. del Paraguay, Rio de la Plata, y Tucuman, por el P. Guevara de la Compañia de Jesus, first printed at Buenos-Aires in 1836, in vol. ii. of the Coleccion de Obras y Documentos of Do Angelis) is not generally available for reference, its graphic text is quoted at some length. 'Obera, cuyo

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declared himself the son of the principal Guarani deity Tupa, claimed to be a god in his own person, and dedicated an official, skilled in religious observances, to his own ritual service. Proclaiming himself the liberator of the Guarani nation, commissioned to restore to the Indians the enjoyment of the earth, with its fruits and animals, he took advantage of the timely appearance of a comet, which he undertook in due time to call down from the sky to consume the Spaniards with fire¹. The crowds which followed him were easily routed; his priest was captured, and 'He-is-the-Light' sought refuge in the mountains, never to reappear². Another impostor, contemporary with Oberá, an Indian of Huybay, was converted by the ministrations of two eminent Jesuit missionaries, and persuaded publicly to confess his imposture, acknowledging that its main object, as in the case of 'He-is-the-Light,' had been

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número significa resplandor, cacique Paraná, es sin duda uno de los mas famosos hechiceros de que se pueden gloriarse los patrones para convencer el intento. Llamábase libertador de la nacion Guarani, unigenito de Dios Padre, con sus poderes y facultades para convertir en utilidad de los Indios todas las criaturas. La señal que principalmente habia de usar para libertar su escogido pueblo era un ominoso cometa, que esos dias se dejó ver, y lo tenia reservado para convertirlo contra los Españoles' (p. 24).

¹ Tonapa, according to the legend, had actually brought fire down from heaven to consume the idol of Cacha. The *quemadura*, or burnt site of the conflagration, was shown to the Spanish traveller in evidence of the story.

² 'Todas las amenazas de Obera, con el resplandor de su nombre, los elementos que habia de conmover contra los Españoles en favor de los Indios, el cometa que era señal con que habia de libertar sus amados Guaranis, tuvieron el fin lamentable de quedar su numeroso ejercito roto y deshecho; los Indios muertos; prisionero el sumo sacerdote, á quien perfumaba con incienso, y el mismo Dios Obera (a quien parecer amenazaba fatalidades el cometa) fugitivo por los montes, sin sacerdote que le aplacase, sin escolta que le acompañase, lleno de pavor y miedo; temiendo á pocos Españoles, los cuales penetraron altamente que Obera, con titulo y fama de hechicero, era un famoso engañador, tan debil y flaco, que no se atrevió á salir á campaña por no quedar muerto ó prisionero' (Ibid.).

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sensual gratification, for he had compelled his dupes, by terrible threats, to furnish him with as many wives as he chose to demand, with whom, laying aside, says the Jesuit Father, the character of a respectable deity, he spent his time in singing and dancing¹. A third Indian deity, who appeared in the district of Guayra, chiefly distinguished himself by the latter accomplishment. Attired in a long white robe, he danced with extraordinary agility to the sound of hard deer's hoofs rattling in a calabash, blowing vigorously into the air, and calling down thunderstorms on all who opposed him. Arrested by the government authorities of San Ignacio, a hundred lashes compelled him to confess in public that he was no god, but a poor harmless Indian; a repetition of this salutary treatment on the two following days effectually cured his delusion, and destroyed his authority with the people².

¹ 'Mayor desengaño ofrece el hechicero del Huybay: convertido a Dios por la predicacion de dos insignes misioneros Jesuitas, confeso delante de todo el pueblo que sus palabras eran puras ficciones, y que no tenia otra mira que la de engañarlos y atemorizarlos con amenazas, para que libremente le franqueasen cuantas mugeres codiciaba su apetito. Esto sin duda era el fin principal de Obara: mantenía numeroso serrallo de concubinas, conseguidas con la violencia, con amenazas y á impulsos de sus retos. Desenfrenado por extremo en liviandades, solo admitia en su privanza á los que aplaudian la soltura de sus costumbres, y le entretenian con cantares lascivos y bailes indecentes. A las veces, depuesto el sobrecejo de soberano numen y respetable deidad, cantaba y bailaba placentero entre sus concubinas' (p. 35).

² 'Al son descomposado que hacian las uñas de venado dentro de la calavera, bailaba, brincaba con agilidad increíble, soplando fuertemente al aire, y provocando los rayos y tempestades contra los que le hiciesen oposicion. El fiscal del pueblo de San Ignacio, despreciando sus amenazas, le cojió, y puso un par de grillos, y en presencia de todo el pueblo descargó cien azotes sobre el fingido numen y verdadero embustero. A los primeros golpes, *No soy yo, exclamó, no soy yo Dios, sino un pobre Indio como los demas, y ningun poder tengo para dañar ni causar mal alguno.* No satisfechos los Ignacianos con la confesion del reo, los dos inmediatos dias repitieron el castigo de los saludables azotes, y humillaron su activa presumpcion' (Ibid.).

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In accordance, it would seem, with its divided origins, the industrial class includes three sub-classes; the free labourers, or plebs, the serfs, and the slaves. The first named, it is conceived, are mainly the descendants of original members of the tribe who have been assigned agriculture as an occupation, in the manner above suggested; the second are mainly the descendants of industrials of alien origin, chiefly, that is, of voluntary settlers, and of purchased and captured females; the third we trace partly to the weak industrials of native origin, partly to war-captives. These distinguishable origins are of course to some extent a matter of conjecture; and all the sub-classes were probably reinforced by the remnants of conquered populations. The status of each sub-class is better ascertained. We know that (1) the plebeian or free labourer holds of the chiefs a certain portion of land out of which he maintains himself and his family, yielding a part of the surplus produce, by way of rent, to the chiefs and retaining the residue for his own benefit; (2) the labour of the serf is at the disposition of the chiefs whose lands, together with those of the gods, are tilled by the serfs labouring in common, while a certain fixed portion, smaller than the variable quantity assigned to the free labourer, is assigned to the serf to be tilled by his private labour for the maintenance of himself and his family; (3) the slave is absolutely the property of his owner, who simply allots him daily food in exchange for his daily labour. The land, so far as it is assigned to the labouring class, is divided in a corresponding manner. There are the large allotments of the free labourers, and the small ones of the slaves: the slave remains landless. The greater part of the cultivated soil, however, consists of the lands of the teopans and of the chiefs: lastly, where the pueblos have been formed into groups under some one dominant pueblo, in the manner shortly to be described, there are in each servient pueblo extensive fields destined

Book II.

Aboriginal America.

Division of the industrial class, and of the land.

Book II. to supply the tribute yielded by it to the dominant pueblo.
 Aboriginal Throughout Peru such fields were known as the 'lands
 America. of the Ccapac-Inca': in Mexico they were pointed out
 to the Spaniards as the 'lands of Montezuma.'

Covenant of the People— or Social Covenant. We are now in a position to formulate the implied contract between the chiefs and the people, corresponding to that between the chiefs and the gods, and together with the latter forming the keystones of the social edifice: we call it the Covenant of the People, or the Social Covenant. It could scarcely be better summed up than in the well-known formula SPEND ME AND DEFEND ME. Labour is the function of the people: that of the chiefs is to direct and protect. This covenant contains the germ of all political relations. Originating with the chiefs and people of the simple agricultural pueblo, it next establishes itself between the dominant pueblo on the one hand and the servient one on the other. The group of servient pueblos then becomes a state, the dominant pueblo its capital; the power of its chiefs is at length vested in a single person. The social covenant subsists unchanged: the parties to it are now the monarch and his subjects. Only in the latest stage of history does it become obsolete, when the people have become strong enough to refuse to be spent, and are able to provide for their defence by spending wealth which has now become their own.

Social covenant in Mexico. Although the social covenant may in general have existed only as a tacit understanding, it can be shown in some instances to have been definitely formulated and handed down in precise terms from generation to generation. Such was the case in the pueblo of Mexico, where its establishment was attributed to a period about a century before the Spanish conquest, when the Mexican chiefs finally liberated their tribe from the domination of the Tepanecs of Azcaputzalco. Alarmed by the prospect of fresh hostilities consequent upon the election of the new supreme chief Itzcohuatl, the peasantry of Mexico, it was said, were with

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difficulty prevented from migrating in a body to Azcaputzalco, and placing themselves permanently under the protection of the Tepanec chiefs. It was obvious that either the Mexican warriors must decisively defeat the Tepanecs, or the pueblo of Mexico must break up. The chiefs resolved on a desperate effort, and promised the people victory. 'Conquer the Tepanecs,' replied the latter, 'and we will serve you, bring you tribute, till your lands, and build your houses; we will give our daughters, our sisters, our nieces for your use: when you go to battle, we will carry on our shoulders your arms, baggage, and provisions, and serve you thus on all your war-paths: we will give our bodies and our goods to your service for ever.' The Mexican warriors not only routed the Tepanecs in the field, but compelled them to evacuate their pueblo and retreat to the mountains; and on the following day the assembled peasantry ratified their compact, which subsisted unaltered at the arrival of the Spaniards¹. The covenant thus minutely formulated, and the incident with which its establishment was thus associated, are alike historical: the circumstances of its promulgation alone have a mythical appearance. The traditions of Mexico evidently received their existing shape from the warrior class: it was natural that the social contract should be represented as the direct consequence of a decisive effort on their part, an effort to which the pueblo owed its independence, and ultimately its predominance among its neighbours.

The chiefs exercise in the tribe the same authority which the parents exercise in the family; and the essence of the tribal organisation consists in submission to this authority. Everything indicates that their ascendancy over the rest of the tribe was gained by slow degrees, as the community became more and more dependent on agriculture. Originally the chieftainship appears to have been a personal status, gained partly by the possession of property, partly

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The Chiefs
and the
People.

¹ Duran, *H. de las Indias*, c. 9; Acosta, *lib. vii. ch. 13.*

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 America.*

by personal qualities which in all groups of men indicate certain individuals as eminently fit to direct and control the rest. In the hunting tribe, the prototype of the others, it would evidently be gained by superior ability in the capture of game. As advancement proceeds, this species of superiority merges in that derived from skill in war; the weapons and methods of hunting and of primitive warfare being identical, skill and success in the one become identical with skill and success in the other. But low peoples, however ready to profit by the abilities of their leading members, are notoriously unwilling to invest them with permanent authority: nor does the exercise of authority become necessary or possible until natural resources no longer suffice for subsistence, and large numbers are settled within comparatively narrow territorial limits. Thus the Lules of the Gran Chaco, according to Lozano, lived apart in families, and had a perfect horror of the tribal life, treating their principal men like the vilest of the nation, and showing them not even respect, much less obedience¹. When, however, the artificial basis of life, with all its complications, has been introduced, coercive authority becomes necessary for the maintenance, among increasing numbers, of the discipline on which subsistence largely depends. When still larger numbers have become absolutely dependent on the food-producing organisation, the heads of this organisation are naturally recognised as the 'fathers' of the tribe. This ancient figure, so commonly employed to express the relation between chiefs and subjects, was curiously modified in a formula frequently used by the Mexican people in addressing and referring to their chiefs. They expressed their dependence upon the latter by, addressing them as 'Our-Mother-and-Father.' The meaning which they attached to this formula is precisely known; it was for the chiefs to provide them with food and shelter, to regulate their lives, and to 'carry them,' as they expressed

¹ Descripcion del Gran Chaco, p. 101.

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¹ See Sah
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it, 'on their shoulders,' as mothers carry their children¹. The near blood-relatives of a chief, associated with him during his tenure of office, are his natural successors. The succession passes from brother to brother, or from father to son, according to circumstances. As a consequence of this limitation of the succession we find in more than one place that the office, in default of adults qualified to take it, descended on children of tender age, who were formally admitted to it. In Mexico, if there were no males, it devolved upon one of the *cihuapipiltin*; not because a woman was competent to perform the duties of the chieftainship, but rather because it was hoped that she might become the mother of a future chief. Both cases were common in Anahuac before the conquest. In Peru, on the other hand, this practice, if it ever existed, had disappeared in historical times. Even when a deceased curaca left a brother or son qualified to succeed him, the policy of the Ccapac-Incas frequently passed over the natural successor in favour of one belonging to another pueblo².

In passing on to consider as complete organisations the societies of which we have sketched the component parts the reader will bear in mind that the advanced aborigines of America had only one definite form of social organisation—the agricultural tribe, settled under its chiefs in the pueblo or permanent village. No other unit of social life than this had anywhere been definitely formed; no social organisation, indeed, in the strict sense of the word, existed in the New World but the tribe, or consanguineous group, engaged in the food-quest within definite limits. Of this general type the agricultural tribe of the inter-tropical mountains was the most advanced species. This statement may surprise those who have been accustomed to consider the

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Unit of
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¹ See Sahagun, lib. vi. So Cortes was described by the Mexicans (Chimalpahin, Relacion VII, A. D. 1519) as 'the god, Our-Mother-and-Father' (inteotl tonantiz tothatiz).

² Relacion de Santillan, c. 19.

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 America.*

great pueblos of Mexico and Cuzco, each in the midst of a vast district throughout which its chiefs exercised an apparently absolute authority, as the capitals of empires. Mexico and Cuzco had no doubt become something more than simple agricultural pueblos. They were, in fact, the principal surviving representatives of a class of pueblos which had once been very numerous—pueblos mainly peopled by chiefs and warriors, who were supported by regular tributes of labour, materialised in the form of natural and artificial produce¹, exacted from the labouring population of other pueblos which they held in subjection. Originally such dominant pueblos were simple self-contained agricultural communities. They usually retained their original agricultural organisation, disproportionate though it had become to the number of their chiefs and warriors; in case their domination, often a brief one, came to an end, they resumed their primitive aspect. These dominant pueblos in effect only differed from the simple pueblo in the circumstance that the population which supported their chiefs and warriors was not contained within their limits but was scattered through the tributary pueblos. The agricultural pueblo, then, is the main factor in ancient American history. The events about to be described, confused and apparently contradictory until they are viewed in the light of this leading principle, become orderly and consistent when it is once grasped; and it must be remembered that the American pueblo, though fundamentally identical with the village community of the Old

¹ Fish and small game are said to have been the principal tributes originally exacted from the Mexicans by the Tepanecs of Azcaputzaleco. The tributes brought in historical times to Mexico, though mainly consisting of cloths and agricultural produce, included many items of natural produce, such as feathers, dried skins of birds and animals, gold dust and jade-stones. The tributary pueblos of Meztitlan provided the dominant pueblo with eleven kinds of game, besides cotton cloths, bows and arrows, and cotton and maize. (Ternaux-Compans, *Pièces sur le Mexique*, Rec. ii. p. 301.)

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World, and closely resembling it in external features. differed from it in being based on agriculture alone, instead of on a combination of agriculture and herdsman-ship. This radical distinction applies everywhere except in the Cordillera of Peru; an exception, however, which may be treated as an apparent one only, because the breeding of animals which were useless alike for milking and for agricultural labour made little difference in the total scheme of life, and would, in fact, but for their limited utility as beasts of burden, have amounted to no more than the formation of standing reserves of food and clothing-material, available for immediate use, whenever required, without the toil and uncertainty of hunting. Owing to this absence or insignificance in the New World of the pastoral element, the agricultural community was here developed in its purest form. In order to illustrate the difference in social development which this radical difference in the elements constituting the basis of life produced, it will be proper to consider briefly the nature and origin of the archaic social organisation out of which all other forms of artificial society have grown, and which is commonly known as the 'tribe.' We have described the pueblo as the seat of an agricultural tribe. What, then, is the tribe?

The tribe may be defined as a group of families really or theoretically consanguineous, holding in common a definite food-producing district, and governed in accordance with established custom by one or more chiefs, who are considered to stand to the tribe in the same relation as the parents to the family, being at once its directors and its protectors. Whether the food-supply is naturally or artificially produced does not affect the essential basis of the tribal form of association, although it exercises a vast influence on the destinies of individual tribes; the tribe readily adapts itself to all modes of subsistence. Thus we have the savage or hunter tribe, relying on natural supplies of food; the pastoral or nomadic tribe, which relies on the

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 America.*

The Tribe,
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breeding of animals, and the agricultural tribe, which relies on the cultivation of the soil. Sometimes these are found in the pure and simple form; the tribes of Australia and Northern Siberia are instances of pure hunters, the Arabs of the desert, and many Mongolian tribes, of pure nomads; the Mexicans at the discovery were pure cultivators. More frequently the mode of subsistence is a mixed one. The principal tribes of the forest districts of America, for example, though mainly hunters, were also to a greater or less extent cultivators; the principal ancient tribes of the Old World were at once cultivators and herdsmen. Hunting and herdsmanhip, however, do not long coexist as substantial modes of food-supply, except where the animals under domestication are few in number and of inferior value. Ordinarily the ample supplies of food produced by herdsmanhip render hunting unnecessary; herdsmanhip, moreover, unlike agriculture, requires continuous attention throughout the year, leaving no prolonged intervals of leisure available for the practice of hunting. Where the modes of subsistence are mixed, one of them usually so far predominates as to determine the class to which the tribe should be assigned; thus in America the partially agricultural tribes of the forest districts belong to the category of hunters; those of the Peruvian Sierra, who added hunting and herdsmanhip to agriculture, belong nevertheless distinctly to the class of cultivators, though the composite nature of their basis of subsistence contributed to keep their advancement at a lower grade than the advancement of Mexico, where herdsmanhip was unknown. Such con-sanguineous groups, seeking subsistence in common, are the material by the decomposition of which more advanced societies have been formed. We trace them, in some decayed form, in the early organisation of all civilised peoples: often they have survived, in a state of attenuation, in the civilised states of modern times.

To the question whether the tribe had its origin in

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the family, or whether, on the contrary, it consisted originally of persons unconnected by blood and associated voluntarily for the common purposes of food-quest and defence, whether, in other words, it is an original or a derivative species of social organisation, no general answer can be given. We possess no definite knowledge as to the mode in which savage tribes were first formed; but it is reasonable to suppose that many were, even if others were not, consanguineous from the beginning. Evidently the tribe may come into existence as a simple development of the family. The family, like the tribe, is fundamentally a food-seeking organisation, consisting, as it does, of one or more individuals associated with one or more others of the opposite sex for the purpose of mutual help in the satisfaction of natural wants: on the terms, that is, of providing food for all by their joint efforts, and of enjoying physical intimacy, such food-provision being destined in the first place for the support of the persons thus associated, in the second for that of their offspring. Such a relation is in its nature merely temporary, and might obviously terminate as soon as the youngest among the offspring are able to provide for themselves. But it would apparently tend, in the absence of disturbing causes, to become permanent; and in the case of the human species such a tendency is favoured by the length of time which elapses, in comparison with that required in the case of other animals, before the young are able to procure their own living. This prolonged infancy of the human young renders children more attached to their parents and to each other. Parents, in like manner, become more attached to their children and to each other. The attachments thus deepened survive the temporary relations in which they originated, subsisting when the children have grown up, and have formed for themselves new associations of the same kind. The children provide for their parents in old age, as the latter have provided for their children in infancy:

BOOK II.

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America.*Origin of
the Tribe—
the Family.

BOOK II. and the family thus has a manifest tendency to generate a larger consanguineous group, consisting of members belonging to three or even more generations, who pursue the business of food-provision as an object which all have in common. Such an enlarged group would constitute the tribe in its purest and simplest form; it would be a consanguineous body of individuals in possession of a definite food-producing district.

Origin of
the Tribe—
the Horde.

It is, on the other hand, equally clear that a tribe may be composed of persons or families unconnected by blood, who have simply formed themselves into an association for food-quest and defence because these objects can be better secured, under the circumstances in which they are placed, in the condition of aggregation than in that of isolation. But the difference between the two types obviously cannot last beyond two or three generations; inter-procreation among its members will then have rendered the tribe as perfectly consanguineous as if it had been originally developed from a single family. Consanguinity, which together with the common possession of a subsistence-yielding district and common submission to the direction of chiefs is an essential mark of tribal life, thus establishes itself in any case; and in the earliest stages of tribal history any outsiders who may have been admitted, subsequently to the constitution of the tribe, to share in its advantages, become in the same way absorbed in the general mass of its members. Prisoners of war and casual strangers are received into the tribe, as soon as it is perceived to be in the end more profitable to keep a robust stranger as a labourer than to kill and eat him. Each thereupon becomes in theory one of the kin, and is usually forthwith placed in the temporary relation of a conjugal kind, which constitutes primitive 'marriage,' to some daughter or daughters of the tribe¹. The tribesmen and tribeswomen thenceforth

¹ Europeans who fell into the hands of the savage tribes of the Atlantic coasts were for the most part either killed or reduced to

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become his brothers and sisters; his children, following the condition of the mother, are genuine members of the tribe. The same thing happens in the converse case of a wife taken outside the tribe by one of its members; she and her children become members of the tribe equally with the rest.

In what way are the formation and the destinies of the tribe affected by the circumstances in which it is placed in regard to the food-supply? We have seen that the tribe results from the pursuit of the food-quest by a certain number of human beings continuously occupying the same tract of land. What, then, are the relative numbers which can be supported by each mode of food-supply within areas of the same extent? Tribes dependent on the different methods of subsistence, upon tracts of land of equal extent, will obviously take different periods of time to outgrow the food-yielding capacity of these tracts. The limit will be most quickly reached in the case of a savage tribe, whose food is scattered over a wide area; a portion of the tribe must then wander further afield. A pastoral tribe may increase beyond the limit at which a savage tribe would be compelled either to break up into smaller units or to suffer famine: while an agricultural tribe, possessing a fertile soil, may increase to thousands upon a tract of land which would only support a hundred herdsmen or a dozen slaves. The treatment of strangers in the comparatively advanced district of Yucatan is illustrated by the fate of seventeen Europeans who were shipwrecked on this coast eight years before the arrival of Cortes in 1519. Fifteen of these were men, two were women. The women, worn out with hard labour, soon died: most of the men either perished in the same way, or were sacrificed to idols and eaten. Aguilar, one of the two who survived in 1519, had escaped sacrifice by flight and become the slave of a chief who had sheltered him, by whom he was employed in carrying fuel and water, and cultivating maize plantations. The other survivor, a sailor named Guerrero, had married an Indian woman, and become the father of three children; his face was tattooed, his ears and lips were pierced, and he had become to all intents an Indian. These facts were pleaded by him in justification of his refusal to abandon the tribe which had adopted him and join the Spaniards. (Bernal Diaz, c. 29.)

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Aboriginal
America.

Influence
of Agriculture
on the
Tribe.

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 America.*

savages. In the case of hunters, there will therefore be a tendency for families to separate, either singly or in small groups of twos and threes; and thus in many cases the tribe, properly so called, will be prevented from coming into existence at all. The same check will operate, though in a less degree, in the case of herdsmen. Even when the tribe is formed in some rudimentary shape, the institutions of the family will prevail over those of the tribe; there will be no chiefs, in the true sense of the word, for the functions of direction and protection will remain vested in the heads of families; there will be no effective possession of the food-yielding district, for these small groups will be unable to hold their own against interlopers. If, however, agriculture be added, in however small a degree at first, to the food-resources of the group, the force which tends to split it into fractions will be so far counteracted. Families, no longer compelled to separate, will continue to inhabit the same spot; the institutions of the family, though they will still underlie the organisation of the tribe, will ultimately be merged in the latter; the community will gradually acquire a fixed capital in the form of cleared land and buildings, terraces, and acequias. Agriculture, then, is more favourable than any other mode of subsistence to the formation and consolidation of the tribe. In proportion as it predominates over the other modes of subsistence the institutions of the tribe will prevail over those of the family; where it is the main stay of the society the family will give place to the tribe as the substantive social organisation. And a tribe relying for subsistence on agriculture is likely to have a longer life than hunting or pastoral tribes. Game may disappear from a district either from natural causes or from over-hunting. Flocks and herds may perish by disease, mismanagement, or want of food. But only the want of rain or the diminished fertility of the soil can affect the subsistence of an agricultural tribe; and uncertainty on these scores tends to disappear as the methods of

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artificial irrigation and manuring are gradually applied. Agriculture, then, is more favourable to the formation, the growth, and the stability of the tribe, than any other among the modes of food-provision.

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America.

These considerations, added to those advanced in the former part of this Book, explain the appearance, throughout the intertropical mountain districts, of those numerous consanguineous groups, each settled permanently in its pueblo or village, and subsisting by agriculture, which are the units of ancient American history. Similar organisations, which had in historical times become absorbed in large military dominions, were probably the original units of history in the earliest seats of advancement in the Old World, such as Egypt and Babylonia; and we find as a fact that both in the Old and the New World as the tribe increased in numbers there were formed within it several smaller consanguineous aggregates, the members of each of which were understood to be united by a closer tie of kinship than that which embraced the whole tribe. Such a minor aggregate was known in the Old World as a clan or gens. Found in most savage tribes above the lowest grade, the clan played an important part in the extension of agriculture, and furnished a machinery by which large pueblos could be readily governed, for each had its own chiefs, who were responsible to the general body of tribal chiefs which they collectively composed. In the larger pueblos, throughout both Mexico and Peru, the clans were localised in separate quarters of the village, each usually having in its midst the teopan of some deity who was recognised by the clan as its protector. Four such quarters, exclusive of that of the Tlatelulco, which ranked as a separate community, existed in the great pueblo of Mexico; after the conquest four churches still marked the sites of the teopans in which each clan offered sacrifice¹. Tlax-

The Clan
and the
Great
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¹ The churches of the Assumption, St. John Baptist, St. Paul, and St. Sebastian.

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 Aboriginal
 America.

callan contained the same number; at Tezeuco there were six. Similarly the Peruvian pueblos were usually made up of two or more localised clans, each of which had its idols or huacas, who were known as 'the supporters of the pueblo' (*marca-aparic*), or 'guardians of the pueblo' (*marca-churac*), and from whom the members of the clan frequently borrowed their proper names¹. Even though a clan comprised no more than three or four households, it invariably had its huaca, in charge of an official who spoke with it (*huacap-huillac*): in one instance, where a clan was found consisting of only one Indian and his wife, this solitary survivor maintained the worship of the huaca². In Peru a clan thus settled in a pueblo was called an *Ayllu*, or United Kin; in Mexico its usual name was *Calpulli*, or Great House. The latter name illustrates an early stage through which the tribe has passed in many parts of the world, and which is common throughout America. The tribe, we know, imitates in its organisation the organisation of the family; in the forest districts it appears to have often housed itself, like the family, in a single building. The united labour of the tribe, in this case, is employed in erecting an oblong, barn-like structure, divided transversely into apartments, in each of which one or two families are lodged. As the numbers increase, the Great House will no longer contain them; a second, third, and more are then built. In the course of time each house by a natural process often became the residence of a particular clan: probably an additional house was sometimes erected, when a new clan was definitely formed, for the reception of the families composing it. The Great House of the forest tribes is sometimes replaced in timberless districts by a complex structure of stone or adobes, bearing the same relation to the single hut of stone which the Great House bears to the single hut of timber. These remarkable agglomerations of chambers, closely packed as the cells of a hive, are chiefly met with

¹ Arriaga, p. 12.

² *Ibid.* p. 43.

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in arid districts, such as New Mexico and Arizona in North America, and the coast valleys of Peru in South America. Such great houses are less common than the great wooden houses of the forest districts; usually the working members of the tribe inhabit separate huts, larger dwellings, to which the houses of the gods occasionally form appendages, being erected for the chiefs. At an early stage, however, the gods are provided with dwellings of their own; and the buildings thus assigned to them are usually prominent objects. In some parts of Peru the open tombs or dwellings of the dead, constructed with a care equal to or greater than that bestowed on the houses of the living, formed yet another class of edifices. Around the pueblo, sometimes extending to considerable distances from it, are the plantations of maize and roots, of cotton and Indian pepper; the huts are surrounded by smaller plots planted with fruit trees and garden vegetables. In Peru the terraces and acequias formed an important feature, elsewhere wanting, in the outward aspect of the pueblo.

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When once the military organisation is firmly established, it is evidently to the interest of the governing class that the labouring population shall increase to the full extent which the tract of land in occupation will conveniently allow. The latter class, as we have seen, originally consisting of the women of the tribe, is reinforced by the weak males and their descendants, and by alien women and their descendants. In addition to these, the survivors of former populations, where the settlement has been effected by force of arms, and new-comers from adjacent districts, are generally admitted to the tribe on the terms of joining the labouring body; and where such survivors or new-comers constitute a consanguineous group, organised under chiefs of their own, this group sometimes has a separate quarter assigned to it, and reinforces the pueblo as an additional clan. Thus the surviving aborigines of Cuzco were allowed to form themselves into a separate quarter at a short dis-

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tation of
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tance from the pueblo of the Incas : and an instance of the augmentation of the pueblo by new-comers is found at Tezcuco, where the inhabitants of the quarter of Huitznahuac represented an immigrant clan from the north, which had been conducted thither in comparatively recent times by Tezcatlipoca, its tutelar deity¹. According to another version of this tradition, three other quarters of Tezcuco, besides that of Huitznahuac, had been settled by immigrants from Northern Mexico, whom the Chichimec chiefs had received as a welcome addition to their community². This internal augmentation of the pueblo scarcely differs in principle from the cognate process by which outsiders, whether survivors or new-comers, are allowed to form settlements in the same district on the terms of having either no military organisation of their own at all, or of having one subordinated to that of the principal pueblo, and of rendering to the latter tribute in the form of labour and agricultural produce, receiving in return military protection, and food from the stores of their protectors in times of scarcity. According to the traditions of Tezcuco the wide ascendancy of its early Chichimec rulers had been largely based upon the introduction of immigrant tribes, belonging to other stocks, who had settled in its neighbourhood upon this footing³. The original settlement of Mexico, made within the territory of Azcaputzalco, is a familiar instance of a settlement of the same kind.

Conquest
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pueblos—
Tribute.

In the process last described we have one method by which those groups consisting each of a single principal pueblo and several subordinate ones, with which the history of the New World before the conquest is mainly concerned, have been formed. This method, however, is neither the only nor the principal one ; such groups, as might be anticipated, have been most commonly formed by the simple

¹ Pomar, *Relacion de Tezcuco*, p. 13.

² *Ixtlilxochitl, Hist. of Chichimecs*, ch. xiii.

³ *Ibid.* ch. vi, vii.

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process of war, terminating in conquest, between neighbouring pueblos. To analyse all the causes which bring into collision neighbouring pueblos having a military organisation would be superfluous : suffice it to say that not only do such causes exist in abundance, but that the practice of inter-tribal war is commonly regarded by barbarous peoples as the proper business of man, as a religious obligation. A frequent cause of war is occasional scarcity of food and of females, who, in the state of endogamy which prevails in the earliest times, are probably born in fewer numbers than males. The relative military strength of neighbouring pueblos is generally approximately known ; and when such scarcity makes itself felt, the stronger tribe attacks the weaker one as a matter of course. In the course of time the weaker pueblo, anxious to be rid of this liability to attack, agrees to furnish the strong one with a fixed tribute of labour and agricultural produce, and sometimes of women, on the terms of being henceforth free from molestation, and of receiving military assistance when attacked by other tribes. Where the rival forces are more nearly matched, similar terms may be deliberately imposed on the conquered as a means of permanent enfeeblement. For such tributes of labour and of produce must directly tend to reduce the military strength of the conquered tribe, that of women to limit its population ; and the imposition of such terms on a defeated enemy is obviously the most effectual security against future attack. Conquests of this kind tend to enlarge themselves ; and in this way the districts occupied by the strongest tribes naturally become the centres of a more or less widely extended military domination.

The pueblo in its simple form possesses no historical importance ; history, in the ordinary sense, only begins when the pueblo has become, in the manner above described, the unit of a compound society, consisting of several of such units aggregated into a group held in subjection by some

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The
 dominant
 pueblo.

Book II. larger and stronger one—one of a class which may be called
Aboriginal 'dominant' or 'sovereign' pueblos. Often the dominant
America. pueblo itself, together with its dependencies, is in its turn
 annexed by some rival pueblo; and the repetition of this
 process results at length in the formation of aggregates
 covering tracts of considerable extent. But such aggregates
 cannot be considered as states in the full sense of the word.
 They are merely inchoate states; loose aggregates of weak
 pueblos held in subjection by strong ones, each, however,
 retaining its individuality and its tribal organisation. In
 denominating pueblos by which others were thus held in
 subjection, 'dominant' or 'sovereign' pueblos, the name
 given to them by the Mexicans (tlatocaahtepetl) is exactly
 reproduced. Those held in subjection we call 'servient' or
 'subject' pueblos. The struggles and vicissitudes of the
 dominant pueblos make up the only history, in the ordinary
 limited sense of the word, which is met with in America
 before the conquest, and were the foundation of the settle-
 ment of the New World in the hands of its European
 conquerors. In early times these relations of domination
 and servitude were often of short duration, shifting easily
 with the fortune of war and with changed internal circum-
 stances, the dominant pueblo of one period becoming the
 servient pueblo of another. Pueblos, which at the date of
 the Spanish conquest had long been in servitude to others,
 had themselves once been the dominant pueblos of minor
 villages. Thus four villages on the skirts of the Sierra
 Nevada in the extreme south-east of the Mexican valley had
 early placed themselves, under stress of famine, in voluntary
 subordination to the chiefs of the lake pueblo of Chalco.
 The Chalco claimed to have once held twenty-five villages
 in servitude. At the Spanish conquest Chalco and its
 servient villages, subjugated by the first Montezuma about
 seventy years previously, were groaning together under the
 tyranny of Mexico; the original connexion between these
 pueblos, however, so far subsisted that they united in

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¹ Ternaux-Co
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furnishing provisions to Cortes, on his first appearance in the valley, and in praying his assistance against their Mexican oppressors¹. In the course of time, as the advantages of favourable situations were developed, the relative strength of different pueblos, tested by constant petty warfare, came to be definitely ascertained; and in this way servient groups were permanently formed.

What primarily distinguishes the group of dominant and servient pueblos from the fully developed state, is that the original organisation of the servient pueblo remains undisturbed. New features may be added to it, and old ones may change their character: but nothing is taken from it. Thus, land in the servient pueblo may be assigned by the chiefs of the dominant one to be cultivated for their benefit: and the principal god of the dominant pueblo may be established in the servient one, to be provided with sacrifices and general service by the labour of its inhabitants. But the chiefs of the servient pueblo will, as a rule, remain undisturbed in their own lands, and will continue to execute their former functions, under the supervision, it may be, of a resident chief representing the dominant one: and the people of the servient pueblo will in general be permitted to continue their own religious practices. It is only when these new elements in the servient pueblos, introduced by the policy of the dominant one, so far predominate as to supersede the original organisations, that the district will begin to assume the appearance of a homogeneous state. Such a predominance is not decisively indicated until the direct control of the industrial class has been transferred from the chiefs of the servient pueblo to resident officers of the dominant one. This important change had taken place throughout Peru, and was in progress in Mexico: but even in Peru the original organisation of the servient pueblo was

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*States of
domination
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tude.*

¹ Ternaux-Compans, Pièces sur le Mexique, Rec. ii. p. 333; Chimalpahin, Relacion VII (Annales, ed. Siméon, pp. 86, 98); Bernal Diaz, c. 86.

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Organisa-
 tion in
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not extinguished in the uniformity of the system superinduced upon it. Neither, therefore, can be regarded as a state or empire in the full sense of the word. Each was rather an irregular district dotted with servient pueblos either singly or in groups, which had been reduced to subjection, one after another and group after group, by the chiefs of the dominant pueblos.

The greater progress which had been made in Peru towards the establishment of a general organisation is readily explained. The government of the Incas was more uniform, more complete, and more firmly based, than that of the sovereign pueblos of Anahuac, principally because it largely rested on elements of advancement which they had themselves introduced into the servient communities. Throughout the greater part of the sierra, previously to the spread of the Inca domination, the Indians had precariously subsisted by the chase, cultivating, at the most, the potato and quinoa bean, and perpetually occupied in inter-tribal war. The Incas had brought with them the maize plant, had shown how to lay out the chacra, and how to convey to it the increase-giving water from the torrent. They had introduced the llama, in herds numbered by thousands, and had instructed the rude mountaineers in the use and management of these invaluable animals. They had pointed to their father the Sun, as the lord of the year and the source of life, the guide and benefactor alike of the cultivator and the herdsman. They had put an end to war, and established a compulsory system of industry. The Incas, rather than the local curacas, were here the true founders of advancement; the direct control of the labour upon which it was based was theirs from the beginning. The broad chacras of the Sun and the Ccapac-Inca, together comprising most of the land surrounding each village, the vast herds of llamas, belonging to the Sun and the Ccapac-Inca, depastured on the slopes of the mountains, the buildings in which the secluded women of the Sun and the Ccapac-Inca were con-

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tinually weaving cloth from the fleece, the stores of arms and provisions prepared for the use of the warriors, were the visible evidences of this direct control. The resident Inca officials, who kept by means of the quipu a register of the industrial population, classed according to their age and consequent capacity for labour, were its active instruments. In Mexico, on the other hand, the system of contribution rested on the responsibility of the local chiefs, who retained the direct control of the industry by which the tributes were provided. The chiefs of the servient pueblos, which were grouped for the purpose, periodically lodged the prescribed tributes in the *petlacalli* or Tribute-house¹ of the principal pueblo in the group; here they were received by resident Mexican officials, to be despatched, in due time, by porters from the tributary villages, to the sovereign pueblo. In some remote tributary districts even this simple organisation appears to have been wanting. Such was the case in Zempoallan, the first servient pueblo in Mexico visited by Cortes: here the sovereign pueblo had no resident representative, and the Mexican chiefs charged with the collection of tribute entered the village as strangers, whose arrival was awaited with dread and detestation, on account of the habitual brutality with which their functions were exercised². Throughout Mexico the Spaniards were hailed as liberators from an intolerable servitude; the Inca rule, on the contrary, was extremely popular with the Peruvian peasantry, who felt the transfer of the sovereignty to the Spaniards to be on the whole a change for the worse.

The main cause of the contrast exhibited by the Peruvian and Mexican dominations lies in the radically different circumstances in which each was established. In Peru, as

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America.

Feudal
Proprietor-
ship in
Mexico.

¹ Literally 'House of Mats' (*petlatl* + *calli*), from the mats in which the tributes were tied up. *Petlacalco* = place of the *petlacalli*: hence *petlacalcaltl*, the title of the official receiver, sometimes merely described as *calpixqui* (= guardian of the house).

² Bernal Diaz, c. 46. Zempoallan was the principal pueblo of a servient group (id. c. 44) formerly subject to Tlaxcallan.

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we have shown, a superior barbarism was absorbing and elevating lower populations. In Mexico these conditions were reversed; robust tribes, largely indebted for their advancement to decaying communities into whose midst they had penetrated, were overrunning outlying districts occupied by peoples in a social condition scarcely inferior to their own. The methods by which a higher advancement incorporates lower populations necessarily differ from those by which one whose superiority is merely military subjugates others whose level of advancement varies, but is on the whole not inferior to that of the invading tribe. In the former case we might anticipate something approaching to a fixed administration—something like a civil service in a rudimentary form. In the latter we might expect to find the policy of the invaders limited to the exaction of tribute and the prevention of revolt. The readiest means of effecting this is the establishment of a rudimentary feudalism: the appropriation, that is, of the best lands in the tributary districts to distinguished warriors of the conquering tribe. This expedient was in fact resorted to in Mexico and the adjacent regions into which Mexican advancement penetrated. Here alone, among the advanced tracts of the New World, do we find chiefs belonging to the conquering tribe established as resident proprietors in the conquered pueblos. In many of these the best of the land had been taken from the resident chiefs and peasantry and vested in some Mexican warrior as a proprietary estate, tenable for life, generally transmissible to his sons, and sometimes alienable at will to some other duly qualified chieftain. The Spaniards rightly compared these proprietary estates, which seem to have usually comprised the greater part of the village lands, to the seigneuries or *mayorazgos* of Europe. This remarkable analogy to a familiar element in the advancement of the Old World¹ is wholly wanting

¹ The traces of feudalism in Homer are extremely interesting. See *Il.* ix. 149-156, xx. 114 (land granted for military exploits).

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in Peru. The Incas constituted a military and religious corporation, and their conquests enured for the benefit of the corporation as a whole.

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Another cause, closely connected with that above mentioned, largely contributed to the superior completeness and uniformity of the Inca organisation. This was the practice, common throughout Peru, of transporting the peasantry in bodies from one district to another. As the extension of the Inca dominion proceeded, small tribes were often found settled in fertile valleys capable of maintaining a more numerous population. In such a case it was the practice to take from some other district, where population had outgrown the means of subsistence, a certain number of peasants already trained to agriculture, and to plant them in the newly-acquired district as colonists (*mitmacuna*)¹. In this way the bleak and over-peopled Collao, from which the Incas themselves derived their origin, furnished inhabitants for many temperate valleys in all parts of southern Peru. Such a system afforded a convenient means of dealing with populations not completely reconciled to the Inca domination. Tribes which submitted to it reluctantly, or were suspected of disaffection, were often removed to some distant spot, where they were permanently settled as colonists under the supervision of resident Incas: while others, whose fidelity to the ruling tribe was unquestioned, were settled on the lands thus vacated. In this way there arose two distinct descriptions of *mitmacuna*. Those who were transferred to the less advanced districts served as a species of civil garrison. They are stated to have been the objects of special favour

*Mitmacuna
of Peru.*

¹ The Incas, according to Cieza de Leon (*Cronica*, Part i. c. 2, Part ii. c. 17), never removed the chiefs of the conquered districts except for some grave cause, nor did they prohibit the native customs and religious rites, though they are credited with the general policy of discouraging the worship of the minor huacas (*ante*, vol. i. p. 601). The succession, however, to the minor chieftaincies is said to have been frequently altered (*ante*, p. 39).

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at the hands of the ruling tribe, who granted them various distinctions in dress, and allowed them a plurality of wives, while the common peasant possessed only one. What is economically more important is that these colonists were exempt from the general burden of common labour, for they remained outside the organisation of the pueblo in which they were settled. It is doubtful whether such was the case with mitmacuna who had been deported to other districts for disaffection: in any event, they were probably subject to equivalent burdens. Colonists of this latter class are apparently intended by those writers who describe the mitmacuna as enjoying fewer advantages than the mass of the industrial population, and as being mere slaves of the ruling tribe¹. Other colonists, who ministered to the garrisons permanently established by the Incas on the frontiers of Peru, especially those subject to the attacks of the savage tribes of the montaña, are classed as a third species of mitmacuna².

General
 use of the
 Quichua
 language.

Another practice, embodied in the Inca policy, and closely connected with that last mentioned, contributed still further to the uniform aspect presented by the Inca dominion. This was the universal introduction of the Quichua language. The connexion between mere tributaries and the dominant tribe is rarely of so intimate a nature that the language of the latter displaces that of the former. This change was in progress throughout the Inca dominion; and although many other languages existed concurrently with the Quichua in recent times, all except the Aymara and Chimu are believed to have now disappeared. The district of Quito, the northernmost of the Inca provinces, and the latest

¹ Gomara, Hist. de las Indias, c. 187. Polo de Ondegardo (ap. Markham, Rites and Laws, pp. 161, 162) says that the *mitmacuna* possessed no llamas, in consequence of which they were compelled to carry their tributes to the storehouses on their backs, sometimes a distance of forty leagues.

² Garcilasso de la Vega, l'b. vii. c. 1; Cieza de Leon, Cronica, Part ii. c. 22.

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addition to the Inca dominion, affords a remarkable illustration. At the Conquest, so completely had the Quichua here superseded the native Cara language that the latter has been considered identical with the former, and a current legend even described the delight of Huayna Capac, on his arrival in Quito, at finding the Quichua language in general use¹. It is doubtless true that the disappearance of the indigenous languages of Peru, once so numerous that every large valley was reputed to possess its own², is not solely due to the introduction of the Quichua by the Incas, but to some extent to its subsequent employment by the Spanish missionaries. The fact nevertheless remains, that while the indigenous languages of the montaña, never subjected to the Inca domination, still hold their ground, the Quichua is universally spoken in the districts over which that domination extended. Like the Latin and Arabic in the Old World, it became the living monument of a conquering race. It is the sole monument of this kind which the New World has to show. The Mexicans scarcely needed to impose their language upon their tributaries³, for the

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¹ Velasco, Hist. of Quito, ed. Ternaux-Compans, vol. i. p. 185.

² 'Ferunt olim septuaginta duabus linguis cominum esse genus mortalium: at hi septingentis, et eo amplius, inter se discrepant; ut vix vallis habitetur paulò latior, quae non sua materna lingua gaudeat.' Acosta, De Procuranda Indorum Salute, lib. i. c. 2. The Quichua, he adds, even where it had been introduced, was not generally in use among the industrial class (vulgus promiscuum).

³ Excepting the immediate neighbourhood of Mexico, the most thickly populated part of the area under the domination of Mexico and Tezcuco was that which stretches northwards from the latter pueblo to and beyond the Sierra. In the pueblos of this district (Otumpan, Teotihuacan, Zempoallan, Tzihuinquillocan, Tollantzinco, Quauhchinanco, &c.) the Otomi remained the vernacular of the quarters inhabited by the Aborigines, while Mexican was spoken by the immigrant settlers from the dominant pueblos (Torquemada, vol. i. p. 261). Probably similar conditions prevailed in Totonacapan and other tributary districts. Torquemada, writing eighty years after the conquest, describes the Mexican as a *lingua franca*, employed for the purpose of inter-communication by those peoples of Anahuac who

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Mexican was already spoken as a vernacular throughout most of the area of their domination: and the numerous aboriginal languages, radically different from the Mexican, and in some instances prevailing throughout considerable districts, which are still spoken in the various States of the Mexican Republic to this day approximately indicate the limits of the dominion of the three lake pueblos¹.

Geographical
 relations of
 the pueblo.

Districts in which widely-extended military dominations have originated, it will be observed, are always among those most favourable to the artificial production of food. In what way has this come about? Has the favourable soil developed the strong tribe, or has the strong tribe, developed elsewhere, discovered and taken possession of the favourable soil? In the case of the advanced peoples of America the latter process appears to have taken place. The Chibcha of New Granada alone had at the conquest no tradition of their immigration; probably even these had recently removed from the neighbouring valleys, in search of a locality more favourable to agriculture than the lowlands afforded. The Mexicans and Incas had in times comparatively recent taken possession of the sites they occupied at the conquest: their advancement had in each case been transplanted, by a succession of migrations which can still be traced, to districts better suited to their needs than those which they quitted. Early agricultural communities naturally shift in this way from place to place. The pueblo, it will be remembered, like agriculture itself, dates from the period of savagery. A tribe dependent on the natural produce of a particular district generally chooses as its

spoke other languages, and attributes its general use to the Mexican tribute system (p. 388). Probably, however, its employment in this respect was partly due to the Spaniards, who seldom learned any other of the indigenous languages of Anahuac.

¹ Beside the Quichua and the Mexican, the Tupi of Brazil, a dialect of the Guarani of Paraguay, ranks as a third widely-spoken *lingua-franca*. It is the monument of the migrations of a superior race, but not of a conquering race in the sense in which the Incas are so described.

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winter quarters a sheltered spot having a sunny aspect, where fuel and water are found in abundance. Here the huts are erected, and the food is stored; here, in the spring, while the men are away hunting, the women busy themselves in cultivating roots and seeds. The original settlement of a hunting tribe can rarely continue to be its permanent dwelling-place when the basis of subsistence has been shifted, and the plantations of roots or corn have to be greatly extended. The exhaustion of the soil, moreover, sooner or later suggests migration; and although the same spots are in general recurred to from time to time, the day at length arrives when it is decided to remove the pueblo, not merely to a new site, but to a new district, selected with special reference to the mode of subsistence on which the tribe has now become permanently dependent. Carrying with it stores of food prepared for the journey, its scanty stock of implements and general effects, and provided with a supply of the seeds of its food-vegetables, the whole tribe sets out under the direction of its chiefs, who have the images of the gods in their charge, in search of a new permanent settlement. Migrations of this kind by tribes of herdsmen and cultivators are the usual preludes to history in the Old World; and similar migrations by cultivators who had abandoned hunting as the substantial basis of life and wandered away from their hunting-grounds in search of settlements more suitable for permanent agriculture are the preludes of history in the New World. Before proceeding to examine these migrations in detail let us glance for a moment at the general surroundings in the midst of which such movements are carried on.

Movements of such importance as a definitive abandonment, not merely of a particular site, but of a district in the midst of which a tribe has long been settled, are certainly not resolved upon without some knowledge of the district to which it is proposed to remove, and some

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Motives to
migration

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assurance that it will be possible to effect a settlement in it. What is remarkable in connexion with the occupation of the plateau of Anahuac by the Mexican tribes is that these appear to have journeyed from considerable distances for the express purpose of colonising it, and that little or no opposition to a new-coming tribe seems to have been offered by others already settled in adjacent parts. While the former fact points to an extensive knowledge, in the country to the north-westward of Mexico, of the value of the district of Anahuac as a place of settlement, the latter appears to indicate that a general drift of colonisation had already become established, and that cultivating tribes who had already settled in Anahuac were disposed to welcome in their neighbourhood any peaceful new-comers who proposed to pursue the same mode of subsistence. The establishment of new agricultural settlements obviously increases the defensive capacity of the district against the raids of savages: in this case there was good reason for encouraging them, for the valley of Mexico, left vacant in many parts by the decay of the Toltec communities, was exposed to the incursions of the savage Otomi. The general motive to settlement in this district cannot be mistaken. It was not the mere fact that maize and Indian pepper flourish there in the greatest perfection: beyond reasonable doubt the chief attraction was the pulque aloes, whose heady juice was the gift of Tezcatlipoca, the general tutelary deity of the Mexican tribes. The settlement of the middle, or Cuzco, district of Peru by the agricultural herdsmen of the Collao was apparently effected under conditions not altogether dissimilar. These tribes inhabited a land too cold for maize, coca, and Indian pepper, products which they obtained from the hot valleys to the eastward and southward of the Titicaca basin. Permanent migration, however, to these valleys was out of the question, for the llama would not have survived the climate. But the temperate valleys to the northward were found suitable for every purpose;

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the llama thrive on the mountain-slopes, while the soil of the valleys was admirably adapted for maize, coca, and Indian pepper. The aboriginal inhabitants of these valleys, low in advancement, probably offered little resistance to an immigration by which they must obviously profit; in any case, their resistance appears to have been of little avail. Though the facility with which these settlements were effected may be exceptional, it is manifest that where population is sparse and the level of advancement low, a slight superiority in fighting power will enable a tribe to overcome opposition to its advance and to establish itself where it pleases. Conversely, where settlements have been formed by migration, some degree of military superiority, as well as some considerable advance in population, and in the arts of life, may be fairly presumed. The lowest peoples, on the other hand, will tend to remain stationary within the area of their food-supply, because in their case the motives to migration and the force necessary to effect it are alike wanting.

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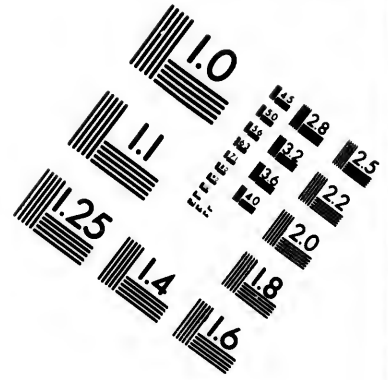
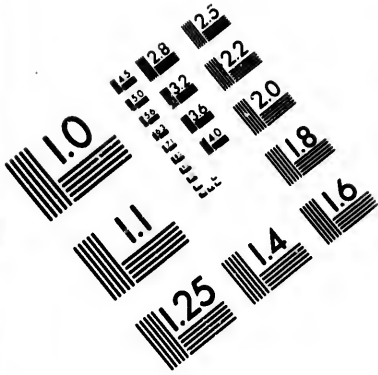
Migrations of the same kind, by maize-growing tribes, are traceable in other tropical and temperate districts of the New World. Those of eastern North America were nearly unanimous in stating that their ancestors came from the west of the Great River or Mississippi¹. 'There, where the Sun sleeps, thence came our fathers,' said the Indians to the Surveyor of North Carolina². In South America we trace a similar movement on the part of the Tupi-Guarani nation from their home in Paraguay eastward across Brazil to the Atlantic, and a northward movement by the Arawaks and the Caribs, who successively reached the Antilles in the course of this movement. Possibly the isolated group of the Huastecs may represent a northward movement on the part of the Maya of Yucatan: we have to choose between this view and that which regards them as an ancient Maya

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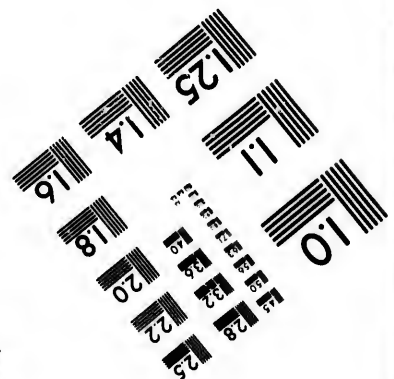
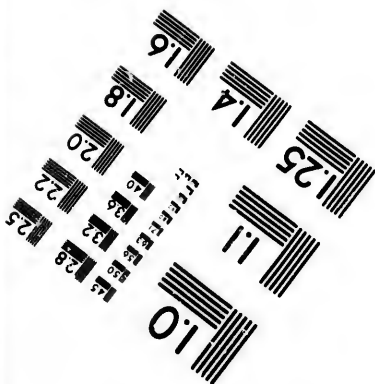
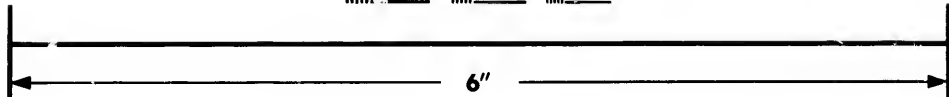
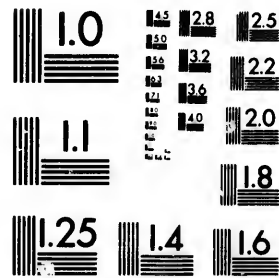
¹ *Mici* (Algonquin) = great: *sipi* = river.

² Lawson, *New Voyage to Carolina* (1709), p. 170.





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BOOK II. group insulated in the midst of alien immigrants of comparatively recent settlement. Such movements were among the last of a series, in the course of which the Indian population, ever pursuing the food-quest in its various forms, had made its way into every food-yielding part of the continent—a series of movements undoubtedly covering many thousands of years, and going back to the time when man first set foot on the soil of America.

Antiquity
of Man in
America.

In order to place this series of movements in its true light it is necessary to discuss briefly the general question of the origin and affinities of the aboriginal race: a topic eagerly debated ever since the Discovery, but until the past forty years with no more positive result than the establishment of a general connexion with the races of northern Asia. The more fruitful researches of the last half-century, while they confirm this view, present it in a new and striking light, because they connect it with the wider questions of the antiquity and original local distribution of the human species itself, and of the geographical conditions which existed when this distribution took place. Contrary to the generally received opinions of very recent times, it is now well known that the appearance of the human race in the Old World dates from a period too remote for calculation by years, and only definable by reference to geological periods of which we know the succession, but not the duration: and concurrent researches in various parts of America have demonstrated that the same conclusion holds good of the New World. In both worlds man was once contemporary with great mammalia long since extinct, together with whom he lived through periods in which the temperature of the northern hemisphere was much lower, and a far larger portion of its surface was covered with ice, than has been the case during the historical period. Though man unquestionably entered the New World as an emigrant from the Old, for the purposes of practical investigation he may therefore be considered as coeval in each world; that

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is, the time when he had found his way into almost every part of both is so remote that his relative antiquity in each has no bearing on the history of his advancement. In each hemisphere, we are authorised to conclude, man remained during many ages at the same low level of savagery, above which he here and there slowly elevated himself.

The proof that man at some extremely remote time reached the New World as a stranger lies in the fact that of the larger and more highly organised primates, the order to which man belongs, America affords among its living and fossil animals no other example than man himself. The lower primates abound in the New World, which is possibly their original home. But the anthropoid primates, constituting together with man a distinct zoological group, separated by a broad physiological gulf from the lower primates, belong exclusively to the Old World, both in their fossil and living species. In the general distribution of animals, man is as decisively a new-comer in America as he is in Australia: he has intruded into a zoological province to which he does not belong, though his presence in America dates back to an extremely remote time. We are therefore precluded from regarding the primitive man of America as even possibly autochthonic. Had such been the case, inferior anthropoid animals, such as still coexist, and once coexisted in greater numbers, with the human races of the Old World, would undoubtedly have been found side by side with man in the New World also. Further, had America produced some indigenous human type, it is extremely improbable that the least advanced groups of this isolated species would in the same epoch have attained precisely the same level with the least advanced tribes of the Old World, and been in possession of articulate language, rude weapons and implements, and the use of fire. Lastly, considering the physiological variety which the human race exhibits, it is scarcely possible that such an indigenous species would closely resemble, in its main features, the

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Man not
autochthonic in the
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contemporary peoples of that part of the Old World where the two continents most nearly approach each other. Now all competent observers, from Vespucci to Von Tschudi, have noticed the striking likeness between the natives of America and those of northern Asia. Almost the first observation made about the natives in the first voyage of Vespucci is that their broad faces are like those of Tartars¹. That the American stock is either a branch of the stock which has peopled the northern parts of the Old World, or that the two had a common ancestry in some other region, appears from its physiological features, and is corroborated by the fact that in both worlds the lowest level at which humanity is found is approximately the same. Before proceeding to the physiological facts which establish this connexion, let us examine briefly the geographical relation between the north-eastern extremity of Asia and the north-western extremity of America. It is here that the New World and the Old, separated only by a shallow strait, most nearly approach each other. Were the ocean diminished in depth by only thirty fathoms, or were the land elevated to a corresponding extent, a causeway thirty miles in breadth would appear, connecting the two continents. It is well known that Behring's Strait has been formed since the tertiary period, and that such a causeway once existed: American geologists have given it the name of the 'miocene bridge'².

Transit of
species
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During a period extremely fertile in the production of mammals, the lands which connected Asia and America witnessed the transit of many species belonging to that class from one hemisphere to the other. In some instances these passed from America to Asia: in other cases they made their way in the opposite direction. Thus the horses, deer, and camels, are thought to have originated on

¹ 'Latas facies Tartariis adsimilatas habent.' Primera Navigacion, Navarrete, tom. 3. p. 204.

² Professor O. C. Marsh, Vertebrate Life in America, p. 49.

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American soil, and to have subsequently passed to the Old World: the bears and antelopes, on the other hand, appear to have been produced in the Old World, and to have spread thence to America¹. Man, we have seen, is an animal of the Old World: and although the tertiary beds have hitherto yielded no undoubtedly contemporaneous human remains², it is generally agreed that the human species must have been in existence during the pliocene or late tertiary period. Was man, it is natural to enquire, among those animals belonging to the Old World which found their way to the New while the two continents were continuous? Such a view derives some probability from the fact that other animals common to the northern hemisphere in both worlds, while they present in each the same essential features, exhibit in minor points just such a degree of variation as may well be referred to an isolation following the disappearance of some primitive connexion between the two continents. Thus, the American mammoth, reindeer, elk, polar hare, and marmot, resemble those of the Old World so closely as to be only distinguishable in minute particulars: the same may be said of American man. Such facts point to the submergence of the isthmus, an event, geologically speaking, comparatively recent, as having taken place subsequently to the appearance of man in the New World: and this suggestion is confirmed when we take into consideration

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¹ Professor O. C. Marsh, *Vertebrate Life in America*, p. 51.

² For an account of the once famous 'Calaveras skull' see De Nadailac's *Prehistoric America*, ch. i. (Dall's translation, pp. 40-45). 'The true age of the auriferous gravels below the lava of the Sierra Nevada,' says Mr. Dall, 'is uncertain, nor can we be sure that the animal remains found in them are contemporaneous with the deposition of the gravels.' Prof. Whitney, who announced the discovery of the skull, admits that the finders were ignorant labourers, and that no competent observer saw it in its original position. Probably the 'Pliocene Skull' will be best known to posterity through the amusing stanzas of Mr. F. Bret Harte.

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the climatic conditions which prevailed in the tertiary age. In that remote period the region surrounding the North Pole enjoyed a comparatively mild climate: Spitzbergen and Greenland were clothed with the vegetation of Virginia and North Carolina. Most of the animals and plants of the north temperate zone flourished on the shores of the Polar Sea: the atmospheric changes which heralded the approach of the great Ice Age forced them southward, and the vast ice-sheets which subsequently overspread much of Europe and North America ultimately drove them far towards the torrid zone. In the course of this compulsory transportation many species perished. Man, who undoubtedly had to contend with the conditions produced by the Glacial period, was possibly, even probably, the companion of these animals during the entire process of southward migration, and survived it¹.

Evidence of
 the glacial
 drift.

The glacial drift of North America, which affords the best positive evidence extant as to the earliest inhabitants of the continent, presents us with nothing inconsistent with the hypothesis that man existed in the New World before the Glacial Age, having migrated from the Old World in tertiary times. Proofs of man's presence, in

¹ G. F. Wright, *Ice Age in North America*, ch. xvii. Among the species rendered extinct in North America by the advance of the ice-sheet Professor Wright enumerates two species of the cat family as large as lions: four of the dog family, some of them larger than wolves: two species of bears: a walrus, found in Virginia: three species of dolphins, found in the Eastern States: two species of the sea-cow, found in Florida and South Carolina: six species of the horse: the existing South American tapir: a species of the South American llama: a camel: two species of bison: three species of sheep: two species of elephants, and two of mastodons: a species of *Megatherium*, three of *Megalonyx*, and one of *Myiodon*—huge terrestrial sloths as large as the rhinoceros, or even as large as elephants, which ranged over the Southern States to Pennsylvania, and the *Myiodon* as far as the Great Lakes and Oregon. 'This wondrous assemblage of animals became extinct upon the approach of the Glacial period, as their remains are all found in post-Pliocene deposits' (p. 386).

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the form of chipped stone weapons and implements, have been yielded by this drift in several places, at short distances from the southern boundary of the great North American ice-sheet¹. Nothing more is actually proved by the stone implements of New Jersey, Ohio, Indiana, and Minnesota than that man dwelt near the margin of the ice-sheet when at its greatest extension; an epoch which the most recent estimates place at something less than 8,000 years ago, or about the date of the dawn of Old-World civilisation in Egypt². It would doubtless be natural for immigrants from Asia, who had passed along the edge of the ice-covered continent, whether by sea or by land, as far as the southern boundary of the ice-sheet, to wander into the interior on reaching the zone of animal and vegetable life, and to establish themselves near the line which marks the southern margin of the ice. Having regard, however, to the considerations just advanced, it appears equally probable that man held the line of geographical stations which these implements indicate in consequence of having been driven southward to that line. Other Old-World species, we know as a fact, had been thus driven southward: the bones of animals belonging to those species are found in or near to the glacial deposits which furnish our evidence of human occupation. Some among these animals have always been among the favourite prey of man. All creatures follow their food: man, it may fairly be concluded, the most resolute and ingenious of predatory animals, would, unless absolutely precluded by physical conditions, have followed his prey from the Old World to the New.

Passing from the considerations which suggest that man entered the New World before the ice-sheet invaded its northern surface, let us briefly consider the conditions under which he may have immigrated from the Old

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Possible
 immigration
 during
 the glacial
 period.

¹ G. F. Wright, *Man and the Glacial Period*, ch. viii.
² *Ibid.*, ch. x.

BOOK II. *Aboriginal America.* World to the New during the glacial period itself. The great climatic change overspread the northern hemisphere by slow degrees, during a long period in which the tertiary isthmus not only existed, but was slowly rising to a higher level. This movement of elevation undoubtedly had an important effect on the production of the glacial phenomena: in conjunction with them, when they exercised their greatest effect, it must, we think, have produced geographical conditions more favourable to the entrance of man from the Old World to the New than those which now exist, though less favourable to such a movement than those which preceded. In other words, the farther we recede in geological time, within the limits during which the human species appears to have existed, the easier does man's passage from the Old World to the New become. During the tertiary period it was an easy and natural process. During the glacial period it gradually became more difficult. Since the termination of that period the difficulty has been further increased. If the interpretation of physical phenomena about to be suggested is correct, during that period there must have existed a mass of land, uniting the two continents, and extending far southward of Behring's Strait, as well as considerable tracts on the Pacific shore, now submerged: tracts which by their situation and probable physical conditions provided paths for man's passage from one continent to the other. For the purpose of making this clear we may briefly consider some points connected with the distribution of land and water at the junction of Asia and America in the conditions prevailing during the glacial period, (1) irrespectively of the movements of elevation and subsidence which are known to have attended it, and (2) when those movements are taken into consideration.

Land and water in glacial times.

The huge masses of ice which once covered large portions of the earth's surface were formed by the abstraction of corresponding masses of water from the ocean.

When the places attain that the considerable depth North America the area of places near the abstraction of the up on the of the no. 600 feet'. would make the distribution of would produce relation of on the Pacific and that no land stretched to a coast. It would be a tract of vast California, islands and between the Aleutian islands united to America a vast tract and this sea small space form the Kurile and the Sea of mediterranean

¹ Mr. A.

When the enormous thickness which these masses in some places attained is taken into account, it becomes obvious that the sea-level must in consequence have been very considerably lowered. In Switzerland the ice-sheet had a depth above the lowlands of more than a mile. In North America, where the glaciated area included half the area of the continent, the eastern ice-sheet lay in some places nearly two miles thick on the surface. The reduction of the sea-level in glacial times, consequent on the abstraction from the ocean of the mass of water thus locked up on the surface of the land, taking into account the ice of the northern hemisphere only, has been calculated at 600 feet¹. Such a reduction in the volume of the ocean would make comparatively little difference in the distribution of land on the Atlantic side of America, and would produce no sensible change in the geographical relation of the New World to Europe. But its effect on the Pacific side would be to unite America to Asia: and that not by a narrow isthmus, but by a broad expanse of land stretching from beyond Behring's Strait in the north to a coast-line southward of the peninsula of Alaska. It would augment the Pacific shore of the New World by a tract of variable breadth extending to the northward from California, and uniting with the mainland the numerous islands and peninsulas which fringe the great bay between Queen Charlotte's Island and Alaska. The eastern Aleutian islands, converted into a continuous shore and united to America, would form the south-western point of a vast tract comprising most of the site of Behring's Sea: and this sea, reduced in area, would occupy a comparatively small space east of Kamtchatka. Kamtchatka would form the commencement of a mass of land including the Kurile and Japanese Islands, and terminating in China: the Sea of Okhotsk, reduced in size, would assume a mediterranean character. Asia and America would no

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¹ Mr. A. Tylor in the *Geological Magazine*, 1872, pp. 392, 485.

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 America.

longer present the appearance of two continents united by a mere isthmus, but of a single mainland, everywhere spreading in vast expanse around the enormous bay of the Pacific. Such would be the effect of the abstraction from the ocean of the quantity of water necessary to form the ice of the last glacial period, assuming the process to have been confined to the northern hemisphere, and leaving out of consideration, for the moment, all movements of elevation and subsidence. Supposing glaciation to have been contemporaneous in both hemispheres, the ocean must have been depleted to a far greater extent. On that assumption, allowance must be made for the ice-sheet which covered the mountains of Central America, and for that which overspread even the region of the equator to a level of 2,000 feet above the sea; for those which once existed in parts of Brazil, in Patagonia, and in New Zealand. The total reduction in the sea during the glacial period, taking both hemispheres into account, has been roughly estimated by geologists at 1,000 feet, and may possibly have been much more¹. It would be superfluous to trace on the map the effect which this additional reduction in level would produce on the coasts of north-eastern Asia and north-western America. The expanse of land uniting the two continents would manifestly be considerably increased: the northern coast of the Pacific, washed by the Japan current, and having a comparatively mild climate and a corresponding vegetation, would naturally become the dwelling-place of the animals expelled from the interior by the advance of the ice-sheet. Man follows the creatures on which he feeds: hence this tract would probably be occupied by a numerous population, forming a fresh connecting link between the tribes of the Old World and those of the New.

Elevation
 and sub-
 sidence.

The figures above quoted, striking as they are in themselves, afford no adequate measure of the changes, affecting

¹ Belt, *Naturalist in Nicaragua*, ch. xiv.

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its relation to the oceans by which it is flanked, through which the North-American continent actually passed in times immediately preceding the historical period. In late pliocene times the level of the continent was apparently higher than at present; and the isthmus connecting it with Asia still existed. Probably at that time the land was still rising: it is certain that in early glacial times the North-American continent had risen to the astonishing height of 3,000 feet above its present level. Such, at least, is the conclusion indicated by the numerous submerged valleys which have been recently discovered both on the Atlantic and Pacific coast. A similar upheaval occurred contemporaneously in Europe; and to this movement geologists are disposed to attribute the phenomenon of glaciation itself¹. During the prolonged period of elevation which followed, vast littoral plains, now submerged, probably extended in a continuous line from California to the Asiatic shore, affording an easy route of migration for man from the Old World to the New. To review the series of secular changes here sketched in faint outline, having regard, on the one hand, to the colossal marine and terrestrial movements which they produced, and to the incalculable periods necessary to their accomplishment, on the other hand, to the existing distribution of the ethnic and linguistic groups of the New World--demands a certain mental effort. Those by whom this effort is made, and not merely made, but repeated, will probably be disposed to ascribe the main movement of diffusion, to which the existing distribution of the lower American peoples appears in substance to be due, either to the period now under consideration, or to one involving similar conditions, which succeeded it after an immense interval. Slowly and imperceptibly the period of elevation came to an end. The enormous weight of the glacial ice first checked the movement of upheaval, and ultimately changed it

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¹ G. F. Wright, *Man and the Glacial Period*, ch. ix.

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 America.

to one of subsidence; and a period next followed during which the continent not only regained its former level, but sank to a considerable depth beneath it. During this period, the closing one of the glacial age, the Pacific coasts in the latitude of Vancouver's Island were submerged to a greater extent than at present by 200 or 300 feet. While the Atlantic coast still continued to sink, that of the Pacific now passed through another period of elevation; this was followed by a further subsidence, which has probably taken place within the historical period, and has produced the existing relations of land and water where the two continents approach each other.

Behring's
 Straits.

Setting aside the consideration that the shallow sea which here separates the two continents is of recent origin, we know as a fact that, unlike the deep and broad ocean which separates the two worlds on the other side of the globe, it has never been a serious obstacle to intercourse between the shores which it separates. The tribes which inhabit them belong to the same stock, and speak dialects of the same language. They are well known to each other. For the Tchukchis of the Asiatic side constantly visit America, where they procure supplies of furs and walrus teeth, while the American Esquimaux extend their hunting and fishing expeditions to Asia. In winter the strait is narrowed by ice-floes, which unite in large masses; and after a snow-fall, the Diomedé islands, in the middle of the strait, from which both shores are visible, can be reached in sledges¹. America is even said to be sometimes visible from the Asiatic side of the strait; and the first Russian explorers who visited the Tchukchis learned from them that on the eastern side of the strait there was a vast island which they called 'the Great Country,' which could be reached by boats in two days². The relative aspect of the two shores would appear to hold out a direct inducement

¹ Burney, North-eastern Voyages of Discovery, p. 270.

² Von Wrangell, Expedition to the Polar Sea, by Sabine, pp. 413, 415.

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to migration from Asia to America. For while the Asiatic coast is exposed and barren, and covered during most of the year with snow and ice, that of America, protected on the east by mountains, is open to the milder westerly winds, and is washed by a comparatively warm ocean current. Hence in its more genial climate vegetation is better developed, and green forests are even found here and there extending to the sea. The driftwood from America supplies the Tchukehis with fuel: animal life is here more abundant, and furs of many kinds, unknown in Siberia, may be procured. Further southward, the sea and rivers teem with fish. If these apparently favourable geographical conditions ever constituted an inducement to immigration, this inducement must have been a permanent one, though it would be subject to interruption, possibly during long periods, by a state of war, such as has within historical times existed between the people of the opposite coasts, or by temporary depopulation on the Asiatic side. But when it is considered that the north-east of Siberia must during existing climatic conditions have always been very sparsely peopled, no great infiltration of population can have taken place even during a considerable period; and we are irresistibly referred to earlier times—to the tertiary period, when man's occupation of the New World was an easy and natural process, and to the glacial period, an age when the land was less deeply submerged in the ocean, and broad littoral plains, washed by a warm ocean current, stretched in a vast arc from California to northern Asia, as the periods during which the New World received the main body of that population which it actually drew from the Old.

Nor is Behring's Strait the only place where existing conditions might well attract man from Asia to America. Bounding the sea of Behring on the south, and connecting the Asiatic peninsula of Kamtchatka with the American one of Alaska, there stretches the volcanic chain of the

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America.*The
Aleutian
Islands.

BOOK II. Aleutian islands, of which the coast of north-western America, with its innumerable inlets and channels, formed by the islands and peninsulas which break its uniformity as far south as the Columbia river, is a natural continuation. To some travellers who have explored this natural maritime connexion between the two worlds, it has appeared to afford in itself a sufficient solution of the question of American population¹. From the extremity of Asia to the middle of the coast-line of North America, there is a continuous succession of tribes navigating the ocean and deriving their subsistence from it; nor is it possible to determine where the Asiatic element ends and the American begins. As the shell-heaps on the coasts of the Aleutian islands afford evidence of an early population similar in its mode of life to that which long inhabited the American coasts, it appears likely that this connexion has existed from remote times. It must, however, be admitted that communication between the two continents by way of the Aleutian islands presupposes a degree of skill in navigation far in advance of what is required for the passage of Behring's Strait: for the chain is interrupted by considerable reaches of ocean, extending in one instance to 235 miles. On this ground sound criticism denies the practicability of the Aleutian islands as a route of migration for man in the stage of advancement in which he existed in America at the Discovery²; to this route, however, may possibly be due the presence in the New World of some of those advanced maritime tribes of the north-west coast who have been sometimes denominated the 'Northmen of the New World.'

Isolation
elsewhere.

The substantial connexion of the New World, at its north-western angle, with the Old World, contrasts in a marked way with its complete separation from the Old World in all other directions. Doubtless other connexions

¹ Pickering, *Races of Men and their Geographical Distribution*, ch. xvii.

² De Nadaillac, *Prehistoric America*, edited by Dall, p. 522.

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between the two worlds once existed. The distribution of plants during the tertiary period, for example, points to the probable existence at some remote time of a bridge of land between Europe and the northern parts of the American continent. But there is not the least reason for supposing that this or any similar connecting link continued during the Ice Age and the period immediately preceding it. During those immense wastes of years America was completely cut off from the Old World save only at its north-western angle. Supposing, as with good reason we may, that no inconsiderable portion of the aboriginal population reached America during the transition from the quaternary period to the period of existing physical conditions, it is in the direction in which Behring's Straits are now found that we must look for the probable path by which that population entered it. Nowhere else do its coasts approach those of any other continent within a distance traversable by the methods of primitive navigation; and it is important evidence of its isolation on all other sides, during the present geological period, that the broad expanses of ocean which intervene contain islands and island groups which were either found by modern explorers uninhabited and without a trace of former inhabitants, or are known to have been first reached in comparatively recent times. With the single exception of the Canary group, all the islands in the Atlantic, from Iceland to Tristan d'Acunha and the Falklands, and on the Pacific side, all islands in the neighbourhood of the American continent and not visible from the mainland, including the Galapagos and the Revillagigedo groups, were found uninhabited: while the gradual exploration and occupation of the islands of the Pacific by the Melanesian and Polynesian stocks appears in the history of the occupation of the globe as an exceptional movement on the part of comparatively advanced races, skilled in navigation, long subsequent to the general occupation of the continents, the Polynesians having reached

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New Zealand and Easter Island, their southernmost and easternmost positions, shortly before the Spanish discovery of America¹. Collateral proof of the isolation thus indicated is afforded by the absence among the American aborigines of any traces of the Negroid and European races, and by the consequent ethnological unity which marks the New World. The aborigines of America belong to a single group, and the physiological affinities of this group connect it with the race which is still to be found on that side of the Old World which is in closest proximity to the New.

Ethnologi-
cal unity of
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gines.

In maintaining the ethnological unity of the American population, it is not denied that in its many local subdivisions there are encountered from time to time differences such as have sometimes been accepted as indicating distinction of race. Among the American peoples are found groups greatly varying in colour, in stature, in the proportions disclosed by the vertical and horizontal sections of the skull, as well as in its cubical capacity. While the general hue of the skin is brown, tribes approximately white have been found on the north-west coast, in California, on the upper waters of the Missouri, in the Amazon valley, and in the cordillera of the Andes. The extinct Charruas of the Plate river, the Caribs of St. Vincent, now settled in Honduras, and some tribes of Florida and California, have been cited as instances of tribes approximately black². On

¹ The writer must not be understood as expressing any opinion on the relation of the Melanesians to the peoples of any continent, beyond a negative one in regard to America.

² Instances of variation in opposite directions sometimes occur in the same district. Thus, among the Californian Indians, all shades are found, from a creamy white to a jet black. La Pérouse appears to have only encountered the latter. 'The Californians,' he says, 'have a complexion similar to that of the negro without woolly hair. Judging merely by their colour, one would imagine one's self among the blacks on a plantation in St. Domingo.' Of the Makh-el-chel, Mr. Powers says (*Tribes of California*, p. 214): 'So fine and almost Caucasian is their physiognomy, so light their colour, so quick their intelligence, that many persons refuse to believe they are of the same

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the Pacific side, the Indians of the mountains and some fishing tribes on the coast were of comparatively low stature and small cranial capacity; those of eastern North America and of the temperate parts of eastern South America approximated in these respects to fairly developed European peoples. The horizontal section of the skull exhibits so many variations that no generalisation based on it can be safely attempted. It may, however, be suggested that, as in the Old World, the earlier and the smaller tribes tend to dolichocephaly, while the better-developed ones are rather brachycephalous; a conclusion indicating that the varying proportions of the skull should be taken less as original evidence of race than as evidence of physical improvement, based partly on the altered bodily habits of mothers, consequent on their relief from the severer forms of the food-quest, partly on the better food-supply which accompanies increased skill in the capture of the larger game¹. But,

blood with the degraded and miserable beings on the Lower Sacramento. . . . They are undoubtedly descended from the Sacramento Valley tribes, and are a fine illustration of the ennobling effects of a mountain climate.' A similar range of variation is found in Peru. Pedro Pizarro (Navarrete, *Doc. para la Hist. de España*, vol. v. p. 380) declares that many Peruvians were as white as the Spaniards. In general, however, the inhabitants of the Sierra have exceptionally dark skins. Von Tschudi employed Aymara guides and servants whose skin, after making all due allowance for dirt, exhibited 'nearly the tone of the lighter shades of negroes.'

¹ Probably no branch of enquiry has been less fruitful, in proportion to the time and pains expended on it, than craniology. Craniologists, after collecting skulls enough to fill a small churchyard, have given up the subject in despair; and an eminent savant has taken the skull of a Scotch Highlander for that of a negro (*Transactions of the Ethnological Society of London*, N.S. vol. ii. p. 231). The time is probably distant when science will wholly dispense with 'dolichocephalous' and 'brachycephalous': but the distinction which these barbarous terms denote has lost the importance once ascribed to it. So far as concerns America, Von Tschudi (*Organismus der Khetschua Sprache*, 1884, p. 9) says: 'There is no typical Indian form of skull. All attempts to subdivide the American Indians craniologically up to the present time have failed. In the primitive forests of Brazil there

BOOK II.

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 America.

overruling these minor physical variations, there is found throughout America, at least among the lower peoples, a general resemblance in physiognomy which indicates an ultimate common parentage. The Fuegians, says Darwin, might be taken for Botocudes. Travellers in Guiana declare that the Arawaks would in the north-west pass for Sioux¹. There is, moreover, a complete uniformity in that which anthropology accepts as the ultimate test of common descent, the character, namely, of the hair. Neither do the lighter tribes of the New World show any approximation to the fine curling locks of the whites of the Old World, nor do its darker tribes approach to the woolly hair of the negro or the Papuan². Coarse, straight, lank black hair, comparable for thickness and tenacity with horsehair, uniformly circular in section, thickly covering the skull, but sparsely found on the face and body, universally characterises the tribes of the New World, as well as those of north-eastern Asia; and there is a similar correspondence in a minor physical feature which appears to be equally permanent in race—the

are hordes of savages roaming over adjacent hunting-grounds, some of them dolichocephalous, others brachycephalous.' Again, 'We may well be on our guard against ascribing to the shape of the skull any high value for the purpose of classification. The shapes of skulls are extremely variable, and the most discrepant types occur in one and the same family. . . One of the most celebrated anatomists of our time undertakes to collect from the cemeteries of every country in Europe a complete series of crania, embracing the whole scale of cranial 'indices' and cranial 'capacity.'

¹ Brinton, *Essays of an Americanist*, p. 40.

² In a few instances, as occasionally among the Fuegians, according to Fitzroy, Indians have been found having curling hair. Some tribes on the Amazon river exhibit the same characteristic. Mr. Wallace describes the hair of the Amazonians generally as 'never curled,' but the Macas have 'a wavy and almost curly hair' (*Travels on the Amazon*, ch. xvii). Blumenbach was of opinion that curled hair originally resulted from torrid heat. The appearance of such a characteristic here and there in America possibly represents the slow influence of hot climates on stocks derived from temperate and cold ones, the curling hair of the Fuegians being a relic of the time when they inhabited tropical districts.

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proportions of the nasal cavity. While the black race in this respect is ranked as platyrrhine, and the fair races of the Old World as leptorrhine, the North-Asiatic and American races agree in occupying a mean position between the two, and are classed as mesorrhine. Within the limits of these fundamental marks of unity a race may manifestly exhibit a wide range of variation. Types of face and figure are now found in America, after the lapse of so many thousands of years, bearing little resemblance to those of northern Asia. Such types chiefly indicate vigorous hunter tribes, such as the Iroquois in North America, the peoples of the Amazon river, and the Patagonians. But for the purposes of comparison regard must be had to tribes which have continuously subsisted on the simplest and least nutritious food, have been long confined to the same area, have remained in the lowest grade of culture, and may hence be considered to have changed the least. Such tribes are chiefly to be looked for in the forest districts of South America, south of the valley of the Amazon: the close resemblance between the Indians of these tracts and the Mongoloid nations of Asia has often arrested the attention of the traveller¹. Von Tschudi indicates the Botocudes as a remarkable instance; he declares that when these are compared with Chinese coolies, imported into the same part of Brazil, it is hard to distinguish the one from the other². We may safely accept the conclusion to which all these indications tend, and regard the single ethnological province which America constitutes as a continuation of north-eastern Asia.

BOOK II.

Aboriginal
America.

From physiological we naturally turn to linguistic evidence, and enquire whether the aboriginal languages of America corroborate this conclusion. On proofs of the former description, liable as they are to error from various causes, we have dwelt but briefly; language deserves a more prolonged

Evidence
of the
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languages.

¹ Peschel, *Völker-kunde*, ch. iii. sec. 7.

² *Organismus der Khetschua Sprache*, p. 6.

BOOK II. attention, not only from its intrinsic interest as the earliest
 Aboriginal product of human ingenuity, but because in the present case
 America. it is the unmistakable voice of a race, echoed through a
 thousand vernacular dialects. We hope to satisfy the reader
 who is willing to follow a somewhat arid discussion that
 linguistic evidence fully confirms the conclusion indicated
 in the preceding pages. One principle must be laid down
 at the outset. In our comparison of the languages of Asia
 and of America we shall exclude from consideration, as
 utterly irrelevant to the issue, their actual substance; that
 is, the particular sounds of which they consist. We shall
 regard nothing but the bare form or mould into which this
 substance is cast. Our method, it will be seen, is the polar
 opposite of that easy and fascinating one which relies on the
 collection of what are sometimes called the 'miscellaneous
 affinities' of the languages under examination. We reject
 such affinities, because it is demonstrable that beyond certain
 narrow limits they can be nothing but fortuitous resem-
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By the method of 'miscellaneous affinities' it is possible
 to prove almost anything. It will be interesting in this
 place to cite by way of example the earliest employment
 of this method which we have found in connexion with
 American philology. The object was to prove the American
 race to be Jews—descendants of the famous Ten Tribes
 over whom Hoshea was the last reigning king, and who
 were carried away by Shalmaneser into Assyria. This
 fantastic theory of American population made its appear-
 ance very shortly after the Discovery, and is not yet wholly
 extinct: and it will never be forgotten that the most
 magnificent and valuable work dealing with aboriginal
 America that has ever issued from the press on either side
 of the Atlantic—the 'Antiquities of Mexico' of the ill-fated
 scholar Edward Viscount Kingsborough, was compiled and
 published, not very long since, at a ruinous cost, for the
 express purpose of supporting it.

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The Ten Tribes, according to the Second Book of Esdras (ch. xiii), disgusted by the idolatries of their Assyrian captors, took this counsel among themselves, that they would leave the multitude of the heathen, and go forth into a further country where never mankind dwelt, that they might there keep their statutes, which they never kept in their own land. And they entered into Euphrates by the narrow passages of the river; for the Most High showed signs for them, and held still the flood, till they were passed over. For through that country there was a great way to go, namely, of a year and a half; and the same region is called Arsareth¹. The Vision of Esdras is immediately concerned with the destruction of the wicked multitude by a blast of fire and great tempest, insomuch that nothing remained of them save dust and smell of smoke, and with the return of the chosen nation from the Land of Arsareth²; the Highest stays the springs of the stream again, that they may go through³. This trifling circumstance either escaped the researches of the Spanish antiquaries, or was adjudged inconsistent with the plain statement that the Ten Tribes journeyed eastward by the space of a year and a half. The Bible, it was held, contained all truth within its four corners. Nowhere else did it contain any statement which could be construed into an account of the population of the New World. Besides, the sacred text contained an obscure allusion to certain of the chosen people being 'left behind⁴.' Perhaps these might be the American Indians. Finally, by means of a calculation as to the distance which would be traversed in a journey of a year and a half, allowing twelve miles for each day's journey and excluding Sabbaths and

BOOK II.

Aboriginal
America.Migration
of the Ten
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¹ 'Arsareth' (ארץ אחרת, Erets akhereth = 'another land') is an imaginary local name produced by misreading Deut. xxiv. 27, where it is said that the Lord in His wrath uprooted the Jews from their land 'and cast them into another land, as at this day.' The Second Book of Esdras is ascribed to a Greek Jew in the time of Domitian.

² 2 Esdr. xiii. 11, 12.

³ Id. 47.

⁴ Id. 48.

Book II. appointed feasts, it was proved that the march of the Ten Tribes must necessarily have terminated in some part of the New World, the discontinuity of which with Asia, it will be remembered, had not yet been demonstrated.

Aboriginal America.

Linguistic Evidence of the 'Ten Tribes' theory.

An anonymous scholar, quoted by Torquemada as the originator of the celebrated 'Ten Tribes' theory, adduces various reasons in its favour. Torquemada, to whom we are indebted for preserving the substance of this writer's treatise, attributes the authorship to Las Casas, on no better grounds than that the manuscript, in which he found it, also contained some extracts from this excellent man's will, and that the style bears a general resemblance to that of Las Casas. The former circumstance rather points the other way; and internal evidence convinces us that it is the work of some other hand. The Americans, he says, are the greatest nation in the world, and well they may be, considering the size of the continent which they occupy¹. So much being granted, he triumphantly invites attention to the first chapter of the prophet Hosea². Is it not there written, 'The number of the children of Israel shall be as the sand of the sea'? But it is said that they have turned to idolatry, and may therefore be supposed to have forfeited their interest under the prophecy. The fact of their immense numbers remains nevertheless, and is surely conclusive; but if any difficulty should be felt, it is removed by considering the American languages, which are in fact nothing but so many sorts of 'Yiddish,' so many corrupt Hebrew dialects. Go where you will, says our author. Cuba, Española, or Jamaica, you find the same thing; and as these islands were first populated from the continent, the languages of the continent are presumably Yiddish also. The very names of the islands are taken from the

¹ 'La segunda (razon) es, por la multiplicacion, en grande numero, de gente, que decian ser la maior nacion en numero que ai en el mundo, por la grandeza de tierra que tiene poblada.' Torquemada, *Monarquia*, tom. 1. p. 23.

² Verse 10.

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Holy Tongue. Consider the word CUBA; is not that excellent Hebrew? But, some imaginary caviller may object, 'Cuba' means 'a helmet,' notably the helmet of brass in which Saul arrayed David, when he went about to slay the Philistine¹. Precisely, is the obvious retort. The West-Indian Islands received their names from the Jewish chieftains who discovered them; is it not written in the 48th Psalm, *Vocaverunt nomina sua in terris suis*? The ruler in Israel who first reached Cuba was named 'Helmet,' presumably from the magnificence of that which he wore. And it is a remarkable confirmation of this explanation of the name that the island has since been named 'Fernandina,' from the King of Spain, who is undoubtedly a great chieftain². This specimen of Spanish learning will probably have overtaken the reader's patience. Ridiculous as it is, he may rest assured that the transactions of very learned societies, and the works of very learned men, in this nineteenth century, contain speculations on American linguistics which are quite as worthless, and decidedly less amusing.

BOOK II.
 Aboriginal
 America.

By way of illustrating the method of miscellaneous affinities we will follow our author yet a step further. From Cuba he passes to Hayti; the true form of which name, he tells us, is Caitin-tateacuth. He supposes it to be derived from the bold Israelite who first reached the island; at any rate it is pure Hebrew, though we are not enlightened as to its meaning. The Yuna river, which rolls its golden sands through the great eastern valley of Hayti, bears the name of the prophet Jonah; the Yaqui, that of the patriarch Jacob. As for the peninsula of Samana, that is named from the Midianite chief Zalmunna. The river Haina or

Hebrew
 'affinities'
 in Hayti.

¹ 1 Sam. xvii. 38. The word (קַיָּוָה), we may note, is properly transliterated Kôva. But the etymologist is not the man to stick at trifles.

² Torquemada, ubi sup. We spare the reader that part of the anonymous writer's argument which is based on real or fancied resemblances in religious and civil custom.

BOOK II. *Jaina*, on whose banks the ruins of Buena-Ventura still mark the mines of Columbus, is named from *ayin*, a fountain. *Aboriginal America.* Carib, canoe, and cacique, macana (club) and aji (chilli pepper) are alike referred to a Jewish origin.

Greek
'affinities'
with Mexi-
can.

It is hardly necessary to say that such coincidences—if indeed these can properly be so described—are unworthy of a moment's attention. The number of the sounds which can be produced by means of the organs of speech, considerable though it is, is not unlimited. That a certain percentage of these sounds should in certain different languages approximately designate the same things could be no matter for surprise. Occasional resemblances between the names bestowed upon things in different languages are still more likely to occur. Nothing short of a continuous miracle could prevent such coincidences¹. Better proofs than those above quoted have been adduced by scholars who profess to discover in the American languages affinities with the Greek and Latin. We will limit our instances to the Mexican. This language has a remarkable correspondence with the Greek as to the particle of negation and privation. Thus we have *nitlazotla* = 'I love,' *anitlazotla* = 'I love not'; *qualli* = 'good' (passively), *yectli* = 'good' (actively), *aqualli*, *ayeetli* = 'not good'; *acampa* = 'nowhere,' and a hundred others. And 'na,' perfectly answering to the Greek $\mu\eta$, denotes the imperative of negation; *matitlazotluh* or *matitlazotluhti* = 'love thou not.' Among the nouns we encounter words like *Teotl* (god), *otli* (path), which at once suggest their Greek equivalents². Can it be that these resemblances are fortuitous?

¹ Mr. Catlin, who had lived familiarly among the Mandans, believed this tribe, now extinct, to be descendants of Welsh immigrants who came to America with the mythical Madoc (vol. i. p. 105); he considered the great mounds of the Ohio and Wisconsin to be the remains of their villages, and discovered in the Mandan language an array of Welsh 'affinities.' He who seeks evidence of this kind seldom fails to find it in abundance.

² $\Theta\epsilon\acute{o}\varsigma$, $\delta\acute{o}\varsigma$. Both *teotl* and *otli*, it may be noted, are derivatives of

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Nothing, we answer, is more certain. They prove no more than would be proved by the fact that a fragment of brick from Mexico resembled a fragment from Greece: that is, that different men in distant countries happen to have employed similar materials for the same purposes.

Book II.

Aboriginal
America.

Still keeping the Mexican in view, let us now turn to the Latin. The coincidences are even more striking. Is not Tlalli (earth) very like Tellus; Citlalin (star) like Stella; Metztli (moon, month) like Mensis; Atl (water) like Aqua; Cactli (shoe) like Calceus; Maitl (hand) like Manus? Does not Mazatl (game) remind us of Manu captus, Macehualli (serf) of Manu sublatus? 'Cel' in composition means the same thing with solus; the second personal pronoun is Te, Teoa, or Tehuatl, in composition Ti, Tic, Timo. Yet another singular coincidence; the Mexican not only possesses, but profusely exercises, the power of forming abstract nouns from its verbs. The Latin forms these by such endings as -atio or -itio; in Mexican they take the ending -itzli. Are not Tlatemolya (= enquire), Tetlatemoliztli (= inquisition), Tlahuellalilya (= reprehend, admonish), Tetlahuellaliliztli (= admonition), and the like, surprising coincidences of grammatical form? Precisely; but they are coincidences, and nothing more. The marvel is not that such equivalences of expression occur, but that they do not occur in greater numbers.

Latin
'affinities'
with Mexi-
can.

One more demand on the patience of the reader, in regard to miscellaneous affinities, shall content us. From these fanciful analogies with the dead languages of the Mediterranean basin we will pass to affinities with the Turanian languages of Asia and Europe; with the living languages, that is, of the stock which we hold to be identical with the American. An eminent philologist has ransacked their vocabularies in search of affinities with the Dakota (Sioux), and the results of his labours are appended

Dacota and
Turanian
'affinities.'

the same verb, *otoca* = he walks. *Teoll* means 'he who walks above'; compare vol. i. pp. 536-7. *Olli* is the trail produced by walking.

Book II. in a note¹. It must be admitted that he has collected a not unspacious array of verbal resemblances, and that these include precisely the words in which traces of affinity might most reasonably be expected. Here we undoubtedly have something deserving more serious consideration. But the verdict, on the whole, must go as before. Were these instances tenfold multiplied, we should remain of the same opinion, which is based on general considerations to be presently adduced².

Supposed traces of early Christianity in America.

Before laying before the reader this general linguistic argument, there is something to be said on the subject of certain affinities, other than those of language, which have been, rightly or wrongly, traced by eminent ethnologists

¹ Von Der Gabelentz, Grammatik der Dakota Sprache, p. 7 :

(Dacota words.)

(Affinities.)

Maka, earth.	Ostiak, mech ; Finnish, maa ; Mordwin, moda.
Paha, mountain.	{ Yukahir, pea ; Motor, bija ; Taiginz, bié ; Mordwin, panda.
Re, shore.	Ostiak, rep ; Tungus, ürö ; Tibetan, ri.
Peta, fire.	Yakut and Tschuvaschian, wot ; Syrjenian, bi.
Mini, water.	Koriak, mima, momil ; Tungus, mu.
Pa, head.	Finnish, pää ; Hungarian, fő.
Ve, blood.	Hungarian, vér ; Finnish, veri.
Ate, father.	Turkish, ata ; Hungarian, atya.
Ina, mother.	Turkish, ana ; Hungarian, anya ; Mongolian, enie.
Owasin, all.	Mordwin, wäse.
Ota, many.	Manchu, udu.
Ruha, robe.	Hungarian, ruha.
Kukuxe, pig.	Mongolian, gachai. (Dacota word modern.)
Tanin, know.	{ Hungarian, tanitni ; Mongolian, tanicho ; Mordwin, Tonavtoms.
Manni, go.	Hungarian, menni ; Syrjenian, munny.
Un, it is.	Hungarian, van.
U, he comes.	Hungarian, jö.

And the personal pronouns, mi = I, ni = thou, i = he, on = we, have a similarity to those of the Altaic languages, though to this less weight is attributed.

² The search for Turanian and American linguistic affinities is in fact an ancient delusion. The statement of Vespucci (ante, p. 66), encountered by the European reader the moment he opened the 'Quatuor Navigationes,' was enough to suggest it ; it was not difficult

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¹ Vol. i. p.

between the Turanian peoples of northern Asia and the natives of America; a word must also be said on a supposed connexion, historical in its alleged nature, which was once thought to have linked the advanced populations of the New World with those of the Old early in the Christian era. It will be convenient to deal first with the latter question. The Spanish missionaries inferred from the presence of certain objects having the form of the Cross, and clearly connected with the idolatry of the Indians, as well as from certain answers to their enquiries as to these objects, that the Christian religion had at some remote time been preached in America: and it was customary to connect these facts with the unquestioned report that the incredulous disciple had atoned for his offence by undertaking, as his own share in spreading the Gospel, when the Eleven parcelled out the world-wide field of apostolic labour, the difficult and still unaccomplished task of converting the peoples of southern Asia. Saint Thomas, so the story ran, after preaching the Gospel, with variable success, in Arabia and India, undertook a mission to China. On his return to India, he was stoned to death by the Brahmins; the ancient Christian church, which from a solitary hill surveys the plains of Arcot, is still indicated as his burial-place¹.

The beginnings of all this belong to theology. Scarcely

to pursue it, for the Tartars were only too familiar to Christian Europe, and Turks and Hungarians were well known to be of Tartar origin. Garcia, who believed the American aborigines to be simply a *colluvies gentium*, the offscourings of every nation under the sun in the Old World, mentions various Turanian affinities which he accepted as indicating that a certain number of Tartars had found their way to the New World. 'Tepetl,' he says, is Mexican for mountain, and 'tepe' is also Turkish for mountain(?); 'buzug-tepe,' for example, means 'in the middle of a mountain.' Aztatlan, the original abode of the Mexican tribes, is also Turkish: the Uros of Lake Titicaca are probably Huns (Hunos); the 'Huyrones,' a Scythian tribe mentioned by Vincent of Beauvais, reappear in America as the Hurons, &c. (Origen de los Indios, lib. iv).

¹ Vol. i. p. 64.

BOOK II.
 Aboriginal
 America.
 The Gospel
 preached
 in America
 by St.
 Thomas.

was the Conquest over, when the Spanish divines began to discuss the position, in the scheme of Divine providence, of the pagan population which had for ages occupied America. Ultimately they adopted the well-known argument addressed by the Apostle Paul to his Jewish brethren¹. God, it was said, was just; if the heathen were doomed to perdition, it could only be because the opportunity of salvation had been offered to them, and rejected by them. In some unknown way, He must have called, not the Jews only, but the Gentiles also. But how could they have heard without a preacher? If the American Indians were Jews, a doctrine very widely accepted, it was needless to prove by further arguments that salvation under the Old Covenant had once been theirs if they had chosen to accept it. An obvious difficulty, however, arose out of the abrogation of the Old Covenant, and the establishment of the New: and here the incredulous apostle came to the rescue. Saint Thomas had admittedly preached the Gospel in India. If in the East Indies, why not in America also? Was it not written, *In omnem terram exivit sonus eorum, et in fines orbis terrae verba eorum?* This noble figure of the psalmist, which depicted the mute appeal, more eloquent than any words, of the mighty phenomena of the heavens to the dull understanding of man, was interpreted by the Spanish theologians in a sense which squared with their system, as a prophecy that the gospel should one day be preached in the New World. Such a prophecy, it was next argued, must have been fulfilled. Saint Thomas had passed the Pacific, and had preached the Gospel in America²; the

¹ Epistle to the Romans, ch. ix, x.

² The 'Culture-heroes' of the advanced districts—Quetzalcohuatl in Mexico, Votan in the Maya lands, Bochica in New Granada, were usually identified with the Apostle Thomas. In Peru he was identified with the human deity Tonapa (ante, vol. i. p. 450; vol. ii. p. 32), who was celebrated for his preaching. 'Although he preached,' writes the Indian author Salcamayhua, 'the people did not listen, for they thought little of him. He was called *Tonapa huiracocha nipacachan*;

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wretched heathen whom the Spaniards found there had rejected it.

The topic now under discussion has a more substantial connexion with American history than appears on the surface. The doctrine that the American aborigines were Jews who had rejected the Gospel, and were therefore on the same footing with the Jews of Europe, commended itself strongly to the Spaniards. It was not confined to the educated, but was popular among the 'gente vulgar' or ordinary Spanish colonists, because it furnished them with an excuse for the contempt in which they held, and the merciless oppression with which they treated, the miserable aborigines. These, it was held, were not only Jews, but Jews in a state of degeneration. They still showed some traces of their origin. Their slight figure, dark eyes and skin, and frequently aquiline nose, were external evidences of it; but the most important proofs were furnished by their moral qualities. In the first place, they were arrant unbelievers; even after baptism they were prone to relapse into heathenism, unless constantly and sharply watched. Idolaters at heart, they were ever ready to worship mountains and streams, to fling stones on apachietas, and to pour out chicha to regale their dead ancestors. They were, moreover, hard and unfeeling, and strangers to the sentiment of gratitude; not only did they grudge the priest the modest requital for his inestimable services which the law allotted him, but they habitually suffered their old and sick relatives to perish of hunger. For their many sins, the Lord sent upon them plague and pestilence, as he was wont to do upon the Jews of old. Lastly, the dress which they affected was pronounced to be truly Jewish¹; while their habitual meekness of

but was he not the glorious apostle Saint Thomas?' (Markham, Rites and Laws of the Incas, p. 71.)

¹ Coincidences in ritual dress have often been traced. The following extract from a recent popular work must suffice as a specimen:—

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America.*

Natives of
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bearing was ascribed to an innate pusillanimity, which had descended to them from the centuries during which they had sojourned as bond-slaves in the land of Egypt¹. One

'The Indian high-priest wears a breastplate, made of a white conch-shell, and around his head, either a wreath of swan feathers, or a long piece of swan skin doubled, so as to show only the snowy feathers on each side. These remind us of the breastplate and mitre of the Jewish high-priest. They have also a magic stone which is transparent, and which the medicine-men consult; it is most jealously guarded, even from their own people, and Adair could never procure one. Is this an imitation of the Urim and Thummim? Again, they have a feast of first-fruits, which they celebrate with songs and dances, repeating "Halelu—Halelu—Haleluiah," with great earnestness and fervour. They dance in three circles round the fire that cooks these fruits on a kind of altar, shouting the praises of Yo-He-Wah (Jehovah?). These words are only used in their religious festivals,' &c. (The Migration from Shinar. By Captain G. Palmer, London, 1879, p. 138. The writer does not say what particular tribe is alluded to.) A wandering Jew, named Aaron Levi, alias Antonio Montesinos, professed to have discovered a community of his nation in the mountains near Quito about 1640, who greeted his arrival with the Shema ('Shema Yisrael' = 'Hear, O Israel,' &c., Deut. vi. 4). The reader who cares to pursue the story is referred to the 'Hope of Israel' by Menasseh Ben Israel, a learned Rabbi of Amsterdam, who was of opinion that the Ten Tribes were prevented by the Tartars from settling in Central Asia, and were gradually 'passed on,' as wandering paupers, to America. The Rabbi published an English version of his work, dedicated to the English Privy Council and Parliament (temp. Cromwell), for which the thanks of the latter body were voted him. The original Spanish work has been recently reprinted by a learned bookseller of Madrid. Modern Oriental research has produced a tendency to substitute the Hittites for the Jews. An extremely learned work by a transatlantic Professor has reached the writer, in which the Hittite origin of the American Indians is earnestly contended for.

¹ Garcia, *Origen de los Indios*, lib. iii. ch. 1, 2. As an illustration of the cowardice imputed to the Peruvian peasantry Garcia mentions that it was his custom to pay visits of surprise, on foot, to distant parts of his extensive cure; and that he sometimes found the entire population of a hamlet, numbering two or three hundred, engaged in one of those monster drinking-bouts which had once formed part of their religious festivals, and were now forbidden as morally degrading, and as tending to idolatry (ante, vol. i. p. 403). On these occasions, of which he was doubtless privately forewarned, it was the practice of the

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¹ Torquen

fact, and one alone, puzzled these reckless ethnologists. The Jew was notoriously a lover of money. The Indian, on the contrary, would have none of it, and refused to give anything in exchange for it. A head of maize or a handful of coca was to him a more acceptable gift than the brightest dollar out of the Spanish treasury.

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In those districts where proof that Christianity had once flourished presented itself, this difficulty disappeared; for the Christian faith abhorred worldly wealth, and held that a rich man might hardly enter the kingdom of God. The principal piece of evidence of this kind was as follows¹. In the district of Yucatan the Cross actually figured conspicuously among the idols of the Indians. Several crosses were found by the conquistadores; one in particular, of solid stone, and ten palms high, stood in the midst of an enclosed court, forming an appendage to a teopan in the island of Cozumel, a famous place of pilgrimage for the inhabitants of the neighbouring peninsula. Its erection was ascribed to a chief noted for his skill in religious ritual, named Chilancalcatl, not long before the Conquest. He had styled it, so it was said, the 'True Tree of the World.' It was worshipped as an infallible giver of rain; hence the extraordinary veneration in which it came to be held throughout this arid district. The supposed discovery of the worship of the Cross, amply confirmed by sculptures such as those of Palenque, and by numerous Mexican pinturas, was by some antiquaries accounted for by supposing that it had been introduced into America by

Supposed
worship of
the Cross

amiable padre promptly to fall upon his erring flock with his walking-staff; and he notes that although half or wholly drunk they never resisted chastisement. The Indian alcalde and other village officers would make good their escape; the rest simply begged for pardon. The padre would then overthrow the chicha jars; in his sore displeasure, he says, he sometimes broke them in pieces with his staff. Yet their patient owners never complained, nor durst they put in a claim for compensation.

¹ Torquemada, lib. xv. c. 47, 49.

Book II. *Aboriginal America.* Christians from Spain, driven to emigrate by the invasion of the Moors. From the Cross the Spanish missionaries proceeded to enquire after representations of the crucifixion itself. Their researches were rewarded; an old Indian was found who remembered seeing a pintura representing a human figure attached crucifix-wise to two columns. The face of the sufferer indicated agony: hence it was said that he was 'reproaching God.' The roll was held in the greatest reverence; when exhibited for the purpose of instruction, it was never unfolded with the hand, but by means of a rod, kept with it for the purpose. The document itself was lost, for the person entrusted with it had buried it to prevent its destruction by the missionaries, and it had rotted under the ground. We see no reason for doubting the evidence of this old Indian in any particular. The figure undoubtedly represented a human sacrifice to the Sun, always intended in Mexico when the word 'God' (Teotl) was employed without any indication of the particular deity intended.

Explanation of the supposed 'Cross' symbol.

The explanation of the supposed worship of the Cross is equally simple. This alleged symbol of Christian worship, perfectly familiar to the investigator of the pinturas, is in fact nothing but the conventional representation of a tree, consisting of the lower part of the trunk and two cross branches. At the ends of the latter there are knobs, indicating leaves or fruit; others are represented falling from them to the ground. The tree itself was not usually an object of worship; it served as a pedestal for birds of various kinds, among which are found the eagle, the turkey, the owl, and the humming-bird. In the celebrated relief at Palenque the bird which surmounts the tree is a turkey, the principal domesticated animal of Mexico. A celebrant, decorated with a necklace and pendant rope of maize-grains (toxcatl)¹, and standing on the spectator's right, makes an offering to the winged deity, decked for the occasion with

¹ Compare vol. i. pp. 541, 542.

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⁴ (U. S. G
vol. v. (1882

the borrowed plumage of birds more brightly feathered, and with trinkets of various kinds. The living fetish thus apparelled was called 'Quetzalhuexolotl'; the tree was known as the 'Quetzalhuexoloquahuitl,' or 'Tree of the Plumed Turkey'. The sacrifice presented is a diminutive human figure, evidently moulded from the cooked paste of maize. On the spectator's left stands a youth, probably the son of the celebrant, who simultaneously offers to the god a stalk of maize. The roots of the tree envelope a monstrous head. This is human, but has certain serpentine details; rings depend from its huge ears; its terrible jaws disclose two rows of dragon's teeth. It undoubtedly represents the 'Female Serpent,' the voracious Earth-goddess Cihuacoahuatl, to whom the tree owes its growth and nutrition². In the pinturas the mode of sacrifice is varied; the worshipper, wearing either an entire mask, or merely an eye-mask, clasps the tree with his arms³. There can be no reasonable doubt as to the correctness of the interpretation above given, though antiquaries, with singular persistence, continue to describe this perfectly intelligible symbol as a representation of the Cross⁴.

We close this discussion of linguistic and ethnological 'affinities' with a brief reference to certain coincidences, belonging to the latter class, which have been noted by modern ethnologists while searching for connecting links

¹ Leon y Gama, Las Dos Piedras, p. 13. This writer prints the last name *quetzalhuexoloquauhilti*. An eagle (*quauhilti*), decorated with turkey's feathers in the manner described in the text, would doubtless be properly described by this name: but *quahuill* (= a tree) should apparently be read instead of *quauhilti*.

² Compare vol. i. p. 523.

³ Vatican Codex, No. 3773, Fold 9, recto (Kingsborough, Antiquities of Mexico, vol. iii. part 4). Compare similar representations of bird-worship (owl and eagle), Folds 7, 8, and 15 recto, and Fold 5 verso. See Mr. Tylor's *Anahuac*, p. 185, for a representation of a worshipper wearing the eye-mask.

⁴ (U. S. Government) Contributions to North American Ethnology, vol. v. (1882), p. 207.

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America.

Miscellaneous
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affinities
between
northern
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between the populations of the New World and those of northern and Central Asia. Those who have collected these 'affinities' judiciously place little stress on the common use of the movable shelter covered with skins, admitting that this rudimentary invention might well be independently made by hunter peoples in any part of the world; it is also conceded that the close resemblance between the apparatus and conjuring tricks of the medicine man of North America and those of the shaman of Siberia possesses little importance, for the modes of commanding the spirits are everywhere pretty much alike. Greater weight is attached to the fact that the war-dances and medicine customs of the Ostiaks resemble those of the Kolushes, even to the smallest details, and that the myth of a heaven-climber, who ascends the sky from a lofty tree, lowering himself again to earth by a strip of leather, a rope of grass, a plait of hair, or the curling wreath of smoke from a hut, occurs not only among the Ugrian tribes, but among the Dogrib Indians. Such myths, it is contended, though insufficient to prove common descent, point to early communications between these distant stocks. Superstitious usages, on the other hand, it is argued, are scarcely likely to have been adopted in consequence of mere intercourse, and indicate a common origin. Thus, among the Itelmians of Kamtchatka, it is forbidden to carry a burning brand otherwise than in the fingers; it must on no account be pierced for that purpose with the point of a knife. A similar superstition is cherished by the Dacota. Again, when the tribes of Hudson's Bay slay a bear, they daub the head with gay colours, and sing around it hymns having a religious character; it is understood to symbolise the spirit of the deceased animal. A similar practice, it is said, prevails throughout Siberia, and is met with among the Gilyaks of the Amur, and the Ainu. The Ostiaks hang the skin of the bear on a tree, pay it the profoundest respect, and address it while imploring pardon of the spirit of the animal for having

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¹ Peschel, *V*
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put it to death; their usual oath, moreover, is 'by the bear,' even as the polished Athenians habitually swore 'by the dog.' Earthen vessels, it is further urged, were manufactured not only by the Itelmians but by the Aloutians and the Kolushes of the New World; whereas the Assiniboins, settled further to the southwards, cooked their flesh in kettles of hide, into which red-hot stones were cast to heat the water. Even the authority which justly attaches to the names of Tylor and Peschel will probably fail to persuade the reader that any of these alleged 'affinities' are decisive marks of a common origin. We present them for whatever they may be worth, merely remarking that if to any extent they may be so accepted, they so far support the theory of American population which has been above commended to the reader's notice¹.

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America.*

The reasons which compel us to reject miscellaneous linguistic affinities, when proposed as evidence of a common origin, are briefly as follows. All living languages are in a state of perpetual change. This process, slow and imperceptible in those of civilised nations, long fixed as to their vocabulary by the continuous intercourse of millions of human beings, and by the literary use of tens of thousands of words, all stereotyped by the dictionary, goes on somewhat more quickly in the case of barbarous languages: in savage speech it is rapid and palpable. The lower a language ranks in the glossological scale, the fewer the population using it, the more plain and uncomplicated its method, the more quickly and surely does change invade it. The lowest languages can hardly be said to change, for they do not, as a fact, become fixed, but remain in a state of perpetual flux. Language, in Spenserian phrase, is 'tickle as the unsteady air' whose vibrations are its material. The forces which fix and solidify it—forces whose nature we shall endeavour to investigate—are generated in the per-

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¹ Peschel, *Völkerkunde*, Die Menschenracen, Sec. III. ch. 7; Tylor, *Primitive Culture*, vol. i.

Book II. *Aboriginal America.* manent organisation of society ; they grow with the growth of advancement. The speech of the comparatively advanced savages of to-day undergoes changes in all its elements ; that of the primitive human brute, we may be certain, was transformed again and again, and possessed as little stability as the shifting figures formed in a child's kaleidoscope.

Language not easily solidified.

Children, it is well known—in whom the rapid circulation of the blood quickens every species of activity, compared with adults—are always inventing strange combinations of elementary syllables. They take pleasure in it ; out of these combinations they will, if unchecked, quickly construct vocabularies of their own, unintelligible to the rest of the world. It may be mentioned, as an illustration of this, that twin children in an English family were recently found to have constructed for themselves, at the age of five years, a private language, in which not a word of English could be detected¹. The savage, a child in all save years, invents with equal facility a vocabulary which is slippery and unstable as a dream. What first gives language fixity and permanence is the necessity for agreement among members of the same community that the same vocable shall be taken to denote the same thing. Uniform speech is a necessity of the tribal life ; the licence of the individual must therefore be curbed. But even when the tribe has come to such an agreement, and the association of certain vocables with certain things has become conventional, it is far easier to lapse into change than to exercise the amount of memory and caution which alone can preserve this association from disturbance. Even in civilised life individuals differ slightly in pronunciation and the use of terms : in barbarism and savagery this difference is more marked. Von Martius detected many variations of a dialectic nature in the speech of the Indians who accompanied him, though all belonged to one tribe.

¹ The writer states this curious fact on the best authority.

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They not only shifted the accents, but changed the letters of which the words consisted. Each, notwithstanding, was intelligible to the rest. These fluctuations were not exceptional: they were merely illustrations of the normal condition of primitive speech.

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America.

These lapses in pronunciation, noticed by Von Martius in persons belonging to the same tribe, are rapidly multiplied in a group which has quitted the parent stock: and thus, in the course of one generation, groups having a common parentage become unintelligible to each other. Each develops, in no great while, what is in substance a new language. The counteracting force of a comparatively wide general usage, the necessity of being intelligible to others who are only occasionally present to the speakers, disappear; and the natural tendency to change takes effect unchecked. This appears to afford the true explanation of the strange fact, related by travellers in the Bolivian montaña, that a tribe 'generally adopts an entirely new language when it migrates to a new hunting-ground'. Stimulated by the excitement of discovery, by novel surroundings, and by unwonted abundance of food, the brain of the savage becomes abnormally active; and his energy is vented in the one form of originality known to him, his mode of speech. These facts considered, we shall probably find no reason for discrediting the statement of Acosta, quoted above, that every considerable valley in Peru once possessed a language of its own².

Change
from
separation
of tribes.

In a minor degree, this kind of change is constantly at work upon the languages of tribes long stationary within the same area. We are fortunately able to produce evidence of the clearest kind relating to the change undergone by a South American language in the course of thirty years. Our authorities, (1) a Catechism in the Mosetena language printed by the Collegio de Propaganda Fide for missionary use in 1834, and (2) a corrected version, made by missionaries

Change
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tribe.

¹ Colonel G. E. Church.

² Ante, p. 59.

BOOK II. of the branch College at La Paz, thirty years later¹, have
 Aboriginel been prepared with minute and scrupulous care; nor can we
 America.

¹ Doctrina y Oraciones Cristianas en Lengua Mosetena, compuestas por el P. F. Andres Herrero, Misionero Apostolico. Roma, Imp. de Propaganda, 1834. The corrected version, copied from the MS. in use, was procured on the spot by Col. G. E. Church, to whom the writer is indebted for this interesting ethnological document. The following specimens of change are from the Pater Noster and the Salve Regina only. X, it will be remembered, represents the guttural aspirate *Kh*.

1834.	1864.	
Dios.	Doxitsi, Doxit. Pl. Doxitin.	God.
Boiti.	Beichi.	Thou art.
Chevo.	Mayege-che.	In heaven.
Timmo.	Ti.	Name.
Xom.	Hem.	That (which).
Peyaquintsum.	Peyaquitsun.	We honour.
Ayi.	Atsi.	Come.
Uñee mi magee.	Ege mi raise.	What thou wishest.
Xonchieba.	Hemchie.	Do it.
Chigme.	Chime.	As.
Xacche.	Aecche.	On earth.
Tsumsi.	Tsuntchi.	Our.
Erog mayenyas.	Ere mahegos.	Of each day.
Tsummun	Tsunve.	To us.
Someba.	Somome.	Give thou.
Quim.	Quin.	To-day.
Ñivesticami.	Nimbeitibuticami.	Forgive us.
Guagmunsis.	Aaxmu.	Among ourselves.
Ñiveitsimsum.	Nimbeisintsun.	We forgive.
Dacachi.	Patachi(can).	Into evil.
Ochaintsum.	Amuchaitsum.	We fall not.
Nuctiticami.	Nutchiticami.	Help us.
Erog achiiti.	Ere achi.	Every evil (one).
Mi tie.	Mive.	To thee.
Cauchitim.	Schauviin.	Groaning.
Utscam.	Oican.	In this.
Boetye.	Haeya.	Valley.
Doroyeba.	Teconeva.	Turn thou.
Anii.	Annic.	Very.
Vegmoya.	Veya.	Eyes.
Niveisim.	Nimbeage.	Merciful.
Tsumve.	Tsunges.	For us.
Conyete.	Congeeme.	Pray thou.
Gecaacsiraitsum.	Xequixcaesim.	We may attain.

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discover the least ground for supposing that the variations to which attention is invited are in any degree due to negligence of observation, of printing, or of transcription. We see from them that the prevailing tendency of change is to spare the labour of the oral muscles. Syllables which are found superfluous for the purpose of differentiation are dropped; on the other hand, certain emphatic words are syllabically augmented. Gutturals become light aspirates; hard dentals lapse into palatals; the vowels which require the forcible contraction of the oral cavity and the protrusion of the lips give place to those which occasion the muscles less exertion¹. By these and similar processes all words tend to become more or less alike. The oral muscles are now again forcibly exercised, probably with some entirely different result; new syllables are introduced for the sake of distinction. Thus, as in all human affairs, the vicious circle endlessly rotates. The farther we recede in time, the more rapidly must this principle of decay and renewal have operated. From twenty to forty years is probably a liberal allotment for the average life of a very low savage language: twice the latter figure, or the duration of an entire human life, may be roughly taken as the period required for the complete renewal of the outward substance of speech in the average conditions affecting advancement which prevailed in the New World generally.

Another cause is sometimes cited by ethnologists as constantly wearing away the substance of early languages. The savage entertains a superstitious dread of mentioning the name of a person deceased, believing the merely inadvertent pronounciation of it enough to call him up from the underworld. This practice of abstinence from using names of

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America.

Changes
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¹ Colonel Church has observed similar changes in the Spanish of the gauchos of the pampas. The liquid dental *Ll* degenerates into the palatal denoted by the French *J*: thus *llamar*, *llorar*, become *jamar*, *jorar* (pronounced as if French). 'Bahia Blanca' was pronounced by the gauchos *Badia*, and is now thus marked on the maps.

Book II. beings having the power of injuring man is not confined to the spirits of the dead. It extends to the gods, and to the spirits of disease. Appellatives are usually derived from animals and inanimate things, and are often compounded with adjectives and participles. When a man dies, the elements composing his name are tabooed, and other names must be instantly conferred on the things denoted by them. Thus, on the decease of chiefs named 'Black Hawk' or 'Roaring Thunder,' new words must be invented to replace 'black,' 'hawk,' 'roar,' and 'thunder.' It is easily seen that by this process a numerous tribe might, in a very few years, easily change a considerable portion of its vocabulary. The Abipones, according to Dobrizhoffer¹, entrusted the duty of inventing these new names, as occasion required, to their old women. Three times in seven years, he says, it happened that the name of the jaguar had to be altered, in consequence of the deaths of persons bearing names compounded with that of this animal. Yet this very illustration shows that it was by no means necessary in every case to invent an absolutely new name, for that last bestowed on the jaguar was simply an adjective meaning 'the spotted one.' Again, if the name of the deceased were conferred on a child newly born, the taboo would be discharged: for the title of the living bearer was paramount to that of the deceased. For these and other reasons we are disposed to attribute little substantial importance to changes in language arising from this cause. The general principle of decay and renewal, above indicated, is probably sufficient in itself to account for a transformation of the substance of language once in every eighty years or thereabouts.

No external resemblance between Asiatic and American languages.

The application of this conclusion to the question whether any true affinities can possibly subsist between the substance of an American language and that of its Asiatic cognates is obvious. Any hordes which may have entered the New World in the tertiary age must have changed the matter

¹ Historia de Abiponibus, tom. ii. pp. 235, 361.

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of their languages a thousand times. The tribes which peopled the margin of the ice-sheet 8,000 years ago must have done so, if still extant, a hundred times. Even supposing that the peopling of America from Asia took place mainly in much less remote times, it would obviously be useless to look for traces of verbal identity in the languages of the two continents, though we might expect to find some kind of resemblance, if not a substantial agreement, in the general methods upon which they are framed. When the American linguistic groups are compared with each other, and with those of Europe and Asia which belong to the 'Turanian' or Scythic family, we do in fact find some general structural resemblance running through them all. The languages comprised in these groups agree in being of a type intermediate between the least complicated one, the monosyllabic, and the most advanced, the inflected; they are formed by the simple agglutination of elementary sounds, exhibit scanty traces of inflection, abound in gutturals, and are often excessively polysyllabic. Words of this description abound in advanced American languages, that of Mexico being an instance. As these cumbrous vocables slowly loom on the reader, one after another, like giant ghosts from an archaic world, he involuntarily recalls the words put by the Roman tragedian into the mouth of an amazed countryman, who beholds for the first time that strange monster, a ship with sail set making for the shore¹.

¹ Accius, ap. Cic. De Natura Deorum, Lib. ii, c. 35 :

' tanta moles labitur

Frœnebunda ex alto, ingenti sonitu et spiritu;

Prae se undas volvit, vortices vi suscitât,

Ruit prolapsa, pelagus respergit, reflat.'

This characteristic, however, has been exaggerated. Two enormous words are quoted by Mr. Prescott, in his last foot-note to the 'Conquest of Mexico,' as specimens of the Mexican language. Many readers of that charming work have doubtless suspected these words to be examples of Mexican only in the sense in which the *honorificabilitudinitatibus* of Shakespear's clown is an example of Latin. And so it is.

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Book II. It is this general structure—the formal mould into which
 the fluid material of speech is cast, the ‘style,’ if we may
 borrow a figure from architecture, in which it is built up—
 that is alone important in the comparative examination of
 the languages of savage peoples. Miscellaneous affinities
 have their importance, and considerable it undoubtedly is,
 in comparing the languages of settled and advanced peoples.
 Within the two great groups of civilised speech, the Semitic
 and the Indo-Germanic, the claims of these affinities to
 notice need no vindication. Yet even in these the con-
 struction is of far greater consequence. When philologists
 have grappled with the task of comparing, on the one hand
 the structure of the Semitic languages with the grammatical
 systems of the North African peoples, on the other, that of
 the Indo-European languages with those of the Turanian
 peoples, then for the first time, we believe, will be shadowed
 forth the lines on which the advancements of the Old World
 have proceeded. As this wider field is entered upon,
 affinities will diminish in importance; language will be
 studied less in its material, and more in its architectonic
 relations. Architecture and language, the two great crea-
 tive arts, have this in common, that each takes the ele-
 mentary material provided by nature, moulds it, at first
 roughly and tentatively, into suitable shapes, discovers the
 methods which are most congenial to it, elaborates them,
 generation after generation, and ends by establishing per-
 manent systems, in which the fittest forms are embodied.
 When this point is reached, they necessarily decline,
 because the methods by which they were perfected no
 longer operate, and cease to be generally understood.

As to the first of these words, *Clavigero*, from whom it is borrowed,
 merely says that the Indians employ some ceremonious compound of
 the kind when commencing their confessions; the particular word in
 question was probably of his own invention. The second word is
 obviously the result of an effort to construct as long a noun as possible.
 Any number of similar nouns can be manufactured in German, as
 ‘*Erntedanksagungsfesttagesabendpredigt*,’ &c.

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A third creative art has the same history: we mean that of music. Invented by the savage, and developed by the barbarian, these arts have been perfected by civilised man, whom they ultimately conduct to the threshold of science. Science usurps the guidance of artistic effort; for taste, modest and unconscious, cannot hold her own against the immense forces of knowledge. All these arts bear traces of their origin. To aver that the wretched savage who scooped out his lair in the rock, exchanged ideas with his mate by nasal whines and guttural explosions, and saluted the spirits, whether good or evil, with lamentable howls, was the unconscious predecessor of Buonarrotti, of Shakespeare, and of Beethoven, may seem a hard saying. It appears nevertheless to be the simple truth. Language, at all events, still carries in its face the evidences of its savage origin. The American languages, low in the glossological scale, display these marks in unusual abundance.

In what, precisely, does the general structural resemblance between the Turanian and American languages consist? In order to answer this question we must briefly review the origin and progress of language, as we find it illustrated by the languages of the New World. The majority of these languages, if not absolutely the lowest in the glossological scale, are as near the bottom as the student of the origins of speech could well desire. A certain number, those to which the accidents of history have given a comparatively wide extension and a long duration, stand decidedly higher. Having regard, then, in the first place, to the lowest and most numerous group among the American languages, let us first ask ourselves, does language come under the category of things natural or of things artificial? Is it a Thing at all? The answer to this last question is not so easily given as may at first sight appear¹. We have put it

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America.

Origin and
progress of
language.

¹ Mill says that language is a compound of two things: of a volition and an act resulting from that volition. The act consists in setting the air of the oral cavity in vibration and then rapidly modifying this

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America.

to an eminent philosopher, who answers in the affirmative. Yet it cannot be measured or weighed; we cannot see it. It casts no shadow, though in the multiplicity of its shapes it is a very Proteus. We learn to use it perfectly, long before we are aware that there is such a thing. A child learns the most difficult of languages more easily than a man. The general faculty of speech must be acquired early; delay the attempt until the age of twelve years, and you cannot acquire it at all¹. This is enough to prove that it is not natural to man. It is strictly artificial; for our purpose it will suffice to consider it as AN ARTIFICIAL BASIS OF THOUGHT.

Natural
and Arti-
ficial bases
of thought.

The natural basis of thought consists of Things. Confronted with things, man is powerless as a child. Nature laughs at him. But man has invented words, symbols or counters originally designed for the mere interchange of ideas; these he ultimately learns to employ in playing against nature an endless game of questions and answers, in which he is ever winning from her, and never losing what he once has won. Man's collective winnings in this game, so far as concerns aboriginal America, were but

vibration under the direction of the organ of thought, by means of the throat, tongue, lips, and teeth. This modified vibration appears to be a third element in the compound. 'It is,' says the author of *Physical Realism*, 'an attribute of a body (air), and therefore a Thing.'

¹ See the well-known case of 'Wild Peter' of Hameln, related by Blumenbach. He attained the estimated age of 73, but 'was never able to speak properly.' 'Peter,' 'Ki Sho,' and 'Qui Ca' (by the last two words meaning to express the names of his two benefactors, King George and Queen Charlotte) were the plainest of the few articulate sounds he was ever known to produce. (Works, tr. Bendyshe, p. 333.) It will, however, be borne in mind that 'Peter' possibly had some malformation of the vocal organs, that he is said to have been of weak intellect (though this has been strenuously denied by competent witnesses), and that he certainly never had any scientific instruction in speech. In the absence of mental and physical incapacity, articulate speech can undoubtedly be taught, by the methods now applied to deaf-mutes, at a later age than twelve years, though not without great difficulty.

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scanty: and the intellectual immaturity of the New World is conspicuously reflected in its indigenous languages. Language is always to some extent a test or measure of progress; where all conditions are favourable, as soon as the artificial basis of life has been established, on the footing already described, language tends to become a potent instrument of advancement. Hitherto we have considered advancement in its lower stages only—in those concerned with food-production, the establishment of a division of classes, and the organisation of religion and defence. Further progress depends on the enlargement of the realm of thought. Language is the machinery which thought employs for this purpose. It is not essential, we grant, to simple thought, for other animals besides man notoriously think to themselves without words. But it is essential to analytical thought. It is the material basis of classification, and classification is the formal basis of knowledge; not, indeed, of all knowledge, but of all such knowledge as gives man effectual command over nature. The most difficult of transitions in the history of progress—the transition from its middle to its higher stages, from barbarism to civilisation—appears to be principally due to the developments of language. What, let us ask, is the cause of the higher degree of intelligence which accompanies advancement? Are our senses more acute than those of the savage? The contrary is universally admitted. Is our mental capacity greater? Again the answer must be in the negative; the most important discoveries and inventions belong to the stage of savagery¹. The sole reason of our superiority is that we have become richer in conceptions. Now language, to borrow a figure from economy, is the means of storing our conceptions. Words are the caskets in which they are preserved, arranged, and handed down.

¹ 'Sane facile quis conjiat (ut eunque nobis ipsi placeamus), ingenia priorum seculorum nostris fuisse multo acutiora et subtiliora.' Bacon, De Augm. Scient. lib. vi. c. 1.

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America.

BOOK II. *Aboriginal America.* These frail receptacles, ever changing by continual decay and renewal, preserve nevertheless with tenacious fidelity the accumulated experiences of the mind in its exploration of the world of things. Ever adapting themselves with increasing facility to its methods and requirements, they become at length the indispensable moulds into which thought spontaneously flows. For the products of thought, beyond a certain point, must be fugitive, nebulous, and evanescent, unless and until they are fixed by words. Within a limited range they are undoubtedly defined and distinguished, and acquire consistency and permanence; a process of this kind, indeed, seems to be involved in the conscious quest of subsistence. But beyond the narrow sphere of daily needs mental activity, unsupported by language, would play idly on the surface of things; such conceptions as might be definitely formed would be few in number, and could only be conveyed from mind to mind by some cumbrous method of visible symbolism. Without words, it would seem, conceptions could never be accumulated in considerable numbers; they could not be recalled at will with accuracy and facility; much less could they be co-ordinated and classified, analysed and compounded. It is due to words, and to words alone, that man's conceptions have increased, not by simple accumulation, but by multiplication; that they have assumed new and more comprehensive forms; that their defects have been supplied and their errors corrected; that they have been adjusted to the subtlest differences of the minutest things, and expanded to the dimensions of the universe. Language has conferred on man the power, denied to other animals, of dominating, disciplining, and directing his mental conceptions; and the internal dominion thus gained he has extended over the world around him. No single image can adequately illustrate the functions of language in this process of extension. It has been the torch which has revealed to man the boundless realm of

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knowledge; the bridge by which he has approached it; the sword with which he has conquered it. It is the fortress by which he permanently holds it. Constructed out of the rudest materials, out of simple oral sounds such as accompany emotion in many of the lower animals, the artificial basis of human thought has gradually grown into an edifice dominating the world, the possession of which has in effect transformed man into a creature of another species.

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If language be in truth a physical reality and an element in human progress, it must be assumed to obey the law that nature proceeds by continuous and gradual movement; and science should be able to deduce the stages through which it has passed, from the inarticulate animal cry at one end of the chain to the rational speech of civilisation at the other. When, however, this task is attempted the inquirer is confronted with a difficulty, arising not out of the material aspect of speech but out of the changed mental attitude of the speaker. The simple cry and the elements used in grammatical language are produced by the same organs and forces, and it is easy to see that the one, under the pressure of adequate causes, might gradually develop into the other. It is not easy to see *how* such a development could take place. The cry is essentially subjective; it merely indicates a state of emotion or sensation in the animal by which it is uttered. In its elementary form it seems to be purely emotional, and to form part of a general series of muscular movements, comprising contractions of the features and gestures of the limbs, induced in the more mobile parts of the body by the action of the emotional wave in its diffusion from the brain throughout the nervous system. Grammatical speech, on the contrary, projects itself by a mental effort into the external world; it voluntarily indicates, to other persons, objects existing and processes going on outside the speaker's personality. It discriminates among

Objectivity
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these objects and processes: it prompts or restrains the action of others in regard to them. It recalls, as by magic, what has vanished from the realm of sense: it gives imaginary being to what never existed. But whether it suggests the present or the absent, the real or the fictitious, it is essentially objective, that is to say, symbolic of objects; the subjectivity which marks the cry, if it has not wholly vanished from grammatical speech, occurs only in certain anomalous sounds belonging to the class called interjections. To this objective character the sensations, emotions, and thoughts of the speaker himself, when expressed in grammatical language, form no exception. The terms used to express these are equally objective; they are identical with those used to indicate similar mental facts in other persons. They are differentiated, it is true, in those languages which have become completely analytical, by being associated with the pronoun 'I.' But this pronoun itself is manifestly an objective term. It is a common demonstrative name, used by every speaker to denote himself as an object among objects; by its help he indicates objectively his own acts and mental states, as though these were things belonging to the external world. Assuming, as the material analysis of speech compels us to do, that it originated in mere animal cries, there has been a revolution in its method. It is not merely that its range has been enlarged; its scope has been inverted. What were the causes of this revolution, and by what steps did it proceed? For the student of American aboriginal history this is no problem of merely speculative interest; some approximate solution of it must be found if the relation of the languages of the New World to those of the Old is to be explained.

Origin of
 General
 Terms.

The more closely we examine the chasm which divides mere animal cries from grammatical speech the more formidable it appears. No light is thrown on it by studying the way in which infants and deaf-mutes acquire the

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use of language. They do so, not by gradually varying or modifying their natural cry, but by beginning afresh; by laboriously acquiring certain definite articulate sounds, learning at the same time what things these sounds denote, and subsequently what attributes they are understood to convey. The chasm between subjective cries and objective speech is so far from being bridged that we find no vestige of connexion between them. Whether considered theoretically or practically, grammatical language is a purely artificial system: and when the terms composing it are examined its artificial nature becomes more fully apparent. To use the nomenclature of logic, they are 'general' terms; expressions not one of which exclusively denotes any particular thing, but each of which is applicable to any number of things resembling each other in possessing a certain limited number of attributes. When we define the 'meaning' of words, we have regard, not so much to the things which they denote, as to the attributes which those things possess in common. As such attributes are mere logical entities, creations of abstraction, it follows that words are mainly the factitious signs of factitious things. These ingenious symbols are the sole elements of rational language. How did they come into existence? To put this question is to repeat a familiar problem of mental philosophy. 'Since all things that exist are particulars,' asks Locke¹, 'how come we by general terms?' Locke's own answer to the question is, in substance, that we learn them in infancy; that they are part of the general inheritance of our race. No exception can be taken to this answer; but it leaves us, for the purpose of the present inquiry, exactly where we were before. The logic of the schools tells us that we arrive at them by gradual ascent in the predicamental line; a feat of mental gymnastics beyond the capacities of primitive man, possessed, by our hypothesis, of no better equipment for the purpose than his

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¹ Essay concerning Human Understanding, B III. c. 3.

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 'Radica-
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natural cry, his five senses, and such limited development of his intellectual faculties as might come of direct contact with things, unassisted by any artificial basis of thought.

Popular philology sometimes has recourse to a mode of dealing with the question which only serves to place its difficulty in a stronger light. The study of language compels the inquirer to marshal his materials, and to group together those words, whether belonging to a single language or to several cognate ones, which show traces of agreement both in their concrete elements and in their meaning. By analysing the words thus collected some element is identified common to them all; and by a convenient figure, which has outlasted the wear and tear of two thousand years, this common element is denominated their 'root.' Whatever exists in real language, we are told, has actually grown out of such roots. Sometimes the common element is called a 'mould'; whatever exists in real language is said to consist of manifold impressions, with certain variations or modifications, taken from these moulds, which are 'ultimate phonetic types,' fundamental facts of speech, beyond which it is idle to strive to go. These roots or moulds, it is suggested, are in fact modifications of the natural cry of the human animal, which in remote times enunciated them, by some happy instinct, in the presence of the various combinations of attributes discerned by it in the external world. They are man's natural response to the appeal made to him by things: sonorous vibrations of his personality under the repeated impact of sensible impressions¹. It is objected to the 'radicularian' theory, which proposes what are notoriously the last products of philological analysis as the first facts in the genesis of language, that roots are not words at all; that they are abstractions invented by scholars; titles or headings, used for assorting the contents of the vocabulary;

¹ Hence Max Müller's well-known explanation of the nature of roots is familiarly called by German writers the 'Kling-klang' theory.

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contrivances for classifying and describing the relations of words, as words are contrivances for classifying and describing the relations of things. It may be further urged that the permanence required for derivation from roots does not exist in the most primitive stage of language; that as the glossological scale is descended the classification of words by common elements becomes more and more difficult; that words closely allied in meaning are found to consist of wholly different elements, and that wholly different names are given to the same acts and things in slightly different relations; that the most general words, those which most nearly approximate to the character of a root, are sometimes altogether wanting. Savages will have twenty independent words each expressing the act of cutting some particular thing, without having any name for the act of cutting in general; they will have as many to describe birds, fish and trees of different kinds, but no general equivalents for the terms 'bird,' 'fish,' or 'tree.' The general character of low languages, such as those of America, compels us to conclude that in those who formed them the perception of unlikeness greatly predominated over that of likeness: that the resemblances of words have in the main come from gradual discovery of the resemblances of things; that the uniformity which in the higher languages facilitates classification by roots is less the result of derivation than of assimilation—of the gradual accommodation of speech to a better classification of things, obtained by a closer observation and comparison of their attributes. What appears chiefly to have given currency to the radicularian theory is the widely spread notion that the earliest speech was monosyllabic. The languages of America afford little countenance to this view, against which an acute thinker cautioned inquirers a century ago, and which science will probably one day dismiss as fundamentally erroneous¹.

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¹ The radicularian and monosyllabic theories were anticipated and
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 Analysis of
 General
 Terms.

In any case the radicularian theory cannot bridge the chasm between the natural cry and rational speech; it carries us a step further from it, contemplates it from a remoter distance, and to that extent widens rather than diminishes it. Roots are one degree more artificial than the general terms which they serve to classify. If we wish to lay bare the foundations of language we must proceed in the contrary direction, and reverse the process by which roots have been obtained. Instead of employing classification, we must endeavour to declassify: to break up the logical fabric, instead of adding to it. Every general term represents some real or imaginary group of terms each of which expresses, or would express if it existed, some attribute in addition to those which are involved in the meaning of the general term embracing the group. These lower groups, down to a certain point, consist of other general terms, more limited in their application. But the inexorable theory of logic puts an end, at length, to the subordination of groups, reduces the whole world of things to individuals, and requires us to admit that general terms are in the last resort either abridgments of distinct names for every individual thing in nature, or else contrivances for avoiding the necessity of giving distinct names to every individual thing. Let it be supposed, for the moment, that

rejected in the last century by Lord Monboddo. 'Those who have studied only the regular languages of art, without having recourse to the barbarous languages, which are so much nearer the origin of speech . . . will suppose that the first languages consisted mostly of monesyllables, or very short words, and that it would be only in process of time that they were lengthened, and in consequence of the improvement of the grammatical art, by which composition, derivation, and inflection were introduced into language. In short, they will be apt to imagine that what we call now the *roots* of a language were truly the original words, and at first the only words. These suppositions may at first sight appear not improbable; but if my hypothesis concerning the origin of language be well founded the direct contrary of both suppositions is the truth' (Origin and Progress of Language, vol. i. p. 333).

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each individual thing actually has some distinct name conferred on it. What distinctive attributes would these names express? All attributes that could be possessed in common with any other thing having been eliminated by hypothesis, each name could only express, or aim at expressing, a single distinctive attribute—the separate individuality or personality of the thing to which it is attached. Personality, we shall find, is a hidden attribute involved in all general terms; we shall identify the effort to express it as the hidden germ of language itself, the essential characteristic of its earliest stage, and the formative principle of the grammatical system which it ultimately creates.

Have we, however, the least reason to suppose that man, even in the lowest stage of mental stupidity, ever attempts to give a separate name to each individual thing—as Locke has put it, to each crow that flies over his head, and each grain of sand that comes in his way? Locke rightly argues that this would be impossible, and that, were it possible, it would be utterly useless. If the system of general terms in actual use is too complicated to have been devised in the initial stage of speech, we have no alternative but to seek for one less complicated, intermediate between this system of general terms on the one hand, and the impossible one of separate names for each individual thing on the other. Could such a system have once existed, and if so, on what principle would it have been naturally constructed? Assuming that the former question can be answered in the affirmative, let us address ourselves briefly to the latter. What, let us first ask, are the objects to which language would be first applied? The answer to this question is to be found in the conditions and surroundings of the primitive food-group. When these are examined, it is easy to see, pursuing Locke's illustration, why man has never bestowed separate names on each crow that flies over his head, and each grain of sand that comes in his

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Limited
scope of
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way. He has other occupation for his energies. Man does not perambulate the globe inventing names for everything that he sees ; his attention is confined to the narrow circle of his daily needs, and to the persons who are doomed to tread that circle with him. Beyond it his mental activity ceases or leaves no trace. What objects are included in it? Any of the vocabularies collected by travellers among savage tribes will furnish the answer. They are broadly divisible into two classes, following the distinction above indicated ; (1) the material necessities of life, among which the means of subsistence occupy the foremost place, and the natural objects which conduce to the satisfaction of those necessities ; (2) the various persons composing the food-group, distinguished by their sex, kinship, age, and by minor physical differences ; the parts of their bodies ; their personal possessions ; lastly, their emotions, sensations, thoughts, and acts, and the oral sounds with which things of this class are associated. Let us now consider how the other objects included in the circle might naturally be brought within the range of such sounds ; how the transition takes place from the subjective cry, produced by an emotional wave diffused from the brain over the mobile parts of the body, to the beginnings of objective speech.

Personal
Basis of
Objective
Speech.

In what does this transition, reduced to its lowest terms, essentially consist? In nothing more, it would seem, than in the oral sound uttered by one person, when some emotional wave is diffused from the brain, being recognised and understood, by some second person, as a sign of the corresponding emotion. The moment this recognition has taken place the utterance has become for the second person the symbol of something external to himself. The meaning of such a vocal sign, if it expresses some simple, ordinary, forcible emotion, will probably be apprehended with little or no difficulty. The interpretation of sounds representing emotions which are feeble, unfamiliar, or complex will be

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¹ 'Ο λόγιος 'Ερ-
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Flor. Tit. 81, §

less easy. Their meaning, however, can be cleared up by imitation and repetition, with the aid of some kind of visible symbolism; and in this way the emotional manifestations of mental activity in all members of the group might easily become generally intelligible. All that is required for the production of this rudimentary form of speech is the joint action of two persons, a speaker and a listener, who must assume these characters alternately. The force, then, which generates objective language may be resolved into the mental impact and resistance of two personalities, in the course of which each person recognises in the other, through the medium of certain oral signs, facts which are similar to, but substantially different from, other facts belonging to his own consciousness. This alternate play of opposite forces, admirably symbolised by the serpents, with heads confronted, wreathed round the rod of the Greek god of Speech¹, releases oral utterance from its subjective confinement. It makes for it a practicable breach in the external world, and ties the first knot in the net of intelligible speech which the mind throws over the universe of things. It throws into temporary abeyance, so far as it extends, the subjective and objective relation, and substitutes for it the alternating relation of personality. Nor is it possible that this process should be confined to the expression of emotions; for the emotion of one person becomes by the direct effect of it the sensation of another. All the states of consciousness are indissolubly linked together; sensation leads to thought and volition; volition leads to action; the volition of one person prompts the action of another. The conception of personality, once realised in language, must gradually cover the whole field of consciousness, bringing whatever man can feel, think, will or do, within the range of objective speech.

¹ Ὁ λόγιος Ἑρμῆς, ὁ φέρων ἐν ταῖν χερσῶν τὸ σύνθημα αὐτῆς (τῆς διαλεκτικῆς) τῶν εἰς ἀλλήλους ἀποβλεπόντων δρακόντων. Iamblichus ap. Stob. Flor. Tit. 81, § 17.

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 America.
 Personal
 and
 Impersonal
 Forms.

The recognition of the facts of consciousness through the medium of personality thus imprints upon the mind, in the very inception of language, a habit of contemplating them in at least three different ways—of considering them as connected either (1) with the speaker, or with some body of persons in whose name he speaks, (2) with the person or persons addressed, or (3) with persons and things outside the play of the two primary personalities; and the vocal signs used to express these facts are varied accordingly. Man's earliest classification of the facts of simple consciousness still survives in the terms constituting the personal verb of grammatical speech. What, let us ask, is the conjugation of the personal parts of a Latin verb? Nothing but an enumeration of the various forms assumed by some act, state, or feeling under the influence of personality; an enumeration strictly following the natural classification, above indicated, of the facts or things which it embraces. What, on the other hand, is represented by the general or impersonal forms of the same verb—its infinitive mood, participles, and gerunds? They are simple abridgments, made for different syntactical purposes, of the group of terms collected by conjugation; abridgments formed by discarding the personality, by which these were distinguished, and thus producing terms descriptive not of particular facts, but of classes under which all facts possessing certain attributes may be grouped. That these general forms of the verb are posterior in order of formation to the particular ones can admit of no doubt. We lay little stress on the fact that in some low languages no such forms are known to be in use. It is sufficient to observe that wherever they are found they appear to be derivatives from the personal forms; a circumstance accordant with the fact that conceptions such as pain, hunger, and sleep must in the natural order of things have been preceded by and derived from the recognition of these states under one or more of the forms of personality.

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This transition from personal to general forms in the case of verbs represents, in all probability, a process which has affected the entire field of language; that is, it has taken place in the case of nouns also. All conceptions embodied in speech appear to have been in their original form strictly personal. Having regard to the conditions of life in the primitive food-group, we can hardly doubt that man's first classification of all things was a possessive or personal one. In the case of emotions, sensations and thoughts, this admits of no question; for it will scarcely be argued that man could have contemplated anger, cold, or his mental images of absent things, as general facts before he had become familiar with them under the personal relation by personal experience. Let us advance from psychological facts to the external world, and consider those groups of sensible things which lie nearest to them, the outward actions, namely, of man, and the parts of the body by means of which these actions are performed. Can it be seriously contended that man possessed general ideas of running, grasping, or eating, or of the parts of the human body by which these actions are performed, before he had been long accustomed to regard these acts and parts under different personal relations? From personal actions and parts of the body the transition is easy to conceptions of human beings—of those other members of the food-group whose persons and actions are the most conspicuous things in the field of vision. Most or all of these, by our hypothesis, were connected with every speaker by the personal relations of kinship. Will it be contended that these relations are contemplated in their general form before they are conceived in the personal one—that the general ideas 'father,' 'mother,' 'son,' 'daughter,' were formed before those of 'my-father,' 'thy-mother,' 'his-son,' 'her-daughter'? We shall remove any doubt that may exist on these points by showing that in some low languages the general nouns describing these relations are or were totally wanting,

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being as unnecessary, we may conclude, to the daily intercourse of man, as the impersonal forms of the verb. The nucleus, then, of the circle of objects with which speech was concerned in its initial stages consisted wholly of things which were necessarily and naturally contemplated under the personal relation; the ideas of those things were consequently expressed by words to which some sign of personality was inseparably attached—by forms of speech which may be called Personal Nouns.

Personal
 Noun in
 Savage
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We will briefly illustrate the nature of the personal noun from a typical low American language, the Waicuri of the Californian peninsula. This nation, says Baegert, was incapable of expressing such ideas as 'father,' 'mother,' 'son,' 'brother,' 'word,' 'breath,' 'pain,' 'comrade,' without at the same time implying a personal relation. Thus the men would speak of 'bedârê' (my-father), 'edârê' (thy-father), 'tiârê' (his-father), 'kepedârê' (our-father); the women of 'becuê' (my-father), 'ecuê' (thy-father), 'ticuê' (his-father), 'kepecuê' (our-father). But the expression *arê*, which we might suppose would be readily understood when severed from the personal particle, and taken to mean 'a father' generally, was unintelligible to the men, as *cuê* was to the women. The case was the same with words like 'mapa' (my-forehead), 'minamu' (my-nose), and their correlatives. In the expressions *apu* and *namu*, shorn of the prefix denoting the personality, they were unable to discover any significance whatever. The observation which Baegert makes on this is extremely instructive. This impossibility of expressing the general idea 'father' made it hopeless for him to impress upon these Indians any idea of the obligations of a father towards his children. They could say 'my-word,' 'my-smarting': but it was equally impossible for him to induce them to consider the abstract ideas 'language' and 'pain,' and to make them understand when he attempted to speak of such general features as a high or a low forehead, a long nose, a snub nose, or an aquiline

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nose'. They had no impersonal forms of the verb. Throughout the entire field of personal terms, they seemed scarcely capable of general ideas; and they possessed very few words importing a classification of the things of which they had general ideas. Thus, they had irreducible nouns meaning 'old-man,' 'young-man,' 'old-woman,' 'young-woman,' 'bad (dissolute)-woman,' but no adjectives to express 'old,' 'young,' or 'dissolute.' Their limited speech mainly confined them to particular conceptions, and thus kept them at the intellectual level of children.

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The preceding considerations suggest the conclusion that there was once a time when language consisted of irreducible personal terms; of words which advanced grammar would rank as nouns or as verbs, according to the nature of the thing designated, and which expressed the limited number of conceptions occurring in savage life under that relation through which conceptions first found oral utterance, the shifting relation of personality. Such terms appear to furnish the missing link between the natural cry on the one hand and analytical or grammatical speech on the other. They would constitute a system of language more advanced than that of subjective ejaculations, for they would denote objectively specific objects of thought—but less advanced than the language of general terms, for each, in the mouth of the speaker employing it, would only be applicable to a limited number of particular things. Such terms would naturally and necessarily lead, by analysis of their substance and extension of their meaning, to the use of general terms, by which, in the most advanced languages, they would at length be superseded. It will scarcely be disputed that a system of language consisting of such terms would suffice, in the conditions of savage life, for every purpose of ordinary communication. Would such a system, however, afford a practical basis for intellectual progress? Would it, in other words, be in itself a system of rational

Personal
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¹ Nachrichten von Californien, p. 181.

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speech, however limited in scope? The logic of the schools, which demands general terms, of some kind, as the necessary instruments of ratiocination, answers in the negative; and even so recently as in the last century, acute thinkers like Leibnitz¹ and Reid² denied by implication the title of rational speech to any system of words not consisting exclusively or mainly of general terms. Those logicians who adopt the convincing argument of Mill³, must agree that this position is untenable. There is no magic in the process of generalisation; all reasoning, indeed, reduced to its elements, probably proceeds from particulars to other particulars, which is precisely what the language of personal terms, by our hypothesis, would have done. A language composed of terms each individually applicable only to a limited number of things, and in many cases to one thing only, may therefore be a serviceable instrument of inference, however confined in its range, and however cumbrous and liable to error in its use. Children and animals, as Mill points out, make perfectly sound inferences by means of conceptions alone, without the assistance of language in any form; and such conceptions are undoubtedly personal, not general, in their nature. It cannot, therefore, be objected to the theory of a personal stage of speech, that a language

¹ Opera Philosophica, ed. Erdmann, p. 297.

² Essays on the Intellectual Powers, Ess. V, ch. 1. Reid goes so far as to hold that 'the invention and the use of general words . . . is an operation which all men perform by the light of common sense.' Are all men, then, born grammarians and logicians?

³ System of Logic, B. II. ch. 3. Sir W. Hamilton (Lectures on Metaphysics, vol. ii, p. 327) thinks that language at first expresses 'neither the precisely general nor the determinately individual, but the vague and confused'; and that 'out of this the universal has been elaborated by generication, the particular and singular by specification and individualisation.' Expressions of the first person, however, with which language begins, must always have had the precision and the determinateness which belongs to the conceptions which they embody. Subject to this exception the personal theory of language is not inconsistent with Sir W. Hamilton's view.

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It would be a weightier objection to the personal theory if it could be successfully contended that a system of personal terms would contain no principle of grammatical development. Such an objection, it seems clear, could not be maintained; on the contrary, the chief parts of the working machinery of grammar are so intimately connected with the expression of the personal relation as to suggest that they have in fact been developed out of it. Mere Person, indeed, will not suffice to support that rudimentary grammar which the practical use of personal terms involves. Person requires the aid of Number, unless the different sounds denoting singular personality are tediously repeated whenever more persons than one are referred to; and grammatical number is nothing but a contrivance for avoiding this repetition. Case clearly has its root in personality; and the various case-endings seem to have been originally modes of varying the personal particle so as to designate the various ways in which different grammatical persons become the objects of the action of one and the same subject. Its commonest form, the genitive of possession, is produced by substituting for the sign of personality in the personal noun some second noun designating the person to whom possession is attributed. The dative, accusative, instrumental, locative, and ablative cases arise by a similar process of substitution; nouns designating other persons or things, whose various relations to the thing spoken of were originally expressed by varying the personal particle, are at length imported into the expression, and undergo a corresponding variation. Gender obviously has its root in personality, being merely a device for giving greater distinctness to the expression by giving prominence to certain real or fictitious contrasts between different persons and objects.

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Personality
the basis of
Grammar -
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BOOK II. The working of personality as the formative principle of grammar is no less clearly traceable in the development of the verb. Except in the infinitive mood, constituted by the simple process of eliminating personality altogether, this part of speech usually retains to some extent its original personal form. The Greek dialecticians, following a classification ascribed to Protagoras, placed the natural moods or forms of the verb in the following order: (1) the optative, (2) the interrogative with (3) the responsive, including the affirmative and the negative, and (4) the imperative. The first-named, closely related to the simple emotional cry, and always retaining the character of an ejaculation, possesses a double personality; it expresses a wish, always of the first person, having for its object some form of being or doing on the part either of the primary personality or of some other person. As some rude languages, such as the Waikuri, have only a negative optative, it may be conjectured that originally it possessed only the negative sense. In the primitive moods by which the development of the verb appears to have been chiefly moulded—the interrogative and the imperative—the force above identified as the prime cause of objective speech, the direct impact of two personalities, becomes by the form which it assumes a fundamental cause of variation. Advanced grammar scarcely recognises the interrogative mood, which it commonly expresses in terms of the indicative, by varying the order, tone, or accent. The interrogative is none the less a fundamental mood, having two responsive moods dependent on it, the affirmative or 'indicative,' and the negative; each of which, in some American and Turanian languages, maintains its place in the grammatical scheme. A third mood, the conjunctive, equally dependent on the interrogative, arises in cases where a question, expressed or implied, is not answered by simple affirmation or denial, but with some enlargement or qualification of its terms. To the constant use of the interrogative, with its dependent moods, on the one hand, and the impera-

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tive, in which the volition of one personality prompts and directs the action of a second personality, on the other, grammar owes the development, if not the inception, of its methods of indicating things in their relation to time; for question and answer naturally distinguish between the present and the past, while the word of command is entirely concerned with what is contemplated in the future. All the discriminations of Tense, whether broad or minute, aim at fixing the time of personal acts or states with reference to the moment of speech. Mood and Tense, then, like Number, Case, and Gender, appear to be successive developments of the grammatical principle of personality.

The nature of the personal noun and the effective working of personality will be better understood if the method necessarily pursued by a language based on personal conceptions only is briefly considered; a method differing as widely from that of civilised speech as the instinctive resolve of the savage differs from the reasoned conclusion of the philosopher. Advanced languages proceed by first unravelling, so far as the genius of each will permit, the strands or threads composing the conception to be communicated. Having more or less completely disentangled them, they express each by one or more words selected from an ample vocabulary, and marshalled according to certain rules so as to reincorporate the conception as a whole. They are both analytic and synthetic; they take the thought to pieces, and reproduce it in a reunited form. Language in its infancy could perform neither process; for the mind possessed as yet no habit of analysis, no stock of general words, and no power of incorporating words into sentences. It had not reached the stage at which certain sounds are definitely assigned as 'names' to concrete objects, irrespective of their personality; it simply strove to express the syntactical relations of these objects—the connexions, perceived or understood, which the mind recognised as

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Method of
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subsisting between different persons and things, beginning, it may be presumed, with the present and the real, and advancing to the absent and the imaginary. In every conception of such a relation there would be involved some more or less complete conception of each thing which that relation affected. But language was not primarily concerned with the designation of real things. What was mainly present to the mind, as the subject of communication, was the relation connecting them ; and as relations are logically indivisible each was necessarily expressed as a whole, by means of an entire mass or quantity of sound. This quantity would naturally be a variable one ; that is, it might be more or less prolonged, and might consist either of a single sound, or of several sounds closely following one on the other—a mode of utterance natural in lively states of emotion and sensation, well adapted for conveying different grades of meaning, and for expressing the senses of energy, continuity, succession, and abundance, and resulting naturally, as will presently be shown, from the conditions of primitive vocalisation. But in any case it would constitute an integral and indivisible expression, embodying a single conception, and founded, in the first instance, on a single relation. It might, indeed, unless it were monosyllabic, be broken up into material fractions. But these fractions would possess no separate significance when separately pronounced. Primitive language, to borrow a figure which has been used to describe an arithmetic without fractions, based on whole numbers only, was a machine working by starts, each start completing a definite quantity of work, and so contrived that nothing less than a whole start, or quantity of work, could be executed by it ; it expressed a whole conception or nothing¹. Hence it has been described as 'holophrastic,' or whole-phrasing ; each of its phrases, and even most of its complete sentences, had the general character and effect of a single long and irregular word. Essentially the integral embodi-

¹ De Morgan, Elements of Algebra, p. 3.

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ment of an integral idea, the holophrase, whether monosyllabic or polysyllabic, is essentially irreducible into significant parts; it can represent nothing except when heard in its entirety. Grammatical language, if we read the early forms of speech aright, has been produced by the expansion and disruption of the holophrase, which has been loaded, so to speak, with more and more meaning, until it has burst its material envelopment, producing by its disintegration the various parts of speech. Held together by the predominance of a single personal relation, it is broken up, as will presently be shown, by the process of successively introducing into it signs denoting more and more personal relations; signs which are ultimately replaced by general terms.

The distinction between holophrasis and analysis is the root of the difference between rudimentary and advanced speech; and the transition from the one to the other gives rise to the two main divisions of grammar—to morphology, or 'etymology,' which forms and varies the different parts of speech, and to syntax, which combines them in sentences. The principle of syntax precedes in development the methods of morphology; the order, indeed, in which the parts of grammar appear in grammatical treatises reverses that followed by grammar in its actual growth. The grammar of written languages necessarily begins with orthography, and proceeds in succession to the formation and the syntax of words. Orthography is obviously posterior to morphology; it is no less true, though not equally obvious, that the latter is posterior to syntax. For syntax is more than a mere subdivision of grammar; it is an essential function of mind. We have already noticed the fact, familiar to students of logic, that inference may take place by conceptions, without the aid of words; inference of this kind, it is clear, requires a syntax of conceptions. But the synthetic habit revealed in grammatical syntax lies deeper than reasoning; it exists in the consciousness, preceding not merely speech and inference, but memory itself. The most elementary motion of

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the consciousness involves at least two objects of thought ; for it includes (1) self, and (2) some thing or thought distinguishable from self, and capable of being connected with persons other than self—in our phraseology, of shifting its personality¹. The mind, then, performs an automatic act of syntax before expressing any conception whatever: syntax is involved even in the cry uttered by an animal at the sight of food, or by a child at the sight of some bright object. As the mind advances to the expression of more complex conceptions, the syntactic function undergoes a conscious extension for which conceptions of the first person evidently furnish the fundamental basis. By the recognition of other personalities this basis is enlarged. The mind distinguishes the remaining grammatical persons, each having a similar syntactic apparatus of its own ; and these extensions of thought are singly or collectively reproduced in the holophrase. Circumstance, time, the mental disposition of the persons concerned, are all in due time embodied in the holophrase. This rudimentary form of speech, then, possesses a syntax, though not a syntax of words, or even of particles ; it is a syntax of conceptions, which by the dissolution of the holophrase becomes a syntax of particles and words, of the new constituents of speech to which that dissolution gives birth².

¹ Ferrier, Institutes of Metaphysics, Prop. I: 'Along with whatever our intelligence knows, it must, as the ground or condition of its knowledge, have some cognisance of self.' Prop. II: 'The object of knowledge, whatever it may be, is always something more than is naturally or usually regarded as this object. It always is, and must be, the object with the addition of one's self: Object plus Subject: thing or thought, *meum*. Self is an integral and essential part of every object of cognition.' Prop. III: 'The objective part of the object of knowledge, though distinguishable, is not separable in cognition from the subjective part, or the ego ; but the objective part and the subjective part do together constitute the unit or minimum of knowledge.'

² Primitive holophrasis could not be better described than in the words of Lord Monboddo. Let the action to be described be beating ; 'there is first the action itself, then the agent or person who beats,

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A similar inversion of the natural order of things is disclosed when we turn to practical treatises on the science of reasoning. Logic, it is usually laid down, begins with simple conceptions embodied in 'simple terms;' by putting these together, affirmatively or negatively, it constructs complex formulas known as propositions, and finally combines these formulas in the various forms of the syllogism. The constructive process, known as judgment, is understood to consist in placing two terms side by side, indicating at the same time, by some mark of affirmation or of negation, that this juxtaposition is or is not in accordance with what is deemed to be the truth of things. What precise relation

then the person or thing which suffers or is beaten, and lastly the manner of beating, whether quickly or slowly, gently or severely, &c. The action and all these circumstances exist together in nature. The savage, therefore, considers them all in the lump, as it were, without discrimination, and so forms his idea of the action, and according to this idea expresses it in words. Whereas, in languages formed by rule, all these things are expressed by different words, or by variations of the same word, if that can be conveniently done. Further, there are some necessary adjuncts of the action, such as time. This too, though inseparably joined with it in nature, accurate abstraction separates, and expresses either by a different word or by a certain variation of the same word; but this the savage likewise throws into the lump, and expresses all by the same word without variation, or by a word quite different. There is also the disposition or affection of the mind of the speaker with respect to the action, affirming or denying it, commanding or wishing it. These dispositions, in regular languages, are expressed either by different words, or by a variation of the word denoting the action; whereas, in the languages we speak of, they are not expressed at all, or by a word altogether different. And this will produce a further increase of words not necessary; for as there is no word expressing the action simply by itself, if there be the least change in the circumstance of the action, nay, if there be but an alteration in person, number, or time, or in the disposition of the mind of the speaker with respect to the action, there must be a new word. For as they have no ideas of those circumstances separate from the action, they can have neither separate words to express them, nor variations of the same word, even if they knew that great secret of artificial languages, I mean inflection.' Origin and Progress of Language, Book iii. ch. 7.

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BOOK II. is denoted by this juxtaposition of terms has never been explained in such a way as to mean anything at all and to be free from obvious objections. Simple conjunction or union, 'equation,' and 'mutual reconciliation' have been generally considered inappropriate or insufficient; nor is anything substantially gained by regarding the process in question as one of 'subsumption,' or by an ingenious theory which holds it to be a complex form of identification'. All these solutions are equally out of place, if the theory of language above sketched out is correct; for if every proposition is founded, in its elementary form, on a single conception involving a personal relation, nothing remains to be explained, because all synthesis has vanished, except such as comes of the essentially synthetic nature of mind. Judgment, if we are right, breaks up a single conception into two parts, instead of putting two conceptions together. Predication, the oral expression of judgment, is founded upon analysis instead of upon synthesis. Every proposition may be reduced to a simple holophrase by reversing the process of substitution above referred to—the process of substituting a name for the indication of person—and restoring the personal sign in the place of the name. Logicians have, in fact, arrived at this theory of judgment on purely logical grounds, and have proposed it as the basis of logical science; and one of the most eminent among modern thinkers, in adopting this view, quotes the simplest possible conceptions of the first person as instances of primitive acts of judgment². If the analytical

¹ That of Lotze, *System der Philosophie*, second edition, pp. 57 sqq.

² Wundt, *Logik*, Bd. i. 135-140. Judgment is 'the analysis of a compound conception into its parts.' Wundt's illustrations of the 'primitive act of judgment' are 'I-go,' 'I-give,' 'I-think,' or the personal nouns 'my-going,' 'my-giving,' 'my-thinking,' expressed under the form of the verb. In these expressions, he says, the ideas of self and of going, giving, and thinking 'are not of independent origin, nor are they first brought together by way of addition or accession (*nachträglich*); the association of them in one conception

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Hegel, § 166).

theory of predication be correct, the mechanical principle on which the artificial basis of thought is constructed works in the same way, whether examined from the point of view of grammar or from that of logic. In either case language analyses the thought, distinguishes the personal element involved in it, pursues this personal element through all its forms, and annexes to each of them a distinctive mark, which ultimately becomes replaceable by a name having the force of a general term. Grammatical Person, a shifting element produced by the earliest efforts of speech, and things, or objects of thought, affording a permanent basis for the changing relation of Person, are the two logical factors by which the first stage of language is built up.

From the mental basis of speech we pass on to consider its material aspect. How far are the existing elements of language of artificial origin, and in what way and to what extent has man's natural cry been modified by its adaptation to the purpose of intercommunication? In approaching this question the enquirer cannot but be conscious of venturing on uncertain ground. The human cry has for general purposes been merged in articulate speech by a process dating from some incalculably remote period; and the few facts which might be expected to throw light upon the matter are not easily coördinated in such a way as to suggest any definite conclusion. The facts are of two kinds. The more important class consists of indications gathered from the structure of the vocal organs, from certain inarticulate sounds still employed concurrently with speech, including those which accompany weeping and laughter, from the cries of infants, idiots, and deaf-mutes,

is the prior fact, the separation the posterior one.' A similar analysis, he maintains, is the germ (Ausgangspunkt) of judgment in the most complex propositions. The analytical theory of predication seems to have been first formulated by Hegel, who compares the process to the unfolding of a vegetable germ into root and stem (Wallace, *Logic of Hegel*, § 166).

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and from the sounds which predominate in the lowest languages now extant; here, as will be seen, the American languages render material and unexpected assistance in the enquiry. The second class of facts consists of the cries of the inferior anthropoid species¹. A wide range of variation, it will be remembered, is often exhibited by the cries of animals closely allied in physiological structure; those of the lower anthropoids do, as a matter of fact, differ considerably from each other, and bear little resemblance to the inarticulate sounds occasionally heard from the human mouth². Hence they may all be assumed to differ in an equal or greater degree from the natural cry of brute humanity, especially with regard to the greater delicacy of the vocal mechanism in the existing human species as compared with its lower cognates; and facts of this class, though not to be disregarded, possess less importance than those gathered from the vocal mechanism and practice of man himself.

The primitive human cry.

Giving due weight, as far as possible, to whatever appears to bear on the question, the utmost that can be said is that the original cry of man was probably more strenuous and penetrating than the average of articulate speech; that it possessed a predominantly guttural character; that it was capable of modification, not only in

¹ See the authorities in Huxley's *Collected Essays*, vol. vii. pp. 54-72.

² The cry of the Siamang gibbon is *gôek, gôek, gôek, gôek, gôek ha ha ha ha ha haaâââ*: that of the gorilla *Kh-ah! Kh-ah!* prolonged and shrill, the jaw being widely opened; that of the common chimpanzee a guttural *whoo-whoo*; the bald-headed chimpanzee says *koo-loo*; the orang employs a kind of growl or pumping grunt, but when wounded utters high notes which at length deepen into a low roar like that of a panther (Huxley, *ubi sup.*). The human cry, on the contrary, begins for the most part with a low note and rises to a sharp and prolonged falsetto. The ascending scale in music is always felt to be more natural than the descending one. An exceptional development of the larynx found in singers is perhaps a survival of an original laryngeal pouch, such as exists in the gibbon, orang, and gorilla, giving, when inflated, immense force to the cry of these animals.

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lowest volume but in tone or pitch, including the transition from American the chest-voice to falsetto, and in the peculiar sonorous quality, depending on the varying shape and size of the oral cavity and of the opening formed by the lips, which is denoted in its different kinds by the scale of vowels from range broad A to close U ; and that it consisted of a limited number of elements uttered in succession. Strenuity of utterance accords with the conditions of low savagery. The consciousness of vigour produces a general habit of muscular tension, and a corresponding exertion of the bodily forces to their maximum ; and such an exertion involves a continuous play of the lungs, tending to produce a habit of oral utterance with the fullest possible pressure of breath through the larynx. The greatest degree of existing vocal force, again, is yielded when the oral cavity is expanded to its greatest capacity, when the vibration of the partially enclosed air is interrupted by no motion of the lips or tongue, when the nasal passages, remaining closed, produce no diminution of resonance, and the sound is launched at once, without waste or hindrance, from the organ of speech itself, seated in the deepest and narrowest part of the vocal chamber. Powerful sounds of a somewhat hoarse and distinctly guttural character, capable of being varied, by the compression of the vocal chords and the elevation of the larynx, through a series of scarcely perceptible gradations into an equally guttural howl, seem to result naturally from the structure of man's vocal organs.

To moderate and to vary still more this uncouth instrument of expression was probably an instinct rather than an artifice. Nature teaches the dog, among other animals, to vary its cry by closing the jaws and permitting the air-current to escape through the nostrils ; apparently this simple process was the foundation of varied expression in man. The sharp, open-mouthed cry or bark and the nasal whine can alike be modified by the action of the tongue

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America.

The cry
moderated
and varied.

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*Aboriginal
America.*

and lips ; and man possessed the power of producing sounds thus modified in more abundant measure than his lower cognates. To this fact, and to his greater cerebral development, the universality of articulate speech may be attributed ; and these concurrent physical facts seem to throw light on the circumstances in which they may have originated. These circumstances, possibly, are not far to seek. We have only to suppose man to have roamed, during a competent period of time, over some vast and easily traversed tract of the globe, abundantly stocked with foods at once rich in the elements of brain tissue, moderately difficult of mastication, and requiring to be eaten in considerable quantities, so as to encourage the almost continual exercise, and perhaps to produce an unusual development, of the oral muscles, including the tongue, and the abnormal mental activity of man and the tendency to vent it in oral sounds are alike explained. Such a food existed in that which undoubtedly preceded and suggested the cultivation of cereals, which have not wholly superseded it—in the farinaceous fruits of the forest trees of warm and temperate climes¹ ; climes which once embraced the entire northern hemisphere, including vast lands now submerged under an icy ocean, but formerly covered with a forest vegetation since restricted to more southerly zones. This forest-clad region seems to have been the early habitat of that variety of the human species from which the existing inhabitants of the northern zones of the globe, and of the whole of the New World, are descended. Other miscellaneous indications forcibly suggest the forest of a comparatively warm climate as the theatre of man's earliest development. The considerable size of man's lower limbs points to habits of continuous locomotion, varied by the frequent ascent and descent of trees ; his universal acquaintance with fire suggests experience of conflagrations, due to natural causes, in dry or decaying vegetation : and

¹ Ante, vol. i. p. 302, note 1, p. 338, note 2.

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the general use of the bow indicates long experience of the elasticity of the branch, first utilised, perhaps, in the spring-trap, and thence transferred to the discharge of stones and arrows. Fire-making and the bow and arrow, from their universal use among the American aborigines, must be considered to have been acquired by man, together with articulate speech, before his earliest migrations from the Old World to the New.

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The oralisation of the human cry seems to be ultimately connected with the causes, whatever they may have been, which led man to assume that erect posture without which the existing posterior development of the brain would have been impossible. The habits of life above indicated, by keeping the attention incessantly directed to distant objects, by training the lower limbs to continuous locomotion, and the arms and hands to regular and independent labour in the collection of food, as the main business of life, would have tended to this result; while the practice of eating with erected head could alone have produced those habitual motions of the tongue and lips, necessary for the expulsion of insipid or superfluous matter from the mouth, which have furnished speech with the anterior explodents, and thus provided the apparatus of oralisation. In the quadruped, which drops from the jaw whatever is unsavoury or superfluous, these muscular motions are undeveloped, because they are unnecessary. To man, in his acquired posture, they are indispensable. This posture, again, is closely connected with that extensive observation of phenomena, by which human knowledge has been accumulated, with the education of the hand, eye, and ear, with the perception of the distant and the indistinct, by which curiosity and judgment are awakened, with the concurrent integration and analysis of things perceived, and with the enlargement of memory by the comparison of things perceived in succession. Thus, probably, has nature, ever working miracles by simple means, conducted, by a slow

Oralisation
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Process of
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and gradual progress¹, a species not originally endowed more highly than many humbler cognates to a dominant position on the globe. Man, in all probability, was prepared for becoming that which he is by pursuing during long ages particular forms of the food-quest.

Whatever reason may be assigned for this phenomenon, there can be no doubt that man early acquired an unusual facility of modifying his guttural cry and of varying his articulation by means of alimentary oral movements equally applicable to the cry itself and to the nasal whine which is nature's alternative for it. What we shall call gutturalisation and nasalisation are common ground to him and to other creatures; oralisation, the basis of speech, belongs to man alone among the mammals. Man has by some means obtained an extraordinary power of modifying the shape of the oral cavity, and with it that quality of the sounds produced in it commonly called 'vowel-quality.' Beginning with guttural sounds, in which the vibrations of the larynx are strongly reinforced by a semi-instinctive retraction of the tongue, and varying these by nasal ones, in which the air-current is expelled through the natural bony channel of respiration, he has at length exchanged these harsh tones for softer ones, deriving their character from positions of the tongue and lips acquired through the application of these organs to articulation. According to this theory of speech, founded on the American languages, the process of oralisation, of modification by the transfer of the centre of speech from the throat to the anterior part of the mouth—has affected both the elements commonly called 'vowels' and those called 'consonants,' and has affected them concurrently. Oralisation, of course, has not destroyed the original guttural elements of speech, nor has it rendered

¹ ' unum rettulit alteri
 Natura solers, quippe mire
 Omnia consociare nexu
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J. B. Masculus, Lib. i. Ode 18.

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nasalisation obsolete. It has largely supplemented this primitive phonetic apparatus; and it has commonly reduced it to a subordinate position. Most languages, nevertheless, retain these primitive elements to a greater or less extent; those in which oralisation is incompletely developed to a greater, those in which it is better established to a less. The American languages belong to the former class, and best represent what we may conclude the speech of the northern world to have been in the earliest stages of its growth. The group approaching them most nearly in these and most other respects is that which separates them from those of the great southern zone of Asia and Europe, from China to Spain. This intermediate group includes the languages of northern Asia and the aboriginal ones of northern Europe, those, that is to say, which are denominated by ethnologists 'Turanian.'

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The terms 'vowel' and 'consonant' belong to the art of writing rather than to phonetic science, which divides its elements into two somewhat different classes:—(1) Sounds properly so called, which may be either pure, in which case they are denoted by vowels (vowel-sounds), or impure, from the air-current being partially obstructed so as to produce vibrations resembling humming, rolling, hissing, or buzzing. The latter, when momentarily used for the purpose of articulation, and classed as liquids, spirants, or sibilants, represent the articulants next described in relaxed forms, modified by adjustment. (2) Muscular movements, founded on well-known and semi-instinctive oral acts, by which a portion of the air-current is arrested in its progress and slightly condensed, and then allowed to burst forth or explode with more or less force, so as to impress a distinct and emphatic stamp on the vowel-sound about to be enunciated: a similar movement can be used to close it. These movements, best described as 'explodents,' are three in number: (1) the deep or guttural one, in its pure or soundless form denoted by the consonant

Vowel-sounds and Explodents.

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 America.

κ; (2) the strong lingual one, in its pure form denoted by τ; (3) the labial one, in its pure form denoted by π¹. By giving at will a slight vibratory movement to the vocal chords the soundless explodents are respectively converted into the impure or 'sonant' explodents α, β, and γ; while the liquids, sibilants, and spirants can be produced from them by relaxation and adjustment. The guttural explodent closely imitates the voluntary oral movement employed in deglutition. The pure form κ, together with the sonant modification α, and the relaxed forms kh and η, are used by the lower anthropoids, who also distinctly utter some of the vowel-sounds existing in the human voice². These guttural movements, it may be inferred, furnish man also with a natural basis of articulation. Advancing vocalisation, in the case of man, obtained more abundant means of differentiation, by adding the anterior explodents, and disciplining the tongue and lips to the service of the voice. These movements carry us back to the experiences of the food-quest; for the strong lingual explodent τ is simply the movement of expulsion necessary in the erect position for the removal of undesired matter from the oral cavity, while the labial movement serves the same purpose in the extra-dental region. Justly have the lingual and labial explodents been ranked, together with the deep guttural explodent, next after the general symbol of vocal sound (A) in the enumeration of vocal elements called the Alphabet; for as all other vowel-sounds are modifications of the broad A, so all other consonants are modifications of the three paramount explodents which follow it³. The broad A, the spontaneous consequent of

¹ It would be simpler to call them (1) the 'swallowing,' (2) the 'spitting,' and (3) the 'puffing' explodents, from the natural acts on which they are based. The relaxed linguals may be called 'chewing' articulants.

² Huxley, *ubi sup.*

³ The European alphabet is based on the Phoenician, identical with the Hebrew, in which language the sonant explodents β, α, and γ so

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the guttural explodent, naturally yields to *ɾ* (ee) after the lingual, and to *ʋ* after the labial one; when these combinations occur, as in 'Titicaca,' language strikes its natural keynotes. Justly, again, have these agile slaves of the brain, the tongue and lips, been accepted in the languages of the Old World as synonyms of speech, as the visible embodiments of the artificial basis of thought by which man has made the realm of his knowledge co-extensive with the universe¹. The languages of the New World, unconscious of their elementary structure², here exhibit a characteristic variation. Quichua denotes language by the word 'mouth' (*simi*); thus, the Quichua language is called *Runa Simi* = 'Mouth of the People.' Mexican calls it the 'thing out of the throat' (*tlatolli*). 'Nahuatlatoa' (= he speaks Mexican) means when analysed 'he speaks (from the throat) according to law or rule'³.

To add to the scanty apparatus of distinction and emphasis provided by the guttural explodent, with its modifications, by employing these secondary explodents, produced by the

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The Oral
Explodents and
Polysyllabism.

far predominate over the corresponding pure forms, *p*, *k* and *t*, as to cause them to supersede the latter at the head of the alphabet. The Greek and Latin follow the Phoenician, the Latin *c* having been originally = *g*. The Armenian alphabet, which begins *ա*, *բ*, *կ*, *դ*, restores the pure explodents. The original Arabic alphabet (*Abjad*) begins *א*, *ב*, *ג*, *ד*; the *ג*, however, being in Syria softened to *ج*, and in Morocco to *ر*, and chiefly retaining its guttural phonesis in Egypt. The most scientific alphabet is undoubtedly the Sanskrit, which after enumerating the vowels begins the explodents with (1) the guttural and its derivatives, gives in succession (2) the palato-lingual and (3) the labial, with their derivatives, and finishes with (4) the liquids and (5) the sibilants, following the order observed in the text.

¹ Γλῶσσα, lingua. Hebrew uses 'tongue' (*lāshôn*) and 'lip' (*sâphah*) alternatively as names for 'language.'

² The American aborigines, it is hardly necessary to say, had no alphabets. The so-called 'Maya alphabet,' the delight of some Americanists, is an illusion; the symbols to which phonetic meanings have been assigned, of Mexican origin, evidently represent, not vocal elements, but *things*.

³ So *Nahuatlacatl* (pl. *Nahuatlacâ*) means 'one who lives according to law or rule,' = 'a Mexican.'

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ever-active tongue and lips, was a great advance; and the method by which these would most easily have come into use appears to explain the polysyllabic aspect which is universal in the rudest languages, and which probably characterised human speech from its very beginning. The simple closure of the lips, or the elevation of the tip of the tongue to the fore-palate or teeth, in the course of vocalisation, followed by a relaxation of the muscles employed, at once produces a dissyllabic sound, divided by one of the anterior explodents. These movements, repeated once or more times—and there would be a natural tendency to repeat them indefinitely—would produce words of three or more syllables, capable of infinite variety, when the various kinds of vowel-sound are used, and the different methods of relaxing and modifying the explodents are applied. Thus, it would seem, was the varied substance of speech provided; a material of which the slowly-awakening intellect availed itself to record its experiences in that complex process of exploring the world of things with which human knowledge begins and ends. The material must necessarily exist before it can be moulded by art. Everything indicates that in the making of language a halting and tentative process of syllable-forming, rudely indicating states of sensation, emotion, and memory, preceded the process by which oral sound was systematically adapted to the denotation of things; that the stage of language proper succeeded a previous stage, in which conceptions, which may be described in the words of Hamilton¹ as 'vague and confused,' found expression in a semi-voluntary vocalisation, exhibiting what Caspari² has called 'an indeterminate linguistic condition.' Speech, in other words, was formed by the gradual rationalisation and solidification of a polysyllabic flux, slowly passing from an involuntary to a voluntary stage, and comparable to, though in its material

¹ Ante, p. 122.

² Die Urgeschichte der Menschheit, vol. i. p. 143.

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¹ Τῆς φωνῆ
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² H. Paul,

³ Caspari,

aspect doubtless widely dissimilar from, the song of birds, or the chatter of monkeys. We may imagine the human species, at some remote period, a period possibly covering many millennia, influenced by such physical conditions as have been above indicated, slowly gaining in cerebral bulk and activity, becoming more and more observant of phenomena, and stimulated by the increase of remembered conceptions to vary the elements of an involuntary or semi-voluntary vocalisation, habitual in the food-group, to invest these elements with meaning, by associating them, in certain combinations, with certain definite conceptions often present to the mind, and thus to lay the foundations of language.

The Greek ethnologists, to whom the idea of a syllabic flux antecedent to speech was familiar, conceived it as a confused medley of sounds, resembling the material chaos which had preceded cosmic order¹. Some modern writers, influenced either by a reaction against the theory of roots, or by the difficulty of tracing any process of evolution in articulation, adopt a similar view. Rational speech, we are told, was preceded by 'a confused utterance of the most various articulations, such as we never find combined in any language²'; and it arose out of this fortuitous concurrence of syllables by some process akin to crystallisation, or the deposit of mud-shoals in flowing water³. These analogies, crude as they are, may help us to understand how a phonetic chaos, once established, might give place to order: but the suggestion that such a condition of things ever existed, though plausible when vaguely put forth, commends itself less when analysed and examined, and can only be accepted, if at all, in a modified sense. Zoological analogy can scarcely be alleged in support of it. There is

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Theory of
a phonetic
chaos.

¹ Τῆς φωνῆς δ' ἀσήμου καὶ συγκεχυμένης οὐσης, ἐκ τοῦ κατ' ὀλίγον διαρθροῦν τὰς λέξεις. (Diodorus, Biblioth. Hist. lib. i. c. 8.)

² H. Paul, Principles of the History of Language, ch. ix. sec. 28a.

³ Caspari, op. cit., vol. i. p. 161.

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no confusion in the cries of animals. Though capable of variation within varying limits, these cries present a marked regularity of type—a regularity which increases, instead of diminishing, in proportion as they employ repetition, the fundamental principle of vocal mechanics; and it cannot be contended that mere repetition could in the case of man have produced a confusion which did not exist in the cry, and which admittedly disappeared when language was constituted on a grammatical basis. Confusion, if it ever existed, must have been due to an early and excessive development of phonetic variation. Apparently those who ascribe a chaotic character to the beginnings of speech have in mind the multiplicity of elements which marks its complete organisation. The tongue and lips are conceived as trained and habituated, not merely to those rude and massive movements which speech borrows from alimentation, but to the delicate muscular adjustments, founded on these movements, which belong only to phonetics; and these adjustments are conceived as alternating, in rapid succession, both with each other and with the massive movements on which they are founded, with all the versatility, but without the order and meaning, of fully-developed speech. A few exceptional sounds, rejected by advanced languages as unsuitable or superfluous, such as the South-African clicks, may be supposed to swell the phonetic chaos; and such a medley of articulations, poured forth with little or no premeditation, might not unfitly represent fleeting and confused ideas, perplexing and encumbering the mind, until the association of things with oral sounds enabled it to coordinate and command them.

Early
 variety of
 Articulation.

The first postulate of the 'chaos' theory—the habitual use of a varied range of articulants in connexion with the cry before the organisation of a phonetic system, must apparently be conceded. Physiology and zoological analogy, it is true, point to a remote age when the human animal possessed only the guttural explodent, and the open mouth

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served merely as a resonator, comparable to the broadening orifice of wind instruments. But the cries of the lower anthropoids forbid us to suppose that anything resembling true speech could have come out of these conditions; nor does the variety of vowel-sound possible in connexion with a single explodent carry us any nearer to it, for no system of speech has ever been constructed on the basis of vowel-variation only. An unusual abundance of vowels generally indicates a low grade of advancement¹; the predominance of vowels over consonants in vocalisation is a sign of linguistic degeneration. Thought always seizes on and clings to the consonants. In order to give effective expression to the sense of difference, on which all meaning is ultimately founded, to create a series of phonetic elements at once distinct and coherent, to provide warp and woof for the fabric of language, the actual contacts of the oral muscles must be varied during vocalisation. The mouth thus ceases to be a mere resonator, and becomes an instrument of modification and varied emphasis; and as its different closures were undoubtedly in contemporaneous use for alimentary purposes, it seems to follow that when once the practice of oralisation suggested itself they would come together into use as articulants. This view is confirmed by the fact that with one exception presently to be mentioned—an exception which proves to be an apparent one only—all the alimentary movements are represented in the articulation of all known linguistic groups, down to the lowest; in other words, the phonetic system is everywhere based on the entire series of muscular movements employed in the treatment of food, and is therefore everywhere substantially uniform. If man, then, in the inception of speech, employed these muscular movements indiscriminately in connexion with the reiterated cry, he manifestly possessed a range of articulants amply sufficient to produce the most

¹ The Botocude language, for instance, recognises more than twenty vowels, while the Arabic is content with three.

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America.

Alimentary
affinities of
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bewildering confusion ; and the result may well have been a chaotic medley of noises, unless by virtue of some natural check this possible chaos was prevented, and vocalisation retained the orderly character which belongs to animal cries, and reappears in grammatical speech.

Why, it will be asked, should man alone have transferred these familiar muscular contacts to vocalisation? We answer that he has not alone done so. Both lingual and labial explodents are undoubtedly heard in the cries of hungry animals ; and the muscular contacts by which these cries are thus moulded may perhaps be referred to that principle of the 'repetition of serviceable movements' on which Darwin bases his theory of emotional expression¹, the sense of hunger suggesting the contacts associated with the satisfaction of hunger, and these audibly modifying the cry by which that sense is expressed. Nor does the connexion of oral sound with appetite cease when the demand for food is satisfied. The cry of hunger gives place to the murmur of satisfaction, often heard while the pleasurable act of eating is going on ; vocalisation sometimes instinctively recommences with the renewal of nervous force consequent upon nutrition and repose. We know nothing positive of the conditions under which man lived in the period in which speech was acquired ; and we are bound to ascribe the chief share in its acquisition to social and mental instincts, called into play during periods of comparative ease and abundance. Yet everything indicates that while the provision of food was always his prime necessity, he passed through long ages in which the supply was precarious and diminishing ; when, driven into the direst straits by hunger, he was compelled to become a beast of prey, and to lift his hand against whatever had life, his own species not excepted ; when species cognate to his own, probably more nearly cognate than any surviving anthropoids, succumbed to unfavourable physical conditions under

¹ Expression of the Emotions, ch. i.

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which he himself barely escaped extinction. From this condition of things man emerged endowed with the gift of speech. Who shall say—so the speculative anthropologist might fairly argue—to what extent he owed it to the hardships he endured, to the increased cerebral activity by which they were met and overcome, to enforced gregariousness and dependence on united action? Is it, in any case, a mere coincidence, when the prominence of food among early ideas is considered, that the elements of his cry, from which speech was developed, should be moulded into shape by muscular contacts associated with the sense of hunger and the satisfaction of hunger?

Such questions transgress the limits of our argument, which may claim as a merit that its tendency is to contract, instead of widening, the scope of mere speculation. For while our identification of the principal elements of articulation with alimentary muscular contacts accords, on the one hand, with physiology, which considers the mouth as primarily the ante-chamber of the alimentary canal, and as possessing no organs specially designed to take part in vocalisation¹, it sets philology free from a standing difficulty by enabling it to dispense with all theories of articulatory evolution. Philologists must admit that the doctrine of evolution has not as yet been applied to phonetics with conspicuous success. The more popular of the two theories which call for notice regards the phonetic system as the result of a gradual extension, proceeding from one part of the oral organs to another, as in the acquisition of speech by children; and the order of this extension in the case of the child is generally assumed to be the order in which the different groups of articulants were evolved. The first

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Theory of
extension
of articula-
tion from
the labials
as a basis.

¹ 'The cavity of the mouth,' says Prof. Von Meyer (*The Organs of Speech*, p. 120) 'is not adapted by any special apparatus for the part it plays in speech, but is only provided with that which fits it for its natural position as part of the alimentary canal, and is merely occasionally otherwise employed.'

Book II. articulants acquired by children are the labials; the easier
 forms of the lingual explodent come next, and the gutturals
Aboriginal and sibilants are acquired last. This process obviously
America. follows the order in which the child learns to exercise the
 oral muscles by taking food. The lips are first brought
 into play by sucking; the anterior part of the tongue is
 gradually exercised as more solid foods are taken; its root
 is educated to the guttural explodent by practice in thrusting
 substantial masses of food into the pharynx; the sibilants
 are only possible when the alimentary apparatus has been
 completed by the growth of the teeth. The fact that man's
 lower cognates with one consent employ the guttural explodent,
 and no other¹, would suggest that the child, in
 learning to articulate, reverses the order of evolution; but
 why should there be any fresh evolution at all, for articulatory
 purposes, of movements which the species had long since
 acquired by eating, and which in order to form the basis of a
 phonetic system, only needed to be applied to the air-current
 passing through the empty oral cavity? Originated in the
 infancy of philological science more than a century ago², the
 theory of the development of articulation from the labials, as
 a basis, has been revived by an eminent scholar who professes
 to verify it by the aid of languages so little related as the
 Hebrew and the Chinese³. Each of these, we are told, passed
 through three stages of development—an early one, in which
 labial consonants alone were employed, an intermediate one,
 in which the tongue came into use, and a final one, in which
 language was completed by the discovery of the gutturals;
 and in the case of Chinese it is maintained that these

¹ In one of the cries cited by Mr. Huxley (ante, p. 132, note 2) the lingual explodent *ɹ* appears; but it may be doubted whether this letter correctly represents the articulant for which it stands. The gutturals, in any case, predominate.

² De Brosse, *Traité de la Formation Mécanique des Langues* (1765).

³ Edkins, *Evolution of the Chinese Language; Evolution of the Hebrew Language.*

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² Goiger, *Urspr*

periods can be approximately referred to their chronological places. Without venturing to examine the grounds of these conclusions, we may say that the languages of the New World, ranked by the most recent philology as more archaic than either Hebrew or Chinese, lend no countenance to the general theory to which these conclusions point. While the least-perfectly organised American languages distribute their articulation among all the oral muscles, they suggest a progress from a prevailing gutturalism, varied by nasalisation, to the constitution of the existing mixed basis, in which oralised sounds are more prominent, and gutturals and nasals are reduced to narrower limits. One feature of certain American languages, the rejection of labials, is traceable geographically through the Aleutian Islands to northern Asia. This exceptional fact, important as indicating the direction of early migrations, tells neither for nor against the labial hypothesis; for it is consistent with the supposition that these easy articulators were employed in remote times, and have been gradually disused. In the case of Chinese a similar process seems to have begun, but never to have been completed¹.

Another theory of articulatory evolution considers language to have begun with pure vowels, in which the muscles of the open mouth remain quiescent, to have advanced to those equally continuous sounds in which the air-current, slightly obstructed by some imperfect muscular movement, produces audible friction or vibration, and to have proceeded, as the muscles gathered strength and confidence, to the formation of those vigorous articulators by which the continuity of the voice is broken at will, and the muscles are habitually contracted with the greatest energy. The first consonants to be formed, according to Geiger², who leans to this theory, were

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Theory of
evolution
from
vowels to
explosives.

¹ According to Dr. Edkins (*Evolution of the Chinese Language*, p. 11) the use of the labials has been declining since the seventh century.

² Geiger, *Ursprung und Entwicklung der Menschlichen Sprache*

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 Aboriginal
 America.

L, M, N, R, S, and T; and it would appear that this eminent philologist considered articulation to have practically begun with the apex of the tongue, as the most active and mobile part of the oral organs. Such articulants as these, involving little muscular exertion, were easily repeated and compounded, not with any definite sense of meaning, but by the mere force of the vocalising impulse; the tongue and lips gradually acquired more strength and decision; ultimately the vigorous gutturals were discovered, and the scale of articulants completed. The main objection to this view, as to that last mentioned, is that it treats the mouth and its muscles as merely phonetic instruments. Physiology declares, with no doubtful voice, that they are by their structure and natural functions nothing but parts of the alimentary canal; and no theory of their secondary functions which ignores this fact and its consequences can be accepted as satisfactory. That the nasals M and N were among the earliest constituents of language may be conceded, for they naturally arise when vocal sounds are commenced before the mouth is opened, or continued after it has been closed, the one when the opening or closure is made by the lips, the other when it is made by the tongue, while the lips remain apart. The energetic R, constantly formed during mastication, must also be admitted as an early articulant. The weaker linguals are at best doubtful. The distinction of L and R involves the most difficult adjustments of speech; and in some low languages, notably in those of Australia, the S is wanting, and those who speak them cannot readily make hissing sounds. Lastly, we have the stubborn fact that man's cognates, whose vigorous cries can be heard at the distance of a mile and more, use only those guttural explodents which the theory of evolution by progressive exercise of the oral muscles considers to have been acquired last und Vernunft, book i. sec. 3; Rosenthal, L. Geiger, p. 19; Steinthal, Ursprung der Sprache, 4th ed. p. 172.

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of all. This theory must be dismissed as purely hypothetical, and as being contradicted, rather than supported, by the scanty number of facts by which it can be brought to the test.

The system of phonetic elements, we conclude, is not the result of evolution, in any proper sense of the term, but of the simple transfer of alimentary contacts to a new function—that of giving outline and emphasis to vocal sound. Nothing further is required, to produce the whole scale of these elements, but slight muscular adjustments; and the variety of phonetic form primarily depends on the degree of force used in applying these movements to their secondary function. Let them be for a moment conceived as being thus applied for the first time. Instead of thrusting masses of solid matter, more or less dissolved by insalivation, to and fro for the purpose of mastication, upwards to the palate and backwards to the pharynx for swallowing, or forwards for expulsion, the muscles now act upon nothing more tangible than an out-going current of air. If, in the effort of articulation, they act with sufficient vigour to close the oral cavity, at either of the three points at which closure is possible, (1) between the root of the tongue and the soft palate, (2) between the fore part of the tongue and the fore palate, and (3) between the two lips, the explodents *k*, *t*, and *p*, will be heard: if the effort be more vigorous than is necessary barely to effect the closures, these explodents will be produced in intensified forms. If less force be used than is necessary to make the closures, the difference will not be simply one of reduced intensity; it will be a specific one. An entirely new series of articulants will be created. A continuous sound will be produced by the rush of air through the imperfectly closed aperture—a sound perceptibly different in each of the three closures thus imperfectly formed, and perceptibly affected by the degree in which the opposite parts approximate, and by the mode of their adjustment to each other. If one of the muscles employed

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Adaptation
of alimen-
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is the tongue, the sound may be further modified by giving to this mobile organ a general vibratory motion from its apex, or a partial one at its margins, or by giving a similar motion to the uvula as the root of the tongue approaches it. The majority of these modified articulants are in fact made by means of the tongue; and while they require comparatively little muscular exertion, they are full of distinctiveness and variety. Language, indeed, in its advanced forms owes to them most of its ease and expressiveness. Oralisation—the transfer of the centre of speech from the posterior to the anterior part of the mouth—is largely due to the free use of these elements.

Primitive
Intensifica-
tion.

If the scale of articulants, then, is produced by simply making the articulatory effort in different degrees of force, we see at once the order in which the development of articulation has taken place. Everything points to the conclusion that it has proceeded, on the whole, from the strong to the weak, from the strenuous to the relaxed. The alimentary contacts which articulation has adopted, if not necessarily strenuous in themselves, admit of no relaxation; when the character of savage dietaries is considered, they may well be supposed to have been habitually made with greater force than is necessary barely to form the different articulatory closures. In many savage languages a degree of vigour never heard in the moderated phonesis of civilisation is commonly given to the three fundamental explodents; and we can scarcely doubt that these strenuous articulants represent the archaic habit of speech. These intense explodents are still used in some American languages concurrently with the same articulants in their usual or softened forms. They are best preserved in Aymara and Quichua, and are denoted in writing by *cc* or *kk*, *tt*, and *pp*; the *ch* (*tsh*) is also used in the intensive form denoted by *cca*. The intense *tt* and *pp* are prominent in the Maya dialects. Among other languages which retain the intense explodents side by side with the ordinary ones, may be

mentioned requiring teeth¹. The language; t being that This strong the transiti Mexico, pro It is notice found in c marked cha As for the in its whol by Europea sives are tr aspirates an of Quichua by compari who would musical as rouncing ea teeth².

Nasalisatio

¹ The Semiti (*qaf*) concurren in this respect, and hence drop

² Colonel G. language of th to be called a clearing his th with so many Researches, De The Terraba c 'abounds in st pronunciation, undoubtedly t rarely.' (Ensa

mentioned the Otomi, which employs *cc* and *rt*, the latter requiring the tongue to be forcibly thrust against the teeth¹. The ordinary *r* sound does not content this vigorous language; the lips are tasked to the utmost, the effect produced being that of *pf*, as in the German ejaculation 'Pfui!' This strong articulant, which occurs elsewhere, represents the transition from *r* to *ɾ*, as the *rl* of British Columbia and Mexico, presently mentioned, represents that from *r* to *l*. It is noticeable that these intense explodents are generally found in connexion with a predominant gutturalism—a marked characteristic of the Maya and Otomi languages. As for the Quichua, says Pacheco-Zegarra, it is so guttural in its whole organisation as to be scarcely pronounceable by European lips; the Spanish *jota* and the Arabic explosives are trifles compared with that alarming series of aspirates and gutturals which largely composes the scale of Quichua consonants. Yet it is smooth and melodious by comparison with its rugged parent the Aymara; he who would give the true intonation to the latter idiom, musical as it appears when printed, must aim at pronouncing each syllable as if cracking a nut with his back teeth².

Nasalisation—essentially nothing but leaving the pharynx,

¹ The Semitic languages use a strong guttural *κ* (Heb. Koph, Arab. Qāf) concurrently with a weaker one. The older Greek followed them in this respect, but the intense *κ* (Koppa) was lost in Ionia and Attica, and hence dropped out of the later Greek alphabet.

² Colonel G. E. Church. Mr. Darwin says of the Fuegians, 'The language of these people, according to our notions, scarcely deserves to be called articulate. Captain Cook has compared it to a man clearing his throat; but certainly no European ever cleared his throat with so many hoarse, guttural, and clucking sounds' (Journal of Researches, Dec. 17, 1832). It would be easy to multiply illustrations. The Térraba of Costa Rica, recently investigated by Sen. Pittier, 'abounds in strong consonants, guttural and nasal sounds of difficult pronunciation, and short aspirations, final or intermediate. The *κ* is undoubtedly the articulant chiefly used, while the *ɾ* occurs very rarely.' (Ensayo Lexicografico sobre la Lengua de Térraba, p. 8.)

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 Nasalisa-
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during vocalisation, in the natural position for ordinary breathing, instead of closing the nasal cavities as in deglutition—plays in archaic speech a part not less prominent than strenuity and gutturalism, with which it is usually associated: and like these, it loses ground as language advances. The feeble *m* and *n*, and the final *-ng*, to which some European languages, as the French, Portuguese and Lithuanian, add occasionally nasalised vowels, scarcely disturb the smooth surface of oralised speech. In primitive times, when articulation was more vigorous, the distinction produced by nasalisation was strongly felt and extensively utilised. The three intense nasals, *ng-*, *nd-*, and *mb-* or *mp-*, all strenuously enunciated, and used as initial sounds, are nothing but the intensified *k*, *t* and *p* articulated with the nasal cavities open; these powerful articulants, familiar to students of South African and Melanesian languages, are common in America from Mexico southwards, and are especially prominent in the Puquina, the language of the Urus of Lake Titicaca, and the Fuegian. Nor does this emphatic nasalisation merely enlarge the list of articulants: it may serve a grammatical purpose. Thus the Chiapanec of Mexico forms the future tense by prefixing to the present the particle 'ta-', and the past by prefixing 'na-', in each case nasalising the initial which follows. 'Kope' (he sees) thus becomes in the future 'ta-ngope'; 'pomo' (he thinks) 'ta-mbomo'; 'reto' (he rises, the *r* here representing the uvular *x* founded on a relaxed form of the guttural explodent) becomes in the past 'na-ngeto.' In Choctaw, nasalisation expresses intensity or continuance. In Algonquin a final nasal indicates the relation of place. The use of the primitive nasals in Guarani is worth notice. This language never commences a word with the sonant explodents *g*, *d*, *b*, but employs instead the stronger nasals *ng*, *xd*, and *mb*; and there is a tendency to these substitutions in Dakota. The Otomi, even more vigorous, employs the nasal initial still more freely. It often prefixes to all

its explodent nasal articulation. The Americans and other languages, as the guttural sonants, and the sibilants, are developed.

This strenuousness, when we take the corresponding to certain characteristics, distinctiveness, the root of a forcible enunciation to the air in its original state of vibration requires to be senting the series consisting of languages which are open or oral, disappeared in languages which are the ordinary and the nasal, which possess completely gone, we see the former to each of the deeper guttural, forcing the incapable of to the ordinary. Throughout must be understood.

its explodents, pure, impure, and aspirated, a humming nasal alternating between *m* and *n*, but written by grammarians as the latter, thus illustrating, better than any other language we can name, that stage of speech in which guttural sounds struggle for predominance with nasal ones, and the system of oral vocalisation is as yet imperfectly developed.

This struggle between the gutturals and nasals reappears when we turn from the consonants to the vowels. Corresponding to the primitive guttural explodent we find in certain characteristically American languages (1) a series of distinctively guttural vowel-sounds produced by retracting the root of the tongue as the vowel is formed, making a forcible expiration, and thus giving a separate resonance to the air in the lower part of the pharynx. In the existing state of these languages this series co-exists with, but requires to be carefully distinguished from, two others presenting the same vowel-forms; (2) a nasal series, and (3) a series consisting of open or oral vowel-sounds. Some other languages employ the nasal series (2) concurrently with the open or oral series (3), the guttural series (1) having apparently disappeared; these form a group intermediate between those languages which recognise both gutturals and nasals, and the ordinary type of oralised speech, in which the guttural and the nasal series are alike wanting. Among the languages which possess all three series, and thus appear to illustrate completely the process of change which the vowel has undergone, we select the Otomi of Mexico and the Guarani. In the former there are three forms, open, guttural, and nasal, to each of the vowels *A*, *E*, and *U*¹; the *E* has a second and deeper guttural form, produced by clenching the teeth and forcing the vowel from the abyss of the throat. The vowel *I*, incapable of gutturalisation, only takes the nasal in addition to the ordinary open form. Additional force is given to the

¹ Throughout these pages the continental pronunciation of the vowels must be understood (*A* = 'Ah,' *E* = 'Eh,' *I* and *Y* = 'ee,' *U* = 'oo').

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sounds—
Guttural
and Nasal
Vowels.

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enunciation by the use of the 'saltillo,' or brief pause between two syllables of the same word, the effect of which is to allow the second to burst forth with greater energy. The nasal and guttural vowels of the Guarani are of special interest. The former, of extreme importance for the proper comprehension of the language, have two forms, short and long, and often possess the property of nasalising the vowel preceding and following them. The guttural vowel *ɣ*, always long, requires a forcible retraction of the tongue, bringing it as near as possible to the orifice of the throat. This vowel has a third intonation, partly guttural and partly nasal; it must be pronounced, says our authority¹, through the nose and in the throat at the same time, and always takes the heavy accent. There is, moreover, a double guttural *ɣ*, which can also be compounded with the nasal one. The languages which have only nasal vowels in addition to the ordinary ones are more numerous and widely spread than the class above illustrated. When it is mentioned that the Athapascan, Algonquin, Iroquois, Dakota, and Choctaw both nasalise and oralise their vowels, it will be seen that this class covers by far the greater part of the area of North America; it is probably equally extensive in South America, being very numerous among the languages of both the mountain and the forest districts. Throughout this vast area a more accurate knowledge of the vocalisation of the various languages would probably reveal considerable remains of gutturalisation as well as nasalisation. Occasionally, as in the widely-spread Esquimaux, single vowels (A) are strongly gutturalised, although the general vocalisation has become oralised; and crude sounds suggesting a primitive use of gutturalism and nasalisation in contrasted senses not only survive, but continue to be employed concurrently with grammatical speech, in which case they lend to the latter a species of emphasis. Thus, according to Crantz, if the Esquimaux of Greenland 'assent with pleasure

¹ Montoya, *Arte de la Lengua Guarani*.

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to what you say, they suck the air down their throats with a certain noise. If they put the negative with contempt or abhorrence, they wrinkle their nose and make a little sound through it.' He further cautions the learner to be careful to study the gestures with which the spoken language is supplemented. 'They accompany many words not only with a particular accent but also with miens and winks; and whoever doth not take good notice of this may easily mistake their meaning.' This is especially to be attended to in the speech of the women¹.

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The close relation of these archaic explodents and vowel-sounds to the vocal organs, on the one hand, and the course of linguistic development, marked by their declining use, and the predominance of weaker elements derived from them by relaxation, on the other, alike indicate them as the fundamental constituents of speech. Relaxation comes naturally of repetition, the master-key to the development of language; and these processes, completed by variation, which follows in their train, bridge the chasm between the cry and speech in its material aspect, as the recognition and expression of varied personality bridge the chasm in its grammatical and logical aspect. The origin of relaxed forms may be briefly explained as follows. The repetition of a sound by the living voice, and in the same breath, differs essentially from the repetition of a written or sculptured symbol. The process is a dynamic one. The resistance of the organs, and the progressive exhaustion of the lungs, produce a gradual diminution of force, with a rapidity proportioned to the exertion involved in the initial effort;

Relaxed
vocalisation.

¹ Hist. of Greenland, book iii. ch. vi. 'Gesture-language' (admirably discussed by Mr. Tylor in ch. iv. of his 'Anthropology') was evidently in general use from the first for the purpose of eking out the resources of speech: we shall recur to it later on in discussing the multiplicity of demonstrative pronouns which some American languages exhibit. Gesture, however, has in reality little to do with language, and its development is calculated to retard rather than to accelerate that of the phonetic art.

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the more strenuous the initial sound the weaker will be the consequents. This weakness may be variously shown. The pitch may be lowered, or the volume of sound reduced. But what chiefly concerns phonetic development is that the articulatory movements tend to be less vigorous; and we have seen that when relaxation passes a certain point—when the closure is no longer perfectly made, they lose form as well as force. The air-current, rushing between the approaching parts, produces some kind of audible friction, according to the position to which the parts are adjusted; and finally the character of an explodent is lost altogether, the guttural becoming a mere breathing, while the lingual and labial vanish in the momentary vowel-sounds *x*- and *w*-. Progressive relaxation thus adds to the original stock of three explodents, doubled by nasalisation, about twenty weakened forms, mostly adjustments of the apex of the tongue, the most mobile part of the organs. In connexion with these relaxed explodents open or oral vowels naturally take the place of guttural and nasal ones. The relaxation of the anterior explodents completes the work of oralisation, which their introduction as alternatives for the guttural explodent began¹.

¹ The principal explosions may be tabulated thus :—
Fundamental intense forms.

Simple.	Nasalised.
1. KKA-, relaxed forms <i>-ka</i> , <i>-kha</i> , vanishing form <i>-ku</i> .	1. NGA-, relaxed forms <i>-ŋa</i> (<i>nya</i>), <i>-ga</i> , <i>-gha</i> , <i>-ra</i> (uvular R).
2. TTA-, <i>-ta</i> , <i>-tha</i> (as in 'thin') <i>-sha</i> , <i>-sa</i> , <i>-la</i> , <i>-ra</i> , vanishing form <i>-ya</i> .	2. NDA-, <i>-na</i> , <i>-da</i> , <i>-tha</i> (as in 'that'), <i>-zha</i> (<i>zh</i> = the French J), <i>-za</i> .
3. PPA-, <i>-pa</i> , <i>-fa</i> , vanishing form <i>-wa</i> .	3. MBA-, <i>-ma</i> , <i>-ba</i> , <i>-va</i> .

NGA- does not adequately represent the strenuous guttural nasal. Bourquin in his recent Esquimaux grammar writes this articulant *RNG*, the *R* indicating a strong vibration of the uvula. It would perhaps be more correct to substitute *RNGA-* for *NGA-* in the above, and to begin the relaxed forms with the latter.

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We mention this purely mechanical cause of relaxation first, because it best illustrates the mode in which relaxed forms originate. Other causes, arising out of the adaptation of sound to significance, have probably had the chief share in bringing these elements into common use, and reducing vocalisation generally to the level of its weakest constituents. Foremost among them stands the association of the anterior articulators, on which relaxation chiefly operates, with facial expression. As Geiger has pointed out¹, the apprehension of meaning largely depended, in early language, on indications gathered from the features of the speaker. Hence those articulators would naturally be preferred which address both the eye and the ear, that is, the relaxable labials and linguals; and a vocalisation in which these were prominent would be most quickly understood, most easily imitated, and most widely accepted. At a later stage an inducement to relaxation is probably found in the aptitude of the anterior explodents for reflecting in the speaker, and stimulating in the hearer, the sense of muscular movement and contact in many varied forms. The transition from the cry to speech represents a continuous struggle to make vocalisation the symbolic embodiment of outward things—of tangible objects and their various relations. Our conceptions of things are largely composed of remembered sensations of pressure and opposition, of contact and severance, of roughness and smoothness, of looseness and cohesion, of contrast in shape and size, of successive changes in situation, of duration and evanescence, and of other simple material relations which have their counterparts in muscular sensations of the mouth. The tongue and lips, familiarised to the sense of ever-varying contacts, appear to be the readiest exponents of such relations, and through them of whatever objects may be involved in them; and the multiplication of lingual and labial articulators consequent on relaxation thus afforded a variety of symbols peculiarly suited for marking those

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¹ Op. cit., vol. i. p. 24. Cp. ante, pp. 116, 117.



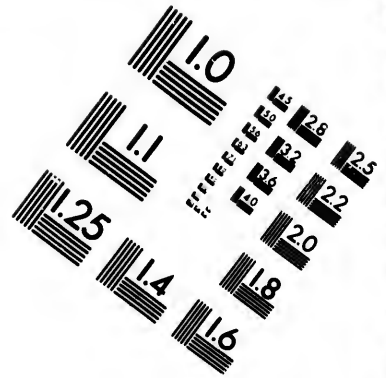
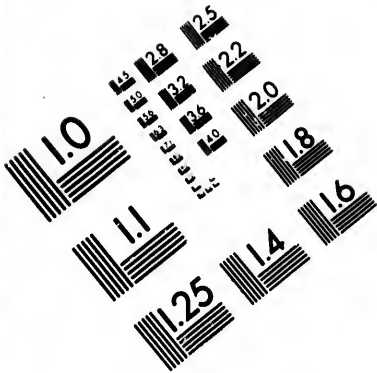
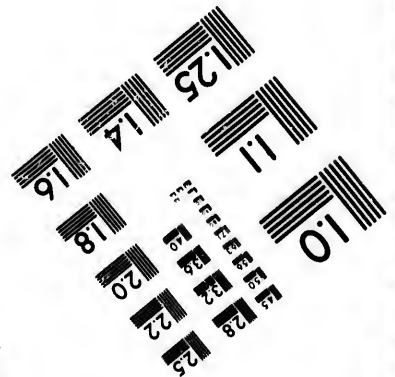
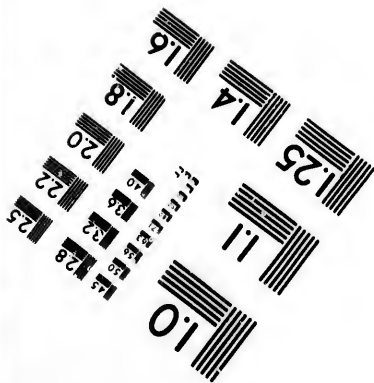
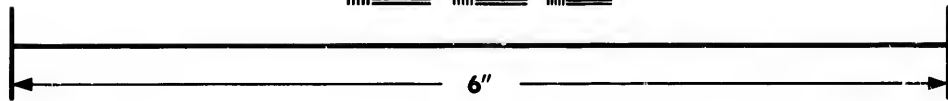
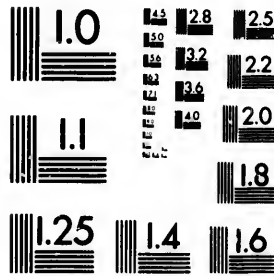


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Relaxation
 and the
 food-group.

differences of things on the recognition of which significance is founded. Last, but by no means least among the causes of predominant relaxation, is the ease with which relaxed articulants, when once the adjustments which they involve have been acquired by the muscles, are formed and varied, and the number and variety of the forms assumed by them.

A vocalisation, then, striving to associate itself with varied meaning, and especially to symbolise external objects, would naturally tend to employ the tongue and lips, and in the case of the tongue, to rely more and more on the relaxed articulants which this organ abundantly produces. Would this tendency be assisted, or would it be counteracted, by the habits and surroundings of primitive life? For the purposes of this question we may recall our division of things, suggested by savage vocabularies, into those within the food-group and those outside it¹. To the inner circle of primitive life—the food-group itself, the focus and birthplace of speech—what has been advanced applies with special force. The persons composing it, their parts and belongings, their varied beings and doings, present to the eye and ear an endless variety of ever-changing relations, which oralisation and relaxation naturally concur in symbolising; and one important process, always going on within the circle, compels the easier articulants to be largely resorted to. The permanence of speech, as an institution, requires that it shall be taught to the young at an early age; and we have already seen that the oral explodents are the only ones possible to children at the period when the associations of articulation have to be formed. In order that speech may be engrafted on the weak muscular movements of infancy these movements must be imitated by the adults for the purpose of teaching; and the burden of this duty falls on the women, who for various reasons appear to have exercised a special influence on the growth of language². Male habits and employments

¹ Ante, p. 116.

² *Almae nutricis blanda atque infracta loquela.* (Lucretius, v. 231.)

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generally, and the chase in particular, foster a mood of silence and observation, more favourable to the exploration of nature and the general advancement of knowledge than to the development of vocalisation; the women, from constant intercourse among themselves and with their children, would naturally be in advance of the men in discovering the aptitudes and methods of speech. No imaginable relation could be more favourable to the interpretation of sounds intended to express emotions and sensations, or to the designation of frequently-recurring states of being and doing, by a tentative vocalisation, than that of mother and children; none could lead more directly, as food-groups increased, to the establishment of a rudimentary grammar by the recognition of different personalities. We may adduce a striking and well-authenticated instance of the practical dependence of the habit of speech on the associations of the family in general, and on female society in particular. Baegert tells a story of a refractory Indian, who at the age of sixty years found the restraints of mission life too irksome, and fled to the wilderness, taking his son, aged six, as his only companion. Five years afterwards, the fugitives were captured. The boy was almost a speechless animal. A few words such as 'water,' 'wood,' 'fire,' 'snake,' 'mouse,' represented his entire stock of language: hence he became generally known in the mission as 'dumb Pablo'. Evidently the father had compelled him to go in quest of water and wood, of snakes and mice, and to assist in kindling fire by the friction of sticks. No communications in the nature of grammatical speech, it would seem, ever passed between them.

The tendency to employ the tongue and lips in the symbolisation of outward things must operate with scarcely less force in the wider world of objects outside the food-group. Externality, tangibility, and variety here completely dominate the brain; sense and mind are carried farther and

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Personality
in nature.

¹ Nachrichten von Californien, p. 176.

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farther from their physiological centre. To the savage, it will be remembered, the realm of nature offers less complex conceptions than to civilised man. Regarding it mainly as a repertory of things capable in some way of ministering to his daily necessities, he brings to its exploration the dominating conception of personality, the fruitful stimulant of thought. He finds personality everywhere; in all the forms of animal life, in whatever yields the sensation of sound, in whatever has perceptible motion; even inanimate objects, not excluding instruments made by human hands, are capable of producing personal impressions. Whatever fills a certain space in the consciousness tends to become personalised; nor is any definite boundary drawn between personality, on the one hand, and voluntary action and the power of language, on the other. To the cries of animals, often considered by him to be his actual kindred, and generally recognised as either friends or enemies, man undoubtedly ascribes something of the significance which has been developed in the vocalisation of his own species; he imitates them, repeats them, and endeavours to understand and answer them. Nor does he stop at the animals. Whatever speaks to his ear is a person. He imitates, repeats, and studies the rushing sound of wind or water, the roar of fire, the creaking of the bough, the rustling of the bush, as the voices of beings capable of working him either weal or woe. Nor are actual impressions on the ear necessary to the constitution of personality. Whatever has motion has life, and probably the power of speech. The heavenly bodies, the clouds, the unfolding dawn, the gathering darkness, even stones and plants, all doubtless have voices, could they only be heard; man naturally invents voices for them¹. It is

¹ In some languages the real or imaginary voices of natural objects occupy a considerable space. The Manchu, an Asiatic language having certain affinities with the languages of the New World, possesses 400 vocables of this kind. 'The wave rises,' according to the Manchu, 'saying *khoo*; it descends, saying *khovai*; it suddenly rushes on, saying *khovangar khovealar*; it whirls round, saying *yonggor konggor*.' Wood

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unnecessary to point out how in all this he is carried farther and farther from his own sensations and emotions, and led to rely on the tongue and lips, the exponents of externality and variety, and on the relaxed adjustments by which the varied sounds of nature are most easily imitated. Aspiration and vibration, combined with a variety of vowel-sound, here fill a place in the symbolisation of things for which they are peculiarly fitted; while the sibilants excel in capacity for conveying the impressions of life, motion, and vigour.

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America.*

To hold, however, with some philologists, that imitation of the general voices of nature is natural to man, and should rank as an originating cause of speech¹, appears to us inconsistent with its character and history. The primates, as a group, resemble other mammals in showing no tendency to imitate any vocalisation other than that of their own species; and we infer that such a tendency must in man's case be an acquired one—probably posterior to the habit of oralisation, from which the means of imitation are mainly derived. Strenuous explodents, accompanied by guttural and nasal vowels, and articulated with a strong sense of effort, furnish an unpromising basis for the reproduction of natural sounds. However early the habit of imitation may have appeared, it could have made little progress until the way had been prepared by some degree of articulatory versatility; and the imitative words which

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when cleft utters a peculiar voice. The plants are said to grow saying *der, ler, fng, xalar, ter, shang*, &c., the sound attributed to each being apparently varied according to its configuration. (Lucien Adam, *Grammaire Mandchou*, p. 23.)

¹ Latham (*English Language*, 4th ed. p. xlix) considers that 'two separate lines of concurrent and simultaneous evolution have proceeded' from the Onomatopoeia and the Interjection. So Dr. Peile (*Greek and Latin Etymology*, Lect. ii.): 'That all language did originally spring from imitative and interjectional sounds *combined*—not from one or the other separately as has been implied sometimes—I for one firmly believe, not seeing any other possible origin for language.'

Book II. popular philology delights to glean from the vocabularies
 Aboriginal of the world, and to parade as illustrations of the 'origin
 America. of speech' are probably to a large extent of comparatively
 recent invention. They are proportionately less common
 in rude languages than in advanced ones; in American
 vocabularies, the Mexican excepted, they appear to be
 remarkably rare. Nor can we agree with those who see
 in the connexion established between vocalisation and
 things by means of imitative sounds the origin and essence
 of naming. General names are posterior to the infusion
 of a more and more extended meaning into vocalisation
 on the basis of ever-shifting personal relations; in many
 cases, notably in the case of those terms which minds
 trained to abstraction regard as the simplest, because the
 most comprehensive, and which are commonly selected by
 philologists as 'onomatopoeic roots,' their absence from the
 lowest vocabularies marks them as of recent origin—a con-
 clusion confirmed by the breadth of the conceptions which
 they embody, and by their extensive employment of the
 latest acquirements of articulation, the sibilant and spirant
 adjustments¹. If these suggestions are correct, the imitation
 of natural sounds was originally a mere contributory pro-
 cess, tending to relaxation and adjustment. It represents
 an extension of that imitation of varied human articulation
 which precedes the recognition of its meaning, rather than
 a fundamental source of language, or an originating cause of
 its connexion with significance.

Are the relaxed articulants, by which the tendencies and

¹ 'Scratch' and 'tear,' for example, and their equivalents in other
 languages, are sometimes adduced as specimens of the 'onomatopoeic
 root.' Savages are familiar with such conceptions, but not as general
 conceptions. The lowest vocabularies will be found well stocked with
 radically different words meaning to scratch with a stick, with the
 finger-nail, with a fish-bone, a stone, an oyster-shell, &c., and to tear
 bark from a tree, tear flesh from the bone, tear flesh in pieces, &c., but
 'scratch' and 'tear' will often be wanting. The savage does not, as
 a rule, dissociate the act from the circumstances.

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requirements just mentioned have mainly been satisfied, of natural origin, like the closures on which they are founded, or should they be considered as artificial? They are produced, as we have seen, by forming the closures imperfectly; by weak contacts, or mere juxtapositions falling short of actual contact, but nevertheless approximating to it so nearly as to make a definite impression, resembling a true explosion, on the vowel-sound which follows. In what have been called the 'vanishing forms' the relaxation is at its greatest, and the impression made on the vowel-sound is consequently of the slightest; and these are so far natural that they occur as initials in the cries of children and animals, and are substantially common, like the fundamental closures, to all languages. The case is otherwise with the intermediate forms, which involve closer approximations of the oral organs. These articulants require definite adjustments of the approaching parts—adjustments depending on muscular habits which are best acquired, and in some cases can only be acquired, in infancy. They are sometimes originally wanting, and have sometimes fallen into disuse, not only throughout considerable linguistic groups, but in particular languages or dialects of a group which as a whole employs them; hence the presence or absence of a particular adjustment seldom furnishes a clue to the classification of a language in which it appears or is wanting. The guttural adjustment *кн*, for example, which abounds in German (*ch*), has vanished from the closely-related English, and is found in the Spanish (*jota*), though wanting in French and Italian; conversely, German has lost the two forms of *тн*, both conspicuous in English articulation, while these forms have invaded the Spanish, which originally rejected them. The absence of the lingual adjustment *сн* in the dialect of Ephraim sufficed to distinguish the Ephraimite from the Gileadite, whose languages were substantially identical¹; similarly, the vigorous lingual

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Relaxation
and Ad-
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¹ Judges, ch. xii.

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 America.

adjustment *r*, so prominent in Iroquois as to have given name to the language itself, is unknown to the Cherokee or Iroquois of the south, in which it is replaced by the weaker *l*¹. The labial adjustment *f*, which appears in Hebrew only as a temporary euphonic modification of the fundamental explosive *p*, has in Arabic completely driven the latter out of the language. This instability of the adjustments, taken together with the fact that they are not easily acquired, suggests that they differ from the fundamental explodents and their vanishing forms in being of artificial origin; and the suggestion is sustained by the fact that each of the groups which they form is wanting in some well-defined family of languages. The Australian languages reject the sibilants (*s*, *sh*, *z*, *zh*); and they are rejected by some African and Asiatic languages. Some North American languages have no vibratiles (*l*, *r*). In America and parts of northern Asia the sounds produced by adjusting the tongue or lower lip to the upper teeth (*tr*, *f*, *v*) are scarcely known, nor do they occur in the Australian languages. Are all these articulants, then, to be regarded as artificial?

Masticatory
 adjustments.

The true answer to this question, so far as regards the vibratiles and sibilants, seems to be that while some natural movement underlies each of these two groups, the specific and mutually exclusive forms in practical use are of artificial origin. This explanation is not applicable to the guttural adjustments (*kh*, *h*, often uvular *r*), which occur in the articulation of the lower anthropoids, and form part of the phonetic apparatus of nearly all rudimentary languages, while there is a tendency all the world over to dispense with them as language advances—a tendency not widely exemplified in America, but found in the Mexican, which employs no guttural whatever except the pure *k*. The guttural adjustments are naturally prepared by the mere

¹ The *ch* (*tsih*), it may be noted, is equally foreign to Cherokee, and the name is properly articulated 'Tselakee.'

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opening of the mouth, because the root of the tongue, by which they are formed, lies at no great distance from the axis of the jaw; the mass of the tongue is therefore in continuous approximation to the soft palate, and its natural swallowing movement produces on an outward-going current of air the effect either of closure or adjustment, according to the degree of force employed in making it. Relaxation is for practical purposes chiefly concerned with the oral explodents; and oralisation, on which progress depends, is tested by the extent to which the relaxed adjustments of these explodents have been acquired. The relaxed linguals, by far the more important group, fall into two classes. The vibratiles are produced by elevating the tip of the tongue to or towards the palate; the sibilants and lingual spirants by a forward movement towards the aperture of the teeth. These upward and forward movements, we have noticed, are employed by the tongue in mastication¹; and it seems probable that similar movements, or at least one of them, would naturally come into use for the purpose of articulation concurrently with the closures. These movements would at first be indeterminate; that is, the upward one might assume either the form of a pure L, or of an L approximating to T (TL), or of an R, while the forward movement would vacillate between TH, SH, and S. We know no language which rejects both forms of these masticatory articulators. The Australian languages reject the forward movement, but freely employ the upward one. The American languages as a rule employ both, and universally possess some form or other of the forward movement.

Taking articulation as a whole, we find that as between the vibratiles and the sibilants, the former are somewhat more generally diffused; being the easiest and most natural, they may probably be regarded as the earliest group among the adjustments. Both vibratiles and sibilants, however, are generally employed throughout northern Asia and

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Vibratiles
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¹ Ante, p. 149.

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America. The two vibratiles are closely related, and in the lowest stage of language were probably undistinguishable. The Botocudes, like the Papuans, have a single vibratile, vacillating between *r* and *l*: in Korean the same symbol is understood to denote *l* in some combinations and *r* in others. As articulation develops, speech has to recognise both, or to choose between them; and the same language in different dialects may sometimes pass from one to the other. Owing, probably, to their weakness and indistinctness as articulants in the earliest stage, a certain number of languages, as the *Dacota*, the *Totonac* and *Miztec* of Mexico, and some *Algonquin* languages, have rejected both. The *Chibcha* rejected *l*, and rarely employed a soft *r*. A vast number of American languages, ranging from the *Athapascan* in the north to the *Fuegian* in the south, and including all the *Peruvian* languages—the *Aymara*, *Quichua*, *Chimu*, and *Puquina*—employ both, sometimes using them interchangeably. Languages aiming at the maximum of distinctness employ one to the exclusion of the other. Where the vocalisation is strenuous, the *r* is more frequently chosen, for by giving a vigorous vibration to the apex of the tongue it can be converted into an extremely powerful articulant. Thus, *Iroquois*, *Otomi*, and *Guarani* use a rough *r*, to the exclusion of *l*; the softer *Esquimaux*, *Mexican*, and most of the *Maya* languages, with many others, reject *r* and employ *l* in its place. The two first-named languages recognise the weakness of *l* as an explodent by never employing it as an initial. These liquids, we have said, sometimes replace each other in dialects of the same language. Thus the *Cherokee* uses *l* in the place of the *Iroquois* *r*¹; there is a contrary tendency among the *Miamaes*, one of the few *Algonquin* nations who employ the *l* (none of them possess the *r*), to use the *r* instead of it. The *r* occurs exceptionally in some *Maya* languages, which commonly use *l* instead. The ease

¹ So the *Oneida* Indians pronounced 'Oniakara' (*Niagara*) *Oniakala*.

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with which these liquids are uttered, when once established as elements of speech, renders them favourite articulators; names, indeed, have been conferred by Europeans on different tribes indicating the predominance of these elements in their vocalisation. Thus the Iroquois were so named by the French from the frequency of their rough *r*, especially in the particle of the third person (Ro-); the Yaruros and Kiriri of South America are other instances. All these use the *r* but not the *l*; on the other hand, a tribe using an interesting language abounding in the *l* but rejecting the *r* was denominated by the Spanish missionaries the 'Lules.' This alternative or mutually exclusive use of the two vibratiles occurs also in the case of the two sibilants. One or other is found in every language of the New World. Most American languages possess both, as do the languages of northern Asia; in both groups it is so common to compound the *sh* with the strong lingual explodent *t*, that this combination (*cht*, *tsh*) may almost rank as a substantive articulant. Some languages, as the Iroquois, including the Cherokee, and the Arawak, reject the *sh* and always employ *s*; in a few cases the converse occurs.

The most striking characteristic of American vocalisation, next to the prevalence of gutturals and nasals, is the general absence of those soft but distinctive adjustments formed by the upper teeth with the tongue and lower lip (the two forms of *th*, *f*, and *v*) the prevalence of which marks the final stage of oralisation. These articulators are equally wanting in the northernmost languages of Asia. The spirant lingual *th* is not wholly absent from the American languages. It appears exceptionally in some vocabularies belonging to the northern part of the continent—the Athapascan, Dacota, Sahaptin, and the Tarascan and Zapotec of Mexico; in some cases, however, it represents a vigorous *t* followed by a distinct breathing, rather than a true relaxation. What is most remarkable is that in other

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North-west American languages its place is taken by a peculiar articulant written *Tl* or *Dl*, closely related to it, but produced by gradually relaxing the perfect lingual contact, in such a way as to form a momentary *l* before the vowel is heard. This explodent occasionally occurs in the African languages. In America it is confined to the Esquimaux and certain peoples of the north-west coast, reappearing, as the coast-line is traced southwards, after a considerable interval, in the Mexican. In the latter language it occurs with extraordinary frequency, being in fact the favourite Mexican explodent. This fact, trifling in itself, becomes, when taken in connexion with some ethnological facts to be presently mentioned, strong evidence of that series of migrations from the coasts of British Columbia to the Pacific shore of Mexico, with which, as will be seen, the history of advanced Mexico begins. The vocalisation of the Esquimaux, who are both Asiatic and American, carries this peculiar articulant to Asiatic soil; and if its occurrence in the Ostiak dialects can be taken as possessing ethnological significance, this fact takes us still farther northward and westward, and forms a link, however slight, with a remoter population which has been held connected, on other grounds, with the aborigines of America¹.

Labial
 spirants
 (f and v).

Probably the last in order of development among the adjustments are those which are certainly the weakest—the labial spirants *f* and *v*. These feeble articulants are rejected by the majority of American languages; and although the same tendency is occasionally found elsewhere, their rejection may be regarded as a distinctively American characteristic. This general rule prevails both in the northern and southern continents. No strong language employs them; they are excluded from Quichua and Aymara, Guarani, Arawak and Carib, and nearly all the languages of South America; in North America they are wanting in Mexican with its neighbour languages Otomi, Totonac, Matlatzincan, Miztec and

¹ Ante, pp. 96, 97.

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Zapotec, in the Maya languages, the Iroquois and some of the British Columbian group, and in all the Algonquin languages except the Micmac. The Esquimaux, while admitting *r* as a consequent, rejects it as an initial. The most conspicuous exceptions to the rule are the Chibcha, the Chimu, and the Araucan; a few obscure languages of a low type employ it also. Here again we have a link distinctly connecting the American languages, through that of the Aleutian Islands, with those of northern Asia. The *r* is wanting in the Aleutian language; it is also wanting in the Tehukteli of Kamtchatka, and in the Yukahir.

In order to complete our view of the elements of speech it only remains to notice the 'sonant' articulants (*g*, *d*, *b*, *z*, *ʒ*, *ʒh*, *ʒh* as in 'that,' and *v*) produced by the same closures or adjustments as the corresponding mutes (*k*, *t*, *p*, *s*, *sh*, *ʒh* as in 'thin,' *f*), but resulting from a current of air rendered already sonorous, through a previous vibration of the vocal chords, at the time when the closure or adjustment is made. 'Sonant' articulation is best illustrated in the nasals, which are essentially of this kind; sonancy of the principal explodents may, indeed, be regarded as a remnant of primitive intense nasalisation, from which the ordinary nasals and the sonants are alike deducible. The nasals and primary sonants are more easily acquired by children than any other articulants, and enter largely into the phonesis of savagery and barbarism, though their general use is restricted by a tendency, common to many American and Turanian languages, to reject them as initials. Originally, it would seem, little or no distinction was felt or made between the sonants and the corresponding mutes. As language advanced, the distinction was to some extent recognised, and utilised for the purpose of differentiation. In many languages, however, it has never been perfectly established; what is more remarkable is that the principal American languages go a step farther, dispensing

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 America.*

not only with the distinction of sonant and mute, but with the sonant explodents themselves. This characteristic, found in Aymara and Quichua, in Mexican, and in Iroquois, as well as in languages of less note, is evidently due to a desire for vigour and distinctness of enunciation. Originating, it seems probable, in a wider development of the tribal life and relations, and in the practical use of language in the council-house and on the war-path, it is conspicuous in the languages of the conquering peoples of the New World; and these languages derive hence a sharpness, a vigour, and a phonetic simplicity and symmetry rarely found in those of the Old World. The nearest parallel, probably, is found in the Polynesian Malay dialects, from which these articulants have disappeared, though they form part of the apparatus of the Asiatic Malay. The language of the warlike Maoris, for example, though inferior to the Mexican in general vigour and distinctiveness, agrees with Mexican in its rejection of sonants.

The
 strenuous
 initial.

Before quitting the subject of the formation of the elements of language, and passing on to consider them in the process of combination, it will be useful to explain more fully a principle, often referred to in the preceding pages, which serves at once to throw light on both processes and to connect the languages of America with those of northern Asia. Many among the lower languages, including both American and north Asiatic, strictly forbid the use of certain articulants as initials in the holophrase, while admitting them freely as consequents. This practice, less familiar in advanced languages, and not easily explained by ordinary theories of the development of speech, becomes intelligible on that which attributes to it a strenuous origin and a radical polysyllabism. A vigorous enunciation, and a gradual diminution of force, are the postulates of our theory of relaxation; and accordingly the articulants rejected as initials are always the weaker ones, and generally those which are formed by adjustment, especially the vibratiles

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and sibilants. The Australian languages, in which the sibilants are wanting, reject the two vibratiles as initials. Comparing the languages of northern Asia and America, we find clear evidence of a similar tendency. Among Asiatic languages, the Mongolian, Manchu, Yakut, and Yenisee-Ostiak alike reject the *r* as an initial; the Ainu rejects the *l*. In America the *l* is rejected as an initial by the Esquimaux and Mexican. The rejection of the sibilants as initials, illustrated by the Ainu and the Tehuktchi, does not occur, so far as we are aware, in the American languages; but the sonant explodents, which we regard as in essential respects articulants formed by adjustment, are largely rejected in both continents as initials, even where they are in use as consequent elements. In general this disposition to reserve the initial place for a vigorous articulant is strongest in northern Asia; some dialects, as the Buriat, even exclude the fundamental explodent *p* as a weak articulant. The same thing is encountered in some advanced languages; the Old Gothic, for example, rejected *p* as an initial. The labials, in fact, owing to the smaller size and less constant activity of the muscles which they employ, appear to be essentially weaker than the gutturals and linguals; and in America we have the remarkable phenomenon, without a parallel elsewhere, of a well-defined group of languages which reject them altogether. This characteristic extends through the Aleutian Islands as far as northern Asia; and it forms so important a link between the two continents that it deserves attentive consideration.

Among these languages, which rely on the tongue only for articulatory purposes, the most conspicuous is the Iroquois; this language can be and is sometimes written by means of six consonants only (*k*, *h*, *t*, *n*, *s*, *r*), *y* and *w* being treated as vowels, and nasalisation being denoted by a circumflex. Some Iroquois dialects admit the *g* and *d*; but all agree in rejecting labials. That these elements are tabooed by choice, and not from mere ignorance of them, is clearly indicated by

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America.

Anti-
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 Aboriginal
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the fact that in the curious ejaculatory language used by the Iroquois mothers in talking to their children the *b*, *m* and *p*, which the speech of the adults rejects, are freely used, and are accompanied by a constant protrusion of the lips. Anti-labialisation is probably due to a sense of superior strength in the tongue: but the Iroquois, when pressed to explain it, lay down as a principle that language essentially consists in opening the mouth, and that it is absurd to use articulants which close it. Interesting as this rejection of labials is from the linguistic point of view, it is more so as a fact in ethnology. It affords what looks like a clear indication of the route by which these vigorous tribes reached their area of occupation, situated in the choicest part of the North American continent, and surrounded by a linguistic family to which this characteristic is foreign. We shall follow this clue later on. Here it suffices to say that the only other known languages which avoid the labial explodents are those of the Indians of Queen Charlotte's Islands, of the Prince of Wales's Archipelago and Southern Alaska, and of the Aleutian Islands, which connect Alaska with Kamtchatka; and that in the Aleutian language a strong resemblance to the idioms of Central Asia is admitted even by philologists averse to the inclusion of the American and Turanian languages in the same class¹. In one respect the Aleutian and the Haidah of Queen Charlotte's Islands prohibit the labials less peremptorily than the Alaskans and Iroquois; they admit the nasal labial *m*, though the Haidah are said to use it only as an initial sound in the case of a few words borrowed from their continental neighbours the Tsimshian. The Cherokee, or Iroquois of the south, also admits the *m*, discarded by the Iroquois proper, though it persists in rejecting all other labials.

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 Repetition.

Thus far we have considered the elements of speech in connexion with their proximate causes, oralisation and relaxation. Both of these may be resolved into repetition

¹ Friedrich Müller, Grundriss der Sprachwissenschaft, ii. 146.

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acting by the soft anterior organs of the mouth, that is, into the same principle by which the elements of speech are combined into aggregates; the genesis of the syllable and the holophrase thus appear to be not two consequences of the same cause, but merely two aspects of the same process. The elements of which speech consists could only have been brought into existence by muscular movements which simultaneously combined them into aggregates; and it follows that to postulate two stages of linguistic growth, a precedent one in which phonetic elements were formed, and a subsequent one in which they were compounded, is not merely unnecessary but repugnant to its essential character. Nature, ever parsimonious of causes and profuse of consequences, produced the varied syllable and the varied holophrase by the same impulse. Repetition and variation were probably at first alike unconscious; both probably combined from the first to enlarge the sphere of meaning, originally extremely limited. For while all vocalisation has a meaning in the sense of having an original association with some mental state, the sphere of meaning could only have been gradually expanded concurrently with the extension of knowledge. Long, perhaps, after vocalisation had assumed a form little differing from that presented in some extant languages, meaning was still in its infancy, and repetition, with variation as its constant accompaniment, was little more than a mechanical habit connected with the sense of ease and rapidity; and this habit, fostered by an increasing bulk and activity of the brain, the great repeating organ of the body, was no isolated physiological fact, but rather one of many repetitive habits, capable of endless variations and permutations, acquired since the attainment of the erect position, and at length rendered so easy, by the establishment of independent cerebral nerve-centres, as scarcely to diminish, in their exercise, the general powers of observation and thought. While the tongue and lips were repeating and varying the cry, the mind was repeating and varying

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Book II. its impressions of outward things. Man was becoming
Aboriginal habituated to a wider world of beings and doings, and in
America. developing the repetitive possibilities of his brain he was
 merely following the general method of organic nature,
 which may be compared to a mighty machine ever engaged
 in repeating things with variations. Whatever abstractions
 we may use to describe the different aspects of animal
 existence—thought, habit, instinct, life itself—merely denote
 some continuous repetition of functions. The intellectual
 life, exemplified in the practical aspects of art and science,
 depends wholly on repetition. Grammar and logic—to take
 instances from the present field of enquiry—are reducible to
 rules for securing correct repetition, the former of words,
 the latter of propositions, with the recognition of changes
 of relation duly superadded. They represent expansions, in
 different ways, of the fundamental principle of speech—
 repetition with conscious variation based on the perception
 of the differences of things, and of their various relations.

Repetition
 and Mental
 Activity.

Repetition, however disguised by the variation to which it
 gives rise, is the hidden form, in Baconian phrase the 'latent
 schematism,' of language from first to last. The tendency
 of the lowest vocal manifestations of mental activity, those
 expressing simple pleasure or pain, to repeat themselves
 proves it to be a natural vehicle of expression; and this
 tendency is more strikingly exemplified in the case of the
 joyous vocalisation which marks the sense of exuberant
 vitality and contentment. Here the brain seems to dwell
 upon the sound itself, to vary it, and to repeat the varied
 sound alternatively, as a substantive element of pleasure.
 The most familiar instance of this kind of vocalisation is
 afforded by the song of birds. Something of the same kind
 seems to be found in the cry of at least one of the lower
 anthropoids¹; and it is undoubtedly recognisable in the
 endless repetitions of children when learning to articulate,
 and in the unmeaning syllabic refrains repeated by savages

¹ Ante, p. 132, note 2.

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in singing. Language may recur to its hidden schematism if the cerebral machine which guides the organs fails to work smoothly; hence, probably, in some cases, the involuntary repetition of stammering. Nor is it difficult to trace the probable course of repetition in its first association with the workings of intellect. In thinking things the mind grasps them as wholes, simultaneously descending from the whole to the parts; in thinking relations it spreads from the relation to each of the things related. This progressive motion of the mind, the essence of intellectual process, probably found a natural expression in repeating whatever sound was prompted by the first intuition; and variation completed the work by adapting the total expression to the differences exhibited by different objects of thought. Lastly, repetition entered most powerfully of all into the expression of intellectual action in that highest of its forms in which it is associated with will. Will acts through effort, and it is of the nature of effort to repeat itself. Applied to whatever comes within the sphere of will, language represents a double series of cerebral repetitions; here effort supervenes upon effort, striving to characterise what is in itself a striving. Unconsciously influenced, perhaps, by this consideration, some philologists have ranked the active verb as the earliest form of speech. In this view we are unable to concur. Language probably adapted itself, as the brain-power slowly increased, to all forms of mental activity at once. The important part played by the active verb in its development may be attributed, apart from the large space which mutual action occupies in man's life, to its bringing before the mind more and more things demanding a place in the same expression—not merely the thing done, but the thing acted upon, as well as the person doing it, and such accessories as instrument, time, place, and manner—a series of conceptions directly adapted to stimulate repetition and variation concurrently¹.

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¹ Ante, p. 128, note 2.

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 Repetitive
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 tion of
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 the Birds.

Whatever forms, then, of mental activity vocalisation endeavours to symbolize, the road to expression seems to lie naturally through repetition. Instances of repetition associated with intelligence and will, as well as with mere feeling, may certainly be adduced from the vocalisation of the lower animals. No voice of living things—no sound, perhaps, among the sounds of external nature—has appealed to man more universally and directly than the song of birds, which not only employs repetition in a remarkable degree, but is often associated with conscious mental action; and the farther we recede in time, the more powerful must this influence have been. The birds, and the birds alone, originally possess the faculty of vocal mimicry to which human vocalisation was primarily indebted for the establishment of a common basis of meaning. These strange and beautiful creatures, sharing with gods and spirits the faculty of aerial locomotion, secure of subsistence, whether through their armature of beak and talon, or their intimate knowledge of the vegetable world, often clad in plumage of dazzling brilliancy, and volubly pouring forth melodious and mysterious voices, living in society and having the means of intercommunication, are always regarded by savages as superior beings; and this is especially true of the New World, where animal life is on the whole less richly developed, but the feathered species are conspicuous for their beauty, variety, and abundance. In America the birds are commonly regarded as powerful beings, having command over the upper air in which they dwell; and in general they exercise a beneficent influence on human fortunes. Sometimes they are messengers between the natural world and the world of spirits: often the birds are scarcely distinguishable from the gods themselves. North American mythology regards thunder as the voice of a great bird, while in the Andes the dreaded condor is the servant or messenger of the Thunder-god¹. In

¹ Ante, vol. i. pp. 452, 530.

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¹ Markham

² Ante, vol.

³ Cp. vol. i.

⁴ Lucretius

Peruvian mythology the gods occasionally transform themselves into birds; at other times the birds are allies of the gods, who share their language, and confer on them their marvellous powers¹. We have seen that in the Quito district the settled tribes traced both their ancestry and the gift of agriculture to the birds², who undoubtedly indicated to man the alimentary use of the cereals. They were extensively worshipped in Mexico³; Quetzalcohuatl, the teacher of man, wears a bird's head as a mask. The legends of the British Columbian Indians, according to whom the gods often descend from heaven in the form of eagles, returning when their missions are accomplished, explain this more fully. Quetzalcohuatl appears among the Quaquitl as 'Kanikilak' ('with outspread wings'); a child of the Sun who descended in the form of a bird, and assumed human shape for the purpose of teaching men the arts of life⁴. Did the vocalisation of the birds contribute in any way to the formation of human language? Direct connexion between the two is apparently out of the question. But if speech and song, the two forms of human vocalisation, are regarded, and we see reason for so regarding them—as divergent developments from a primitive polysyllabic flux in which the qualities of both were to some extent represented, a remote and indirect connexion seems not altogether unlikely. In the earliest stages of such a flux the qualities of song, more nearly related to the true vocal organs, the lungs and larynx, would probably have predominated over the qualities of speech; and it is an ancient and plausible opinion that human song in its inception owed something to imitation of that of the birds⁵.

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America.*¹ Markham, *Rites and Laws of the Incas*, pp. 125-129.² *Ante*, vol. i. p. 361.³ *Ante*, p. 94.⁴ *Cp.* vol. i. pp. 588-596.⁵ Lucretius, v. 1378 :

At liquidas avium voces imitaries ore

Ante fuit multo quam levia carmina cantu

Concelebrare homines possent, aureisque juvare.

BOOK II. *Aboriginal America.* To this extent, perhaps, language may be considered to have been moulded by the same influence. Mexican mythology ascribes to the birds, if not its origin, at least its renewal after the destruction of the human race, except a single pair, by the great deluge. The survivors, who landed on the hill of Colhuacan, lost the art of speech, and their offspring grew up in a state of dumbness. A wood-pigeon had pity on them, and taught to each of their fifteen children, destined to be the progenitors of the tribes of Anahuac, one of the different languages now spoken in the various parts of the Mexican republic¹.

Survivals of repetition.

It will, perhaps, be said that to ascribe a repetitive origin to language is to promulgate a mere speculative hypothesis unsupported by any sufficient evidence. Repetition, it may be conceded us, is natural in continuous or intense states of feeling, pleasurable or the reverse. It is natural in the babble of infancy, in the futile wail of the deaf-mute, and in the meaningless vocalisation of insanity; but it is incredible that it should have been the substantial basis of rational speech. The answer to such objections is written plainly on the face of most existing languages. Disguised as grammatical speech has become by the predominance of variation, there is no class of words which does not in some language or other furnish specimens indicating that it was once repetitive in its general schematism, and that this character was altered by the gradual prevalence of syllabic change. What is noticeable is that these repetitive words are largely those which chiefly constitute savage vocabularies, and may be taken to have formed the original nucleus of speech—names of parts of the body, not merely of those which are duplicated, but of singular parts—of

¹ Clavigero, lib. vii. ch. xlix. In Mexican mythology the male survivor of the deluge is named 'Coxcoxtzin' (reverential form of *Cocotli* = 'pigeon'). This name, which occurs more than once as the name of a chieftain, perhaps points to a form of the legend in which the pigeon was regarded as the actual ancestor of post-diluvian man. (See Clavigero's Appendix, ch. vi.)

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¹ See the w
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blood-relationships, of colours, of all kinds of animals, of implements, of numbers, of the qualities of objects, and of beings and doings in general¹. Repetition of this kind is to be distinguished from what may be called grammatical repetition, which serves for the pluralisation, augmentation, and occasionally diminution, of the noun, intensifies the adjective and adverb, infuses a reciprocal, frequentative, or intensive sense into verbs, and sometimes converts one of the parts of speech into another. It is original and fundamental; and its adaptation to grammatical purposes, in varied and sometimes contrary senses, may probably be better explained as a survival of a once universal habit, than as a change which has intruded into a more advanced schematism, characterised by great versatility, and presenting a continuous series of mutually dissimilar elements. The lower we descend in the glosso-logical scale, the more frequent does repetition become, though the most perfectly organised languages show traces of it. One well-known instance will occur to scholars—the ‘reduplication’ of the verb in Greek and Latin to denote the perfect tense, and in the former language to denote a future tense also. Ingenious solutions have been given of this application of the same principle in contrary senses—solutions which do not explain the appearance of reduplication, in the case of the commonest Greek verbs, in the present tense also; a fact in itself sufficient to suggest that the phenomenon in question is not of grammatical origin, but relates back to a primitive stage of language in which syllabic repetition was a prevalent characteristic.

If the genesis of language has been correctly sketched out in the preceding pages, the suggestion of an original phonetic chaos falls to the ground. Repetition involves order; it is, indeed, the fundamental principle of order.

¹ See the well-known work of Pott, *Doppelung als eines der wichtigsten Bildungsmittel der Sprache, passim.*

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Repetition
involves
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In the course of ages man's vocalisation has changed in all its aspects. It has advanced from stonuity to ease, from gutturalism to oralisation, from stiffness to versatility, from monotony to variety, from poverty to boundless wealth of resource, from sterility to overflowing fulness of meaning, from the lame and cumbrous holophrase to the airy evolutions of the winged 'parts of speech.' Can we trace in any stage of this complex progress the 'uncreating touch' of chaos? On the contrary, whether we investigate the sources and channels of logic, of grammar, or of phonesis, we everywhere find suggestions of an unflinching continuity; nor can we doubt, having regard to the analogy of Nature, that the history of speech, could it be recovered, would exhibit a regular and unbroken progress from the cry. How has this continuity been secured? By the living genius of language itself; by the growth of law and form; by the development of meaning, outwardly indicated by increasing variation; the articulatory sense, if the expression is permissible, resting on the firm basis of repetition until it at length emancipated itself from the leading-strings which originally controlled it, and acquired the versatility which has wellnigh effaced, in advanced language, all traces of the primitive cerebral action on which vocalisation was founded.

Imperfect
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We shall probably approximate more nearly to a true conception of inchoate speech, if we substitute for 'confusion' the very different quality of imperfect significance. All oral sounds uttered by animals are so far significant that they strive to represent some particular mental state. While the number of such states finding expression in oral sound is often considerable, the cry by which they are expressed admits of little variation, and can express nothing but what belongs to the present, alike in time and in space. Repetition, in the case of the lower animals, adds little or nothing to the resources of vocalisation, owing to the want of specific variety in the elements of articula-

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tion, and to a deficiency of cerebral force and retentiveness; hence the significance of their cries necessarily remains more or less imperfect. In the case of man, it seems probable that this quality of imperfect significance, inherent in the natural cry, long outlasted the acquisition of a greater range of variation, conferred by repetition on a mixed basis of articulation in which the anterior explosives were included; significance, in other words, lagged behind articulation, and perhaps never strove to overtake it. Accustomed as we are to assign to every syllable we enunciate some share in the meaning conveyed by speech, it is not easy to realise that oral sound is not necessarily significant in all its parts; that a dozen or more aggregated syllables may be used to convey some extremely simple meaning, and that aggregates thus formed may be arbitrarily varied without disturbing the meaning conveyed by them; that in different holophrases entirely different syllables may be customarily employed to represent the same element in thought, and that syllables and groups of syllables may be habitually used which depend for their meaning wholly on the context, while others convey no meaning at all, and are merely ornamental or redundant. These characteristics, which may all be summed up in the quality of imperfect significance, abound in the American languages, and are probably indicative of the earliest stage of human speech. They appear to be such as would naturally result from employing indefinite repetition, accompanied in a greater or less degree by variation, as the fundamental principle of expression.

The monotonous refrains which often constitute the chief part, sometimes the whole, of song among savage peoples,

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 America.
 Imperfect
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¹ An examination of the 'conjunctions' in the American languages convinces us that these particles are not, as Horné Tooke and others have thought, derived from verbs or substantives, but are true remnants of the polysyllabic flux; the same thing may be said of many of the particles which are usually ranked as 'adverbs.'

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and to some extent survive in the vocal music of civilisation, illustrate the nature of imperfect significance even better than the redundant particles found in archaic languages. Their meaning, so far as meaning can be ascribed to them, is indivisibly spread throughout the chant which they constitute, and has to be mainly inferred from the manner and circumstances of their employment, especially from the gestures by which they are accompanied; these are usually regularised, and assume the form of a dance. Though usually articulated by explodents, they sometimes wholly consist of sequences of vowels, assisted more or less by what we have called the 'vanishing' articulants, H, Y, and W, and their import seems to be exclusively concentrated in the vowel sounds; they are repetitive with a very limited range of variation, and the syllables of which they consist vary regularly by duration, intensity and pitch, as well as in vowel-quality. They are wholly wanting in versatility; the type of variation presented by them recalls that found in the cries of the lower animals, which are usually so far varied by the pitch and duration of their elements that they can be approximately reproduced by musical notation. All this indicates them as representing a stage of vocal development more remote than any extant form of language; a stage marked by a predominant sense of variety in sound rather than in meaning, largely dispensing, and able to dispense altogether, with the consonants, and in which vocalisation was prompted by impressions of sense rather than by the workings of intellect. All the characteristics of this archaic chant still subsist in music; they survive, under attenuated forms, in fully developed language. Marked variation by pitch, which in language takes the form of Tone, declines as emotion loses preponderance, and speech becomes more and more closely associated with the working of the intellect. Marked variation in the duration of grouped syllables assumes by repetition the form of Rhythm, and tends to vanish as

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¹ Ante, p.

² Lord Mo quotes with that 'the fir ideas were co tones, varied but he 'dare merely, before that 'the var was, if not p as in many o of the matte his entire th and gramma Voyage du Pa

syllabification becomes more rapid and versatile with the growth of meaning; marked variation in intensity takes the form of Emphasis, and diminishes with the decline of strenuity. Even marked variation by vowel-quality declines to some extent as language advances, though its decline is counteracted by the intimate connexion existing between the oral formation of the principal explodents and that of the principal vowels¹.

If the above indications of the relation between primitive song and primitive speech are approximately correct, the dispute as to the relative priority of song and speech is at an end². Both should be conceived as having arisen concurrently out of an imperfectly significant vocalisation guided by the principle of repetition, and possessing in a greater or less degree the qualities belonging to each in their rudimentary forms. The true vocal organs of man, like those of other mammals, are simple organs of tone, adapted for conveying to the ear no differences except such as result from varied degrees of pitch, duration, and intensity; the natural utterances of man, under the stimulus of strong sensation and emotion, are chiefly marked by wide variations of pitch. The syllables or particles of such a flux as we conceive to have preceded both song

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Common
elements in
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¹ Ante, p. 139.

² Lord Monboddo (*Origin and Progress of Language*, vol. i. p. 313) quotes with qualified approval the conjecture of the poet Blacklock that 'the first language among men was music, and that before our ideas were communicated by articulate sounds they were expressed by tones, varied according to different degrees of gravity and acuteness'; but he 'dares not affirm that there ever was a language of singing merely, before there was a language of speaking,' though convinced that 'the variation of the human voice by tones or musical modulation was, if not prior to language, at least coeval with it' (p. 316). Here, as in many other places, this acute thinker approximates to the truth of the matter; and Americanists will remember with interest that his entire theory of language was suggested by Sagard's vocabulary and grammatical outline of the Huron Iroquois dialect (*Le Grand Voyage du Pays des Hurons*, Paris, 1631).

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and speech would naturally have associated their emphasis with sudden changes of pitch; changes, however, which the natural motion of the larynx would not produce by sudden skips or intervals, as in musical scales, but by rapid slides or continuous transitions. Song, it would seem, grew out of the polysyllabic flux by vocalising with a predominant sense of variety in pitch; speech was moulded by a predominant sense of variety in meaning. Insensibly separating as the basis of thought extended, while that of emotion remained undiminished, these cognate vocal systems have nevertheless developed in close association, and both, in their most advanced stages, bear witness to their common origin. Musical vocalisation, which in the forms most familiar to the modern ear relies on tone, rhythm, and emphasis, in the order of importance in which we enumerate them, and in a minor degree on vowel-quality, has the closer relations with nature. Rhythm is the first element to disappear from the area of speech, though by virtue of the common origin of speech and song, and perhaps through some affinity with the repetitive action of the brain, it still keeps its place to a certain extent in language, characterising that peculiar form of it which is known as 'verse'.¹ Tone survives in all language in the attenuated form of 'accent.' In a few instances it is found that tone has been more or less developed as a device of significance. It is chiefly employed for this purpose in Chinese and some other South Asiatic languages; some African languages, and a few, here and there, in the New World, show the same tendency in a minor degree. But although tone is among the original and natural qualities of language, such a development is exceptional, and in the case of the

¹ A recent writer (Wallaschek, *Primitive Music*) maintains that changes of tone were originally adopted to assist in marking rhythm (?). Variations in tone are undoubtedly of purely physiological origin, and were habitually made long before the introduction of rhythm, which is by no means an essential of music.

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Chinese and other Asiatic languages is probably connected with a tendency to monosyllabism. This, in its turn, is due, according to the most recent Sinology, partly to phonetic decay, but chiefly to the system of compact though complicated ideographs employed as a script, to each of which it has apparently been found convenient to annex a single compact and sonorous monosyllabic word, and by the employment of tone in various grades to give this monosyllable the greatest possible variety of significance¹. Difference of emphasis, in America, often marks distinctions in meaning; and to some extent, as in Mexican, difference of tone serves the same purpose. Tone, however, does not in any case within our knowledge assume the rank of a grammatical principle: nor is there anything in American language approximating to true monosyllabism, though a few languages, as the Otomi, Maya, and Chimu, have become less than usually polysyllabic, owing to the combined influence of analytical development and phonetic decay.

From vocalisation as a mere animal function, without meaning except as indicating some vague sense of vitality and contentment, and as tending to develop into some rudimentary form of song, we pass on to consider it as developing in the direction of speech—that is, as assuming definite relations to, and striving to symbolise, subjective and objective facts. The lowest grade of significance known to language is found in the interjection or irreducible

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¹ Misteli in *Zeitschrift für Volkspsychologie und Sprachwissenschaft*, vol. xv. p. 186; Herbert Baynes, *ibid.*, vol. xvi. pp. 297-308; W. Grube, *Sprachgeschichtliche Stellung des Chinesischen*, pp. 18, 19; Terrien de la Couperie, *Les Langues de la Chine avant les Chinois*, pp. 143, 184. There now seems to be little doubt, as Dr. Donaldson long ago suggested in his 'New Cratylus,' that Chinese is of Turanian origin, that it was originally, and down to historical times, a polysyllabic language, and that its monosyllabism, once thought to stamp this language of a highly cultivated people as an example of 'primitive speech,' is in reality a peculiar and characteristic form of linguistic advancement.

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ejaculation; a phonetic species, as we have seen, always repetitive in its simplest forms, and not essentially differing from the cry of animals, so far as animal cries express relation to external objects, though having greater variety of meaning and articulatory shape. Yet even the interjection shows what Bacon calls the 'footsteps and prints of reason'.¹ The Roman grammarians, who rescued it from the limbo of 'adverbs,' to which the Greeks had consigned it, recognised in it the germ of personality², the true foundation of grammatical speech; and the doctrine, widely but not universally accepted among philologists³, that it in fact represents a form of language which preceded and gave birth to grammar, is confirmed by its broader scope, and its well-marked tendency to grammatical development, in the archaic languages of America. The interjection may be described as a holophrase not yet personalised. It always, nevertheless, embodies some strictly personal conception; and if to this we add that it usually, if not always, refers to present time, present objects, and present surroundings, and expresses some relation affecting present persons or things without designating such persons or things objectively, we have apparently defined what is probably the lowest possible form of really significant vocalisation. Like the cry of brutes, the interjection represents a language strictly personal in conception, though unpersonalised in form; a language of the present and real, which as yet scarcely aspires to symbolise the absent and the imaginary; a language of relations, which abstains from attempting to designate the things related. Mental activity which employs such a language rests only partially on the artificial basis of words; it relies largely for its interpretation on the natural

¹ Adv. of Learning, Book ii. (ed. Ellis and Spedding, iii. 401).

² Priscian, Lib. xv. c. 7: 'Ut si dicam *papae!* etiamsi non addatur *mīror*, habet in se ipsius verbi significationem.'

³ Among the more philosophical anthropologists of recent times, Caspari (Urgeschichte der Menschheit, vol. i. p. 145) derives language entirely from the interjection.

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basis of Things. From this dependence on substantive surroundings thought gradually emancipated itself by enlarging the scope and meaning of the interjection. Will it be contended that rational speech could never have been developed on so narrow a foundation? An authority who is no willing witness in favour of our view, holds that 'interjections, together with gestures and movements of the muscles of the mouth and eye, would be quite sufficient for all the purposes which language answers with the majority of mankind'.¹ If this be approximately true when understood with reference to the scanty remnants of non-grammatical ejaculation which occur in analytical languages, it may be accepted as absolutely true of lower stages of advancement, in which the general vocabulary is usually more contracted, while interjections cover a wider area.

In advanced languages the true interjection—analytic sentences which custom has re-incorporated in an ejaculatory form being excluded from the class²—rarely rises above the level of the emotional cry. It depends little on the consonants, and almost sinks to the level of brute vocalisation³. The habit of analysis, in displacing the

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Wide scope
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jections.

¹ Max Müller, *Lectures on the Science of Language*, vol. i. p. 410. The same view is more convincingly expressed by Carl Abel, *Linguistic Essays*, p. 230.

² Horne Tooke's often-quoted aphorism, 'the dominion of language is erected on the downfall of interjections,' will not bear examination. There is no language which dispenses with the true interjection: and analytical expressions used interjectionally abound in the most advanced languages. Grammar being founded on the interjection, as language advances, it tends to form its interjections grammatically; but these analytic ejaculations vindicate their essential character by a constant tendency to relapse into a holophrastic form. Thus, for instance, '*Goodbye!*' and '*Zounds!*' are relapsed forms of '*God-be-with-thee!*' and '*By-God's-wounds!*'

³ It is interesting, as illustrating the permanence of natural articulatory habit, to notice that interjections of aversion and displeasure almost always employ the expulsive closures (ante, p. 138 note 1). It will be sufficient to cite the English *Fie! Faugh! Foh! Pah! Pshar! Pish! Tush! Tut! Humph!* &c.

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 America.

holophrase, has also largely displaced the more archaic form out of which the holophrase grew. The American interjections, often extremely numerous and pregnant with meaning, range beyond the limits of mere emotion and sensation: they often indicate frequently-recurring states of thinking, and sometimes invade the domain of the noun itself. The explanation of these survivals is obvious. They express certain familiar relations, not merely by well-known and easily-remembered sounds, but more tersely and emphatically than the grammatical phrases which analysis would substitute for them. In some cases they show a tendency to personalisation; they are on the verge of passing from the expression of a relation to the designation of the things related—of changing into a form which grammar would class as a personal noun or a personal verb, according to the nature of the main thing designated. Thus, for instance, in the Otomi of Mexico, a language amply furnished with grammatical forms of almost every kind, there are found irreducible holophrases of an ejaculatory character meaning 'Take-this,' 'Give-me-that,' 'Come-hither,' 'Wait-there,' &c. These are absolutely irreducible ejaculations; the meaning which they embody is expressed in grammatical language by words elementally different from them¹. In the Quichua of Peru similar ejaculatory vocables, equally irreducible, are extremely numerous. Thus are expressed such communications as (1) 'I-am-hot!' 'I-am-cold!' 'I-am-weary!' 'I-will-not!' (2) 'Take-care!' 'Will-you-then?' (threateningly); 'Pay-attention!' 'Be-silent!' 'Come-hither!' 'Will-you-have-this?' (3) 'It-is-bitter!' 'It-is-savoury!' Such expressions, it will be observed, fall into three groups, each referrible to one of the three grammatical persons, in the manner above indicated by figures. Not one of them contains a trace of

¹ 'Take-this,' *na*; 'give-me-that,' *magua*; 'come-hither,' *raygua*; 'wait-there,' *qhahma*. 'Take,' in the grammatical Otomi, is *há*, or *yhüa*; 'give,' *unni*; 'come' *éhé*; 'wait,' *to-mi*.

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the regular grammatical elements belonging to the idea which it is employed to express; on the contrary, when compounded with the verb 'to say,' these words, if they can be so called, furnish an independent series of verbs, signifying the acts or states to which the ejaculations relate¹. This latent personalisation of the interjection might be amply illustrated from American vocabularies; we will content ourselves with citing from one of the Algonquin languages (the Cree) interjections meaning 'Look!' 'Heartily!' (of encouragement); 'Gently!' (of restraint); 'Carefully!' 'Away!' 'Good-luck!' 'It-rests-with-you!' ('As-you-please!') 'By-and-by!'² These represent ejaculations of the second person; while 'No-help-for-it!' 'It-is-nothing!' 'Tis-well-'tis-no-worse!' 'So-be-it!'³ illustrate the third. 'I-am-glad-of-it!' combines the first and third, and the deliberative interjection 'Let-us-see!' belongs to the first person plural⁴. 'Behold-it' (second and third persons) is common to many vocabularies; Zapotec has an ejaculation of admiration explained as 'I-like-it!' or 'I-should-like-to-have-it'⁵. The Chimú, in some respects one of the most advanced of the American languages, retains six of these remnants of pre-grammatical speech. They belong exclusively to the first and second persons, and have so far assumed a grammatical guise as to have acquired a plural form⁶. Nor is this an isolated

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¹ Thus we have *hua-ñin* = he is surprised or astonished ('says *hua*'); *anchui-ñin* = he drives away ('says *anchui*'), *accacau-ñin* = he is hot ('says *accacau*'); *ai-ñin* = he weeps ('says *ai*'), &c. So in Cree the interjection *kélm* = 'I am content!' is expanded into the verbs *kélmíow*, *kélmíssu*, *kélmewíssu*.

² *Pöte!* *Soke!* *Nissik!* *Peëatuk!* *Awoöb!* *Papeýway!* *Happwoketha!* *Esqua!*

³ *Athis!* *Picköönata!* *Keysaotee!* *Keëam!*

⁴ *Attatepun!* *Matee!*

⁵ *Coöpa!* the grammatical phrase would be *hanigagoya*.

⁶ (1st person.) 1. *Inich* (of motion) = 'Here-goes, I-am-off!' pl. *inchich*, 'Off! Let-us-be-off!' 2. *Amoch* (of action) = 'Here-goes, I-will-do-it'; pl. *amochich*, 'Off! Let-us-do-it!' (2nd person.) 1. *Muk*,

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case. One among the Otomi interjections, above cited, takes the plural¹. Pluralising interjections occur in the Iroquois languages; and as these languages admit the dual number these interjections take the dual as well as the plural form². Some among the numerous interjections of the Esquimaux are both pluralised and personalised³. Mexican has interjections to which the regular personal particles are sometimes prefixed, and which thus assimilate to the noun and verb⁴. The Tarascan 'interjection of participation' always assumes a regular personal form⁵. Personalised interjections occur in very low languages, as in that of the Yurucares of the Bolivian montaña. Conversely to this tendency, we occasionally find that grammatical words tend to sink into the interjection. Thus the Aymara adjective can be converted into an interjection expressing wonder or pleasure at the quality denoted, by appending to it the ejaculatory particle *-qui*; while the addition of the vowel *-i*, sharply enunciated, to the name of any part of the body produces an interjectional expression emphatically expressing local pain or discomfort.

Germs of
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 terjection.

This cursory survey of the interjection in its wider bearings, as illustrated in the American languages, suffices to show that it is practically separated from grammatical

mukats, mokats, = 'Here! Take it!' pl. *mukchi*. 2. *Tumang* = 'Let-it-alone!' pl. *tumangchi*. 3. *Amelek* = 'Get-out-of-the-way!' pl. *amelechi*. 4. *Anich* = 'Look!' pl. *anchich*. These expressions are not referrible to the grammatical verbs having corresponding meanings.

¹ *Qhahma*, pl. *qhahmaqui*.

² *Tsiaken* = 'Courage!' du. *senitsiaken*, pl. *sewatsiaken*. *Totek, tastotek* = 'Be-silent!' du. *tatsiatotek*, pl. *tasewatotek*. *Sathi* = 'Out-of-the-way!' du. *tsiathi*, pl. *sewathi*.

³ *Omat* = 'Listen!' pl. *okokse*. *Aksut* = '(May-you-be) Strong!' (the usual word of greeting and farewell), du. *aksutik*, pl. *aksuse*, pl. 1st person, *aksuta*. *Opinnarnak* = 'Of-course!' (= 'Just-what-might-be-expected-to-happen-to-you-under-the-circumstances!') 3rd person, *opinarnane*. *Nau* = 'Out-of-the-way!' du. *nautik*, pl. *nause*.

⁴ *Telchill* and *tepayo*, both = 'Tant-mieux!' pl. *telchime*; personal forms, 1st person, *nitelchill*, *notepayo*, pl. *totepayo*; 3rd person, *itepayo*.

⁵ *Hihtu* = 'And-me-also!' 2nd person, *thühtu*; 3rd, *hindéhtu*.

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speech by no fixed boundary; that, although primarily belonging to the first person¹, it is capable, even while unpersonalised in form, of conveying by its substance those other personal conceptions which are the foundation of grammar, and of expressing ideas which can only be indicated in analytical language by combining two or more parts of speech; and that it readily amalgamates with the particles by which the relations of person and number are grammatically expressed. It is shown to be capable, moreover, of conveying that double personality which germinates into the system of Case, and produces the Object Conjugation, a prominent common feature of American and Turanian grammar. Are Mood and Tense, the distinctive relations of the verb, discernible in it also? It will scarcely be denied that they are. We might easily supplement our classification of American interjections according to personality by cross-classifications, grouping them on the one hand as optative, interrogative, responsive, or imperative; on the other, as importing into the sense of the present some relation to the immediate past or the immediate future. All the grammatical relations which were obtained deductively by analysing personality² are thus inductively verified as existing, though undeveloped, in a yet surviving species of vocalisation, which proves to be the holophrase, out of which grammar has demonstrably grown, in its rudimentary and least significant form. Even Gender, in the subjective sense, is represented, for many American languages prescribe different interjections for use by the men and by the women, while others are common to both sexes³.

Neither the analysis of the interjection nor the ascertain-

¹ The interjection, says Kleinpaul (*Sprache ohne Worte*, p. 166), 'schickt sich, ihrem Wesen nach, nur zu dem Pronomen der ersten Person.'

² Ante, pp. 123-125.

³ Montoya, *Arte de la Lengua Guarani*, ch. xix; Cucoq, *Principes de Grammaire Iroquoise*, ch. i, &c.

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 Enlargement of the interjectional basis.

ment of its logical limitations suggests for a moment that there was once a time when language had a considerable development of an exclusively interjectional kind, and that this period was followed by one in which it advanced to the personal noun and verb, and conquered the hitherto untouched realms of the absent and the imaginary. The cry of man's brute ancestor, we may well believe, was merely interjectional. But the cerebral development which has made man what he is must surely have been closely connected with memory and imagination, besides those faculties which are aroused by things immediately present; and if the habit of vocalisation on a repetitive basis accompanied man's early brain-growth, as we have suggested that it did, we cannot doubt that it tended, from the first, to cover the whole area of consciousness, and in some way to symbolise the absent and the imaginary, as well as the present and the real. It is none the less true that in striving to characterise vocally what the brain recalls and reconstitutes, instead of deriving by direct impression from present things, language takes a new departure. When the thing itself, of whatever kind, is present to the sense, it needs no symbolisation. It stands forth as a substance, giving full meaning to the expression; language merely indicates the relation conceived as affecting it¹. But when the thing is no longer present—when it has to be recalled by the memory or fancy of the speaker, in order that it may affect the consciousness of the hearer—then the indication of a relation no longer suffices. Language, by an effort hitherto unknown to it, must grasp at the thing itself: it must drag it, by its cohesion with the relation, into its precinct. In other words, it must name it. The actual impulse, the electric touch, which converts ejaculation into true language thus comes from the world of the unseen; from the necessity of presenting to the mental eye that which cannot be seen by the bodily sense. Ultimately it is

¹ Ante, p. 126.

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¹ Ante, pp. 1
² Schleicher,
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generated in and by memory; imagination reproduces or transposes things which already exist in the memory. Memory, and the perception of difference and resemblance, acting on the materials supplied by memory, make up the whole furniture of intellect; we shall now see how the latter concurs with memory in the creation of the first form of perfectly significant speech, the personal noun.

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The principle of personalisation has already been explained¹; it only remains to indicate its mode of working, to trace its ramifications, and to show how it leads to those more advanced forms of expression on which human thought has soared into the higher regions of knowledge. It will be convenient first to enumerate these advanced forms, and to point out the relation of each to that on which it is founded. The interjection, we have seen, leads to the personalised holophrase, taking the form either of a personal noun or a personal verb according to the nature of the conceptions embodied in it, and the train of thought in which they happen to occur². The personal holophrase leads to the General Noun, the accidental attribute of personality, ever shifting with each successive speaker, being at length thrown out by a process which the American languages enable us to follow with ease, and the fundamental conception being liberated and rendered available for classification on the basis of the more permanent attributes, which in process of experience come to include the essential properties, of the thing denoted by it. Lastly, names are given to the permanent attributes themselves, whether taken singly or as grouped for generalisation; these are Abstract Nouns. Personalisation, generalisation, and abstraction may be considered as representing three successive stages of the

Progressive
forms of
thought.

¹ Ante, pp. 119-123.

² Schleicher, *Compendium der Vergleichenden Grammatik*, 2. Aufl., p. 513, puts the matter correctly in suggesting that the real relation of the noun to the verb is that both are determinations of previously undetermined linguistic forms (i. e. of interjections).

BOOK II. temple reared by thought out of the materials provided by
 Aboriginal language. Interjections represent crude or imperfectly
 America. wrought masses, strewing the forecourt which surrounds
 the edifice. Personal nouns represent the foundations; general nouns the substantial walls and complicated arcades, rising tier above tier to form the body of the structure; abstract nouns the domes, pinnacles, and battlements which crown it. Interjections, again, are fundamentally indistinguishable from animal cries; they represent the language of man's brute ancestor. Personalisation, gaining ground, perhaps, through thousands of forgotten years, moulded the language of savagery. Generalisation, slowly dispersing the mists of personality, and opening the mental eye to the permanent attributes of things, conducted man from the higher savagery to the lower barbarism. Abstraction, originating in the higher savagery, heralds the final stages of advancement; its development belongs to civilisation, to the ages of mature art and exact science¹. Abstraction makes a giant stride beyond generalisation, which only elevates thought by simplifying the world of Things. It creates for the first time terms not confined to the sphere of concrete objects. It abridges the multifariousness of human experience; it isolates every known attribute, whether simple or compound, of known things—and every attribute is a summary or synopsis of varied knowledge, and

¹ Beattie, a lucid and delightful writer, but the loosest of thinkers, fairly out-Reids Reid (cp. p. 122, note 2, ante) in saying that 'the formation of abstract nouns is natural to man in every condition wherein he can be placed,' because 'things are valued and attended to for their qualities.' What follows is unexceptionable. 'In this manner a quality is spoken of as some *thing*, that is itself characterised by qualities; which comes so near the description of a substance, that language gives it a name of the substantive form.' 'Perhaps,' he adds, 'it might be doubted whether abstract substantives be essential to language' (Theory of Language, Part ii, ch. 1). Undoubtedly they are not. All savages know what it is to be hot, and can readily express it: but to many it would be idle to attempt to explain what is meant by 'heat.'

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renders it available for investigation. Raised thus to the dignity of a Thing, the attribute receives attributes of its own, equally capable, with itself, of becoming the subjects of abstraction. In regard to the practically endless series of things thus embodied in words, thought is emancipated from the bonds which hitherto confined it; it throws off the tyranny of individual impressions. Abstract nouns are the trophies of the struggle between Thought and Things. The terms of arithmetic, geometry, mechanics, medicine, law, ethics, and political economy, belong for the most part to this class. Numbers, and mathematical symbols generally, represent abstract nouns. Those fundamental properties of matter and mind, the recognition of which binds together, unifies, and rationalises our knowledge, can only be denoted by abstract nouns. 'Truth,' 'Goodness,' 'Beauty,' are abstract nouns: so are 'Nature,' 'Knowledge,' 'Duty,' 'Honour,' 'Freedom,' 'Immortality'.¹ Distinct as the three forms of the noun are in their logical aspect, we can discover no break in the process of their genesis. Itself an out-growth of personality, and guided by it, though slowly out-growing its guidance, generalisation classifies things, with increasing facility, by their permanent qualities, blindly at first, or with half-shut eyes. Abstraction corrects and extends the rude work of early generalisation; it names, classifies, and analyses the qualities which generalisation imperfectly discerns. It thus equips the mind more effectually for its ceaseless voyage of discovery, and pilots it into new, and ever new, regions.

The correlation, above suggested, of general and linguistic

¹ The term 'abstraction,' it should be observed, is here used in its literal and extreme sense, as the process of seizing and isolating attributes, whether singly or collectively, and regarding each, or each group, as a separate entity. Many philosophers use the word loosely, as the process of eliminating those attributes which a given group of objects possess in common, and regarding these objects in relation to those attributes, disregarding those in which the objects are found to differ. Abstraction in this looser sense includes 'Generalisation.'

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Book II. advancement, of progress in the arts of life, and of ex-
Aboriginal panding thought based on generalisation and abstraction
America. in speech—is no fanciful speculation; it is, we believe,
 Abstract justified by general ethnology, though mental advancement
 Nouns in may continue when the form of language has become
 American practically stationary. As generalisation spreads and es-
 languages, tablishes itself, personalisation tends to disappear or becomes
 less significant, while abstraction tends to increase in extent
 and importance. In following this process we must dis-
 tinguish between ideas and words. Though 'general ideas'
 and 'abstract ideas' are familiarly spoken of, it is well
 known to logicians that neither the one nor the other does
 or can exist in mind; all ideas are of particular things.
 The personalisation of interjectional sounds represents the
 first step in mental progress, the recognition of the dis-
 similarities and similarities of things, and of the dissimilarities
 of their simplest and commonest attributes, and the establish-
 ment of a system of naming them accordingly. Generalisa-
 tion does but carry on this process. It does not introduce
 ideas of another description, but merely increases indefinitely
 the number of things with which the name already conferred
 may be associated. Abstraction, isolating and naming the
 attributes of things, is equally far from introducing any
 fresh series of 'ideas.' These processes do but furnish
 thought with new symbols by which particular ideas are
 coördinated, grouped, and multiplied; and in this consists
 the essence of human knowledge, as distinguished from that
 of lower animals. To give distinctive form to each class—
 to impose on it a special mark, enabling each thing named
 to be instantly recognised and compared with others, indi-
 cates the highest advancement of which language is capable;
 and it may be noticed that the chief languages of America
 are in this respect in advance of an important group
 belonging to the Old World. Semitic speech has no special
 form of the abstract noun; the place of such a form is sup-
 plied by the general noun, sometimes distinguished for the

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p. 161.

purpose by being put in the feminine or the plural. In low American languages the general noun is similarly used, when need requires, as an abstract; in the lowest the personal noun serves both in a general and an abstract sense. But the highest ones, including the Mexican, the Quichua, and Aymara, and the Iroquois and Algonquin, and the Esquimaux, possess, like the Indo-European languages, special forms of the abstract noun. None of them, it is true, follow abstraction into its higher regions. But the process has begun, and has made its mark on speech: and when this has once taken place there is no limit to the possibilities of the future. Aboriginal America, though far indeed from true civilisation, was undoubtedly on the road to it.

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America.

Before investigating the growth of personal forms and their development into general and abstract ones, it should be remarked that language does not appear to have passed at one bound from irreducible syllabic aggregates, illustrated in the interjection, to regular and uniform personalisation. Probably different particles—polysyllabic ones, we have reason for supposing—were at first tentatively employed in each food-group, to denote similar personal relations; often several such remained in use, until at length one only—that which happened to commend itself to the majority, or was employed by the principal individuals and families¹—came to survive. In the transitional stage these conditions would affect not only the personal particle, but the 'stem'—that is, the syllable or syllables denoting the object; and we do in fact find in actual use, in existing languages, personal nouns grouped in sets but irreducible in form both as to the personal particle and the stem, and therefore grammatically indistinguishable from the interjection itself. They closely resemble those interjections, above noticed, which seem to encroach on the domain of the noun²; and, as might be

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¹ The 'Tonangeber' (leaders of fashion) of Caspari, *op. cit.*, vol. i. p. 161.

² *Ante*, p. 188.

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anticipated, they are found in the lowest and most universally diffused species of the personal holophrase. Thus, in Zulu-Kafir the various words meaning 'my-father,' 'thy-father,' 'his- or her-father,' have no common element, and are in effect arbitrary polysyllables incapable of analysis; and the same is true of the personal forms of 'mother'.¹ A similar phenomenon frequently occurs in the New World; nor is it confined to names of blood-relationships, or to the simpler types of the holophrase. Yet holophrases, in which everyday conceptions closely related in substance are expressed by sounds apparently having no common element, are not always irreducible. Thus Sagard's vocabulary of the old Huron-Iroquois contains expressions meaning 'I-have-been-to-the-water²,' 'Go-to-the-water³!' 'There-is-water-in-the-bucket⁴,' and 'There-is-no-water-in-the-pot⁵.' These appear to contain, although they certainly do not to the European ear suggest, the general word for 'water⁶,' identical in the old Huron and in the modern Iroquois. Probably they represent holophrases of greater length, in which this common element was prominent: but in the form in which Sagard heard them they are not distinguishable from interjections.

Illustration
 from
 Fuegian.

In Fuegian, however, the stems, especially those denoting blood-relationship, often change with changes of person, the personal particles, in their turn, varying in different words, both as to their substance and their place in the holophrase, being sometimes prefixed, and sometimes post-fixed, to the stem. Nothing is more common, in the lower languages of America, than to find several alternative forms for each personal particle: sometimes, as in the Chiquito and Kiriri,

¹ 'My-father,' *ubaba*; 'thy-father,' *uyihlo*; 'his- or her-father,' *uyise*. 'My-mother,' *umame*; 'thy-mother,' *unyoko*; 'his- or her-mother,' *unina*. The prefix *u* merely denotes the 'class' of nouns to which these words belong, and has nothing whatever to do with their meaning.

² *Escoirhon*.

³ *Setsanha*.

⁴ *Ondequoha*.

⁵ *Daustantewachavel*.

⁶ *Awen*.

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several sets or groups of personal particles are used with nouns and verbs, the stems being grouped according to rule, though many exceptions are admitted, for this purpose¹. Often these indicate distinctions of meaning which are expressed in analytical speech by general terms, and are indispensable in daily use; but in other cases no such distinction can be traced, and the different forms appear to be customarily connected, by mere affinities of the ear, with stems of different sound. Like the inclusive and exclusive personalities, to be shortly referred to, this multiformity of the several personal particles, or of the pronouns which replace them in analytical speech, is characteristic of the widely distant Eastern and Western shores of the Pacific Ocean. Javanese has twenty pronouns of the first person and twelve of the second; Malay has sixteen of the first and ten of the second. Fuegian has more than twenty words, some containing four syllables, all of which may mean either 'he' or 'she': and it is noticeable that this multiformity of the personal particle is accompanied by a marked multiformity in the noun. The Fuegians designate not only the commonest of things and relations, but strictly singular objects, by a variety of names²; they have two names for the sun, two for the moon, and two for the full moon, each of the last-named containing four syllables, and having no common element³. Of the variety of nouns and verbs

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¹ Chiquito has eleven sets of personal particles for the noun, and ten for the verb. Kiriri has five, used for both nouns and verbs. Similarly the Andaman language divides its nouns into seventeen classes, each having different forms of the personal particles.

² So, according to Carl Abel (*Linguistic Essays*, pp. 226-7), while on the one hand one sound may mean many different things, one simple idea, on the other, may be conveyed by many different names, in Old Egyptian. This language has thirty-eight words meaning to 'cut,' ten meaning to 'call,' ten to 'anoint'; there are twenty-six names for 'boat,' six for 'dirt,' thirteen for 'night,' eight for 'naked,' ten for 'strong, mighty.' 'For nearly every idea examples of this kind might be adduced almost indefinitely.'

³ On the other hand, the old Huron language, according to Sagard,

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 America.

possessing many shades of meaning, in this extremely polysyllabic language, it is impossible to convey a summary idea; but the compiler of a Fuegian dictionary¹ estimates the number of words collected by him at more than 32,000, and this after suppressing large numbers which would only require explanation in the case of persons wholly ignorant of the language². It has several endings, many being polysyllabic, for the dual and plural numbers; and the stems of its verbs, as in the closely-allied Creek and Choctaw, and the Tsimshian, sometimes assume a totally different form in the plural to that of the singular, and can be varied to an indefinite extent in meaning by the addition of purely arbitrary particles. It has several words, between which no connexion is traceable, for 'few' and 'many.' This copiousness of sounds, as compared with ideas, we shall presently recur to, and seek to explain.

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 aspects of
 personality.

The leading characteristic of American grammar is the predominance of personality; and, as might be anticipated, personal forms of every description, including many unknown to advanced languages, which reduce Person to the narrowest possible compass, occur in great variety and luxuriance. They often involve subtle distinctions, and relations the full meaning of which European investigators confess themselves unable to penetrate; the field which they cover is as yet but imperfectly explored; enough, nevertheless, is known to enable us to perceive its general outlines, to watch the working of the principle by which personal language had only one word (*andicha*) for the sun and moon, and separate names for the full, the increasing, and the waning moon.

¹ F.B., Letter in the Buenos Ayres 'Standard,' September 11, 1886.

² One Fuegian word, often heard by the explorers of the *Beagle*, has been rendered classical by Darwin's narrative. It represents the continuous cry of the howling savages who visited the vessel in the Strait of Magellan. Darwin writes it *Yammerschooner*, and explains it as = 'Give-me.' It was supposed to express desire of whatever caught their fancy; but there can be little doubt of its identity with the personal noun (used as a verb) *Yanamashaguna*, literally = 'We-are-hungry,' but perhaps applied interjectionally in a general sense.

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was guided, and even to form some approximate idea of its historical development. We have theoretically traced the origin of speech to the impact of two personalities¹; and it might perhaps be supposed that the first personal conceptions to be differentiated would be those which we express by 'my-' and 'thy-.' This natural suggestion, apparently, must be rejected. While the first person is admittedly the first creation of grammar, the second does not take rank as its natural correlative; the reason being that expressions of the first person naturally obey the mental law of synthesis, and primarily include all the personalities present to the consciousness at the same time. In other words, the fundamental personal conception is an 'our-' or 'we' in which 'my-' and 'I' are involved but not distinguished. It is collective; it regards certain human beings as forming a group, and this group as including the members. This natural collectivity of meaning seems to be illustrated in the song of birds and the cries of gregarious animals. Language, we cannot doubt, arose in the group. Its first efforts, then, would probably express the relations of thing and thought common to all members of the group at the same time; and these would be conceived by each member as affecting not merely himself but all his co-members. This reasoning seems to apply equally when we conceive the group as diminishing until it becomes reduced to a single pair. The states and acts referred to by the cry would probably be common to both persons; the personality involved in it would be the dual 'we,' rather than 'I' and 'thou.' Differential relations must in time supervene, resulting in the discrimination of personalities; but in general the personality of language may be regarded as originally collective, and its original expression as a collective 'we' or 'our-.'

The social group is obviously divisible not only into individuals but into small aggregates. The business of life, primarily the quest of food, has a tendency so to divide it

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and selec-
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¹ Ante, p. 117.

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in practice ; and the 'we,' or personality of the group, tends to divide itself accordingly. The North American languages throw an interesting light on the manner in which this takes place. In common with many others, chiefly belonging to the Pacific Ocean and the continents which it washes, they often possess two distinct forms of the first person plural, which are usually denominated by grammarians 'Inclusive' and 'Exclusive'; but as some North American languages employ the same idiom in the dual, and many use it in the singular, we substitute for these terms the more widely applicable names 'Collective' and 'Selective.' The collective 'we' includes all persons present; the less comprehensive one refers to some smaller 'selected' group to which the speaker belongs, the rest of the audience being 'excluded' from what is being expressed by him. This idiom, though found in the languages of many Pacific populations not of Turanian race, such as the Australian and Melanesian, has usually been regarded as pre-eminently a Turanian one. While it is of the utmost rarity in the languages of Africa¹ and there is no trace of it in any Semitic or Indo-European language², it often occurs in Central Asia, and appears in all the Dravidian languages of India except the Canarese³. It

¹ The Hottentot, one of the lowest African languages, employs it, and it survives in the Pul, a language of higher organisation.

² The Romance languages, however, have analytical exclusive plurals (Spanish *nosotros*, French *nous autres*, Italian *noi altri*) to distinguish a limited 'we' from the inclusive *nos, nous, noi*. The 'I' of the Greek Chorus, commonly though not inflexibly used whether by the chorus collectively, in the choric song, or by the Coryphaeus in dialogue, to describe the thoughts and feelings of the Chorus as a select body, is in fact an exclusive 'we.' When the Chorus speak in the name of the citizens generally, or of the human race, the plural is employed to indicate inclusiveness. Occasionally they indicate in express words the exclusive nature of some view expressed ;

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τέτυκται,

δίχα δ' ἄλλων μονόφρων εἰμί, κ.τ.λ.

Aeschylus, *Agam.*, 727-735.

³ Caldwell, *Comparative Grammar of Dravidian Languages*, p. 308.

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even occurs in non-Turanian languages like Marathi and Gujarathi, where its presence has been plausibly conjectured to indicate a Turanian substratum in the population. On the east coast of Asia, while it is wanting in the Chinese proper, it is found in the northern Chinese dialect, linking with the Manchu the populations which employ it—and in the Malay. It is general in the Oceanic Malay, from Madagascar to the Sandwich Islands. In America, though it has disappeared from most languages of the coast, it is the more conspicuous in those which retain it, as the Chinook and the Chiapanec. In the interior of the New World it is widely diffused. It has disappeared from the Maya and the Mexican languages, if these ever possessed it—but the Iroquois and Dacota, all the Algonquin languages, and some if not all of the languages of the Pueblo Indians as well as the three great languages of South America, the Aymara, Quichua, and Guarani, still retain it. It may serve to impress on the mind the distinction which it implies, so unfamiliar to Europeans, if it is mentioned that the missionary is compelled, to observe it most scrupulously while exercising the essentially different offices of prayer and preaching. When the formula 'We have sinned' occurs in prayer, the exclusive form must be employed, for the supplicant would otherwise be including the Almighty among those to whom sin is imputed. The same expression, occurring in a sermon, takes the inclusive form; for the audience would otherwise be excluded from the category of sinners, and would understand the preacher's meaning to be 'We, the clergy, have sinned, but not you, the people.'

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¹ The Chiapanec, which employs it, is geographically intermediate between the Maya and the Mexican.

² Dobrizhoffer, *Hist. de Abiponibus*; compare Inglis, *Dictionary of the Aneityumose Language*, p. xi. It has often been erroneously supposed, even by eminent scholars, such as Père Cuoq, that the 'double we' is universal in the American languages. Hence the forgers of the 'Taensa,' presently mentioned, introduced it into this fictitious language.

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 America.*
 Relation
 of Number
 to Person.

We have pointed out, at a previous stage, the close connexion of Number with Person. Everything tends to show that this connexion is original, and inherent in the nature of speech. Number, in ordinary grammatical language, is regarded as an artifice of grammar rather than as a natural element in vocal expression. In the light of what has just preceded it will be seen that this view requires to be reversed. Pluralisation is probably as natural as singular personalisation. All the less comprehensive forms of Number, indeed, if we read archaic grammar aright, have been obtained, not by extension from the 'I,' but by selection from an original collective 'we,' representing the aggregate personality of the food-group, and therefore including the undistinguished 'I' of the speaker for the time being; to borrow terms from the philosophy of Quantity, if thought and language are regarded as two related variables, the 'I' does not represent their prime ratio, but their ultimate one. The analogies of the cry among gregarious animals, and of the lower forms of human song, alike suggest that a collective personality was involved in primitive vocalisation; nor does the contrary hypothesis equally well explain the connexion of Number, in the American languages, with the expression of Person. The explanation we propose accords with the general progress of language from synthesis to analysis, as laid down in the preceding pages; nor do we see any other way of accounting for the fact that the process of selection, as described in the last paragraph, affects not only the general or collective plural, but the limited plurals of three and two (the trinal and dual), and even the singular first person. Of the trinal number, so frequently occurring in the Melanesian languages, and possessing exclusive and inclusive first persons equally with the dual and plural, the American languages afford no well-authenticated example¹; nor does it often happen in America

¹ Friedrich Müller ascribes a trinal number to the Fuegian. Probably

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that the same language retains both the dual number and the exclusive and inclusive forms of the first person plural. Where however this is the case, as in Iroquois, including Cherokee, the dual is similarly affected, and has an inclusive form denoting 'I and you,' and an exclusive one denoting 'I and he.' The dual, it may be generally stated, is about as widely spread in the languages of America as in those of the northern parts of the Old World; the Esquimaux of the extreme north and the Araucan of the extreme south alike dualise as well as pluralise. Probably it was once more general, if, indeed, it was not originally universal. It is becoming obsolete before our eyes, for most dualising languages admit the plural in its place¹.

The principle of considering personality as at the same time collective and selective seems to have been so deeply engrained in the habit of thought, that it extended itself not merely to the first person singular, but to the second person as well as the first, and even to the third as well as the first and second: and the plural forms of these persons are thus modified as well as the singular ones. In all these cases the contrast denoted by the alternative forms is of the same nature. The collective singular, of whichever person, denotes the person as a member of the group; it imports that although the particular thing associated with the personality denoted is connected by the expression with that personality alone, the association is nevertheless shared by others. Thus, if the question be 'Who will

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this is not a true trinal, but a plural of paucity (= 'a few'). In the Melanesian languages the trinal is practically used as a plural of paucity. Some American languages possess, like the Arabic, a formal plural of paucity.

¹ Some philologists brand the dual as a 'mark of barbarism.' Yet the Greek, Sanscrit, and Arabic, three of the most perfect languages in existence, have retained it, while scores of savage languages have thrown it off, if indeed they ever possessed it. It lends to language a certain interest and ornamental distinction: few readers would wish to see Homer or the Bible shorn of their duals.

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help?' the answer would be the collective 'I,' equivalent to 'I for one,' or 'I among others'; but the question 'Who is the mother of the child?' must be answered in the selective form, meaning 'I' absolutely, for the child cannot have more mothers than one. This sharp distinction between a relative and an absolute 'I' occurs in the lower languages with a frequency which indicates it as answering a substantial need of daily life. The Apache Indians¹, for example, one of the wildest peoples in America, would scarcely have invented and rigorously preserved this idiom unless it were indispensable to their intercourse; and the same thing may be said of the British Columbian tribes, in whose languages it is even more conspicuous². THE COLLECTIVE, it should be noted, IS THE ORDINARY FORM, AND THE SELECTIVE THE EXCEPTION. No more interesting illustration could be adduced of the sense of solidarity naturally pervading the food-group, and of the natural sense of weakness in its members individually. The collective second and third persons, singular and plural, found in the languages last named, are explained in the same way; they signify 'thou' or 'you,' 'he' or 'they,' as the

¹ Col. Cremony, formerly interpreter to the U.S. Mexican Boundary Commission (quoted by Mr. H. H. Bancroft, *Native Races of the Pacific States*, vol. iii. p. 597), says of the Apache: 'In all that relates to special individuality the language is exacting. Thus *shee* means "I," or "me," but *sheedah* means "I myself," or "me myself"; *dee* means "thee" or "thou," but *deedah* means "you yourself," especially and personally, without reference to any other being. When the Apache is relating his own personal adventures he never says *shee* for "I," because that word, in some sense, includes all who were present and took any part in the affair; but he uses the word *sheedah* to show that the act was wholly his own.'

² Of the use of the idiom by the Tlingit Indians Dr. Franz Boas (Fifth Report of the British Association on the North-Western Tribes of the Dominion of Canada, p. 62) says: 'To the question, Who is there? I answer *gat* (I), which is the ordinary form; while to the question, Who among all of you will help me? I answer *gato* (I).' The corresponding words in Haidah are *dea* (ordinary, with collective relation), *thaa* (selective or exclusive). *Ibid.* p. 74.

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case may be, with the qualification 'among the rest of us' superadded.

The above account of the origin of Number in its connexion with Person is further verified by the undisputed nature of the intellectual process. The first and lowest intellectual impressions derived through the senses from things are always collective. Perception, in the phrase of Hamilton¹, begins not with minima, but with masses. The eye of the infant or of the brute, like the lens of the camera, transmits to the mind at first only some undistinguished patchwork of colour; so the untutored ear, like the orifice of the phonograph, receives nothing but an incoherent medley of sounds. Analysis, founded on perceived differences and resemblances among the parts, breaks up these collective impressions by selection. Language, in its inception, follows exactly the same process, though it primarily deals with a limited circle of things, which is gradually enlarged. It begins with the human personalities of the food-group; from these it advances to animated personality in general, and ends by taking in inanimate personality or natural objects. In each stage it evidently follows the same method of diminishing collectivity which guides it in formalising the impressions of Person and Number. The holophrase, the collective embodiment of selected impressions, represents, when it yields to analysis, a further prosecution of the same process; and by regarding these phenomena as a series in connexion with what has preceded, we obtain a complete impression of the working of language as the servant and instrument of the intellect. Diminishing Collectivity, in a series of impressions descending from the whole to the parts, may apparently be admitted as a general law of intellectual progress. Selection has done its substantial work when person and number have been formalised; and thus far it operates without distinction on both noun and

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Law of
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¹ Lectures on Metaphysics, i. 243; ii. 327 (Arist. Physics, B. i. c. 1).

Book II. verb, the particles denoting number and person being in
 Aboriginal very many holophrastic languages absolutely identical.
 America. in others exhibiting slight divergences, and in the rest
 differing in form, though not in meaning. The growth of
 these distinctions marks the divergence of the noun and
 the verb, though this divergence is due to other causes ;
 in the case of the noun of ordinary grammar to those
 which produce the phenomena of Case, in the case of the
 verb, or noun of being and doing, to those which produce
 Tense and Mood. Beside these two groups of grammatical
 artifices—Person and Number, closely connected, on
 the one hand, and Case, Tense, and Mood, on the other
 —language employs a third, called Gender. This last is
 somewhat more complicated than the rest, and appears in
 two distinct forms, which may be called Personal and
 Objective Gender. The former springs up in the very
 inception of speech ; the latter belongs to a later stage, and
 is so far from being generally adopted that it neither
 occurs in the Turanian languages nor in the more archaic
 ones of America.

Second and
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A proposed law should explain in a simple and uniform way
 all the phenomena to which it is applicable. We may claim
 that the law of collectivity diminishing in various degrees
 by selection abides this test in its severest application. For
 the second and third grammatical persons have apparently
 been carved out, by a process of selection similar to that
 just described, from the same original mass—the collective
 'we' or 'our-' conceived as varying in comprehensive-
 ness. The third person follows more closely in the wake
 of the first, and has more influence in grammatical de-
 velopment, than the second. It is evidently produced by
 mentally subtracting any selective 'we' from the collective
 one. In passing from the more comprehensive to the less
 comprehensive form, a portion of the contents is left
 behind ; hence the third person 'they,' with its duals and
 singulars, according to the relative extent of the two forms

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of 'we' employed. Established thus within the food-group, the third person overflows and envelops the whole wide world of things outside it. It conquers for the mind this vast dominion; it encloses it with the massive walls and arcades of artificially-based thought. For general terms, as we shall shortly prove, by the aid of the American grammars, are simple developments of the third person in this extended employment. The second person, like the third in its original constitution, is obtained either from the collective first, or from the selective first in any form above the degree of absolute singularity, by the same simple process of subtraction. Deduct from either of these numbers the speaker's own personality, as in the moods of question and command, and the residue assumes the form 'you' or 'your-,' 'thou' or 'thy-.' 'You' or 'thou' is latent in every 'we'; this latent second personality becomes in fact an object of address whenever, as frequently happens, the intent of the speaker does not transcend the limit of the group which the 'we' constitutes.

While we ascribe to the third person the invasion and conquest of the absent in space, the first and second must be credited with the equally important conquest of the absent in time. The four primary moods of speech—the wish, the question, the answer, the command—constitute, in Hamlet's phrase, the 'large discourse' of man, 'looking before and after'; from that shifting moment which we call the Present, they bid adieu with one hand to the Past, and beckon with the other to the Future. The successful effort to symbolise the absent, both in space and in time, converted the interjection into speech; and this effort was clearly applied to both forms of absence at once. Analytical language retains only the traces of absence in time; the area once covered by forms indicating absence in space has been filled to overflowing by the names of things. The American languages abound with evidence that personality

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America.

Absent and
present
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¹ Ante, p. 124.

Book II. *Aboriginal America.* was once compelled to distinguish not merely the present or absent in time, but the present or absent in space. The Cherokee verb, for example, has two alternative forms of the third person, used to identify the person indicated as either present or absent, and occurring in the dual and plural as well as in the singular. The Tsimshian language extends this distinction to all the persons, and habitually designates all things, whether material objects or states of being or doing, by personal particles which distinguish them as past, present, or future. The Choctaw employs a different set of particles to denote personality conceived as 'relative,' a distinction said to resolve itself in most cases into their belonging to the past. The most remarkable development of present and absent personality is found in the Moxa language, which has not merely separate masculine and feminine forms for absent and present persons, but a considerable number of plurals of the third person, all implying absence, and apparently importing differences of relation which are not fully explained.

Subdistinctions of personality.

Concurrently with the general distinction of absent and present, the lower American languages furnish many illustrations of an effort to subdistinguish both by means of often-recurring accidental differences. Thus the language of the Abipones, which distinguishes present personality in the masculine by 'eneha,' and feminine by 'anaha,' varies these elements according to the local position and outward aspect of the person spoken of. If he or she be sitting, the proper forms are 'hiñiha' and 'hañiha'; if walking and in sight, 'ehaha' and 'ahaha'; if walking and out of sight, 'ekaha' and 'akaha'; 'he,' applied to a man lying down, is 'hiriha' (feminine 'hariha'); if the man stands up, he must be denoted by 'haraha.' These are the ordinary or 'collective' forms, indicating that the conditions alluded to are shared by others of the group. If such be not the case, and the 'selective' form is required, 'he sitting' (alone) is

¹ He lying and out of sight.
² Ante, p. 1

'yuitara' ; and so forth in the case of the rest¹. Probably the greatest extension of these distinctions occurs in Fuegian, which employs more than twenty different pronouns of this kind. In Cherokee a separate pronoun is used to indicate a man standing, walking, sitting, advancing to the speaker, or going away from him ; this language also possesses forms indicating that 'he' is dead, that 'he' is sick, or that 'he' is alive and well. A more general distinction, essentially of the same kind, is implied in the use of different personal particles with the verb according as it is transitive or intransitive. This idiom, which is found in the languages of British Columbia, reappears in the Yukahir, and some others of northern Asia.

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The above forms may be thought to indicate the co-operation of gesture in the development of personal forms of speech², for each can be readily conceived as having taken the place of some combination of gesture with a less perfectly differentiated particle of the third person. It may be conceded that up to a certain point gesture and language advanced together, and probably by similar steps. Yet we cannot consistently assign to gesture, however important before some common basis of vocal expression has been established, any other than a subordinate place in the actual development of speech. Gesture has more affinity with Things than with Words, and can be of little assistance in leading from the natural to the artificial basis of thought ; language, gaining strength and scope, must at an early stage have practically shaken it off, for beyond a certain point its tendency must clearly be to retard, rather than to assist, linguistic development. Language, indeed, may and often does employ it in every stage of development, from the first to the last, as a means of reinforcing its meaning, even as it employs tone and

Gesture
and per-
sonality.

¹ He lying down (alone), *iritara* ; walking (alone), *ehatara* ; walking and out of sight (alone), *ekatara* ; standing (alone), *eratara*.

² Ante, p. 155.

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emphasis ; the use of gesture by the Mexicans, who spoke an advanced language, was noticed by the conquistadores, and attributed by them to a lively and imaginative temperament¹. But any group of human beings possessed of the unimpaired use of the five senses, moderately gifted with intelligence, and associated together for a considerable space of time, must quickly dispense with it as a necessary help to communication. We therefore give no credit to stories, often quoted in popular treatises, of a Mexican tribe who were unable to converse in the darkness, owing to the necessity of gesture for the elucidation of their imperfect grammar², and of a Brazilian tribe who have been represented as only capable of indicating the past by a backward gesture of the hand over the shoulder, and the future by a similar movement in a forward direction³. Even the lowest American languages are well supplied with the means of indicating succession in time in every form. The Botocude language may indeed be pointed to as one which by its structure has no tense of the past, for which it employs the present ; but it would be as absurd to cite this in proof

¹ Torquemada, vol. i. p. 388: 'Los Indios de esta Nueva-España mas que otras naciones entienden por meneos y señas, por tener mui vivos los sentidos interiores y exteriores, porque es admirable su imaginativa.' It cannot be generally inferred that because gesture is largely used by savages their language would be unintelligible without it. A savage imperfectly acquainted with European languages might perhaps argue from the gestures used on the dramatic stage that these languages would be unintelligible without them.

² Lorenzana y Buitron, *Cartas Pastorales*, p. 96, note: 'Expresa el ilustrissimo Señor Obispo de Oaxaca en su pastoral que en su diocesis hay una lengua que sola de dia se entienden bien, y que de noche, en apagandolos la luz, ya no se pueden explicar, porque con los gestos significan.' Steintal (*Urspr. der Sprache*, p. 233) quotes a similar story of an African tribe. The general assertion of an anonymous writer that 'the poverty of the Indian languages is supplied by gesticulation' is pronounced by Mr. Howse (*Cree Grammar*, p. 9) 'extravagant and diametrically opposed to the truth'—'a complete misrepresentation of Indian language.'

³ Ida L. Pfeiffer, *Frauenfahrt um die Welt*, ch. iv.

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of its low organisation as to apply the same argument to the English or the Hebrew, the former of which has no structural means of indicating the future, and the latter none of indicating the present¹.

The development, traceable in all low languages, of the means of expressing number in objects prominently illustrates the natural effect of habitual gesture upon speech. 'Three' or 'four' is often the limit of savage numeration by express numerical terms. This circumstance, often paraded in popular anthropology as a proof of low intelligence in peoples perhaps not greatly inferior in mental ability to their civilised critics, however greatly the latter may exceed them in culture, is due to the fact that every man possesses in the ten fingers a complete natural system of numerical symbols. This system is perfect in its kind, being so constituted as to suggest at the same time the elementary conception of number as a multitude of unities, and the scientific conception of it, beyond which the genius of Newton has made no advance², as the abstract ratio of a quantity (10 or 5) to another quantity of the same kind (1), and to be indefinitely extendible by repeated gesture. The hand is the universal symbol of 'five,' and the personal noun 'my-hand' the natural name of that number. By exhibiting the hands and feet, 'ten,' 'fifteen,' and 'twenty,' the highest round number of savagery, are easily expressed; while higher numbers, to a point far beyond savage requirements, can be indicated by repeating these movements. The combination of the words for 'hand' and 'foot,' in their singular or dual form, as may be required, suffices to express the collective or round numbers in speech; nor can anything more be required to complete the system of

¹ Many of the Turanian and some of the American languages have only two fundamental tenses, a past and a present, the latter being used as a future when required. The more minute distinctions of time, originally indicated by particles, are at length made by means of auxiliary verbs, as in English.

² Newton, Algebra, tr. Ralphson, p. 2.

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Gesture
and
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numeration, but names for the selective numbers, produced by subtracting one or more fingers from the exhibited hand, on the principle of diminishing collectivity¹—that is, the equivalents of 4, 3, and 2. It is not surprising that under such conditions these numbers should form the whole of the strictly arithmetical apparatus of numeration: for no others are necessary, or would be useful. Gesture, in this instance, has given a direction, and fixed a limit, to the advance of language; yet where the practice of counting has become habitual, a serviceable arithmetic may be established even on this scanty basis of express numerical terms. Many comparatively low peoples have developed such a system; the Aleutians of Unalaska, for example, who still employ 'my-hand' to denote the number 'five,' have numerals extending to 10,000 and more².

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 Sex.

Recurring to the development of personal forms, we find them gradually becoming invested with a more substantial significance. In its inception we found personality spreading from the shifting relation of its origin to others equally shifting, because equally based on accidental instead of on permanent attributes. Presence and absence, local position and outward aspect, arrest attention and invite symbolisation, like personality, by their changes. The distinction of sex prepares for the expression of the permanent attributes of things, and for the great change ultimately to come over human thought, under which language becomes generalised. To give expression to this distinction is to double the significance of the indications of personality. From sex the transition is easy to the varied forms of blood-relationship, and to personal status

¹ Practical Arithmetic reverses the order of development. The mind primarily acts by subtraction, not by addition, descending as it does from the whole (the hand, 5) to the parts (4, 3, 2, 1). Subtraction alone can produce the conception of fractions, and of 0, the foundation of scientific arithmetic.

² Gov. Furuhelm, in U. S. Government 'Contributions to North American Ethnology,' vol. i. p. 115.

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generally. Blood-relationship appears to be personalised only in some Australian dialects¹; sex and status are often incorporated by various American languages into the personal particle. The distinction of masculine and feminine in the third person, common throughout the world, calls for no special notice; and the same distinction in the second person, which forms so striking a feature in the Semitic languages, is apparently wanting in the New World. The distinctive feature of the sexuuous personality exhibited in the American languages is the expression of the sex of the speaker; and in some instances this leads to the adoption of separate forms of the particle of the third person for use by males and females respectively. Thus in the Moxa language the prefix used by males to denote 'his' is 'mai-', and 'her' is 'sui-'; if, however, the speaker be a woman, 'his' must be expressed by 'ñi-.' Again, the optative Moxa particle in the mouth of the male is 'ezipa-', but the woman says 'ezipore-.' The Chiquitos have two forms of the particle of the third person, one denoting 'his,' applied to men, another signifying 'hers' or 'its,' applied to all other persons and objects: the use of the former is forbidden to the women, who apply the latter to all persons and objects equally, men included. The Moxa language has a separate set of demonstratives used by the women when speaking of men, distinguishing present from absent forms. The extension of the distinction of status implied in sex to personal status in general is strikingly exemplified in the Miztec of Mexico. This language, besides the general forms of each personal pronoun, has special forms which indicate on the one hand equality or inferiority, on the other hand superiority, in the status of the speaker relatively to the person addressed.

The principle here indicated, which has been previously

¹ The Parnkalla has special forms of the first and second persons dual. (1) used between blood-relations generally, including mother and child, (2) as between father and child, and one of the second person singular used between father and child.

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*Aboriginal
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 ———
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 America.
 Male and
 Female
 Language.

noticed in describing the interjection¹, is extended and confirmed in analytical speech. In many American languages parallel forms of the noun and pronoun are exclusively used by the males and females of the tribe respectively. This practice obtains most widely in the case of names of affinities and blood-relationships². Thus in Quichua, only the father designates the son as 'churi,' and the daughter as 'ususi'; the mother must speak of both as 'huahua' (child). So the male addresses a brother as 'huauque,' while a female must say 'tura'; a male describes his sister as 'paua,' while a female says 'ñaña.' It would be easier to fill a volume with illustrations of this peculiarly American habit of speech than to pronounce decisively as to its origin and fundamental meaning. It would be natural to connect it with sex as a form of status, women being regarded, and savages are prone so to regard them—as an inferior species of the race, and compelled to use distinctive forms of the commonest names concurrently with distinctions of dress and ornament. In general, however, inferiority of status, where it finds expression in speech, as in the Abiponian among the lower languages, and the Mexican among higher ones, is denoted rather by an abundant use of 'reverential particles' than by differences of substance. Differences of the latter kind would more naturally appear in the language spoken by the superior class among themselves. The men, associated separately from the women in the chase, on the war-path, and in the council-house, might well develop a separate vocabulary, unknown or forbidden to the women; and that such a process is possible is illustrated by the reputed fact that the Ccapac-Incas of Peru used in their deliberations and ceremonies a private language, unknown to their

¹ Ante, p. 191.

² See as a remarkable instance Dall's Vocabulary of terms of relationship and affinity used at Cumberland Inlet, U. S. Government 'Contributions to North American Ethnology,' vol. i. p. 117.

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subjects and tributaries¹. The women, on the other hand, separately associated and engaged in duties of their own, would tend to develop another set of words for themselves and their children, in which articulators might be expected to appear which the designedly strenuous phonesis of the men rejected. These explanations, however, are but conjectures; and the close association of the practice in question with the names given to blood-relationships suggests that it may merely indicate specific differences recognised in the relationship according as it is understood to affect a male or a female subject; the filial and fraternal relations, for example, being considered to be specifically different when affecting the father and the mother, and the sister and the brother, respectively.

Savage languages have two fundamental classifications: (1) of things as animated or inanimate, (2) of things as rational or irrational. The former is the more usual; and in many languages it produces a third form of the particle of the third person, which is exactly equivalent to 'its.' When the latter is adopted, as by the Chiquitos, women are sometimes excluded from the 'rational' class, which is held to consist of the males only. These distinctions, we shall find, are chiefly recognised in pluralisation; but they are sometimes indicated by differences of the personal particles. Thus the Cherokee has two sets of these particles, one used with names of animated things, the other with those of inanimate things; probably this distinction once existed in Iroquois. These classifications proceed by simple division or dichotomy; and daily life suggests many other divisions of the same sort. Things and persons generally are distinguishable, in their various kinds,

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General
Attributes
of Persons
and
Things.

¹ Garcilasso de la Vega, Book vii. ch. 1. There seems to be no reason for doubting the statement. This language, regarded as 'divine,' became extinct after the Conquest. In Maré (the easternmost of the Loyalty Islands) there is a chiefs' dialect or language, distinct from that of the common people.

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as great and small; living things as old or young; objects of sight as bright or dark, round or angular, far or near; objects of touch as rough or smooth, warm or cold, hard or soft; sounds as loud or faint; weight as heavy or light; the varied forms of being and doing are distinguished at an early stage in personalisation as transitive or intransitive. The fundamental division of things into good and bad, undoubtedly originated in the experience of the food-quest, affects most conceptions of primitive man¹. All these contrasted qualities, like the accidental attributes above described², seem to have been at first designated by inseparable particles interwoven with the personal holophrase. In such particles we have the origin of the true adjective. In the lowest languages adjectives are few in number, and are never separated from the holophrase. As the power of thinking attributes apart from things develops, they are separately expressed; and as the attribute has a stronger affinity for the mind than the thing which it qualifies, it tends to come first in the expression. The detachment of the adjective, which thus leads to its prefixation, marks an important step in linguistic development; it creates a third type of the noun, the attributive—besides the substantive and the verb, or noun of being and doing. The adjective, however, is rarely a prominent feature in American languages, and in many is not definitely recognisable as a Part of Speech. Thus, the Iroquois and Algonquin have no true adjectives, but merely attributive particles³. In the Athapascan,

¹ Vol. i. p. 605, note.

² Ante, pp. 209, 214.

³ A remark made by Jonathan Edwards, to the effect that the Mohegan, an Algonquin language, had no adjectives, has been questioned on the ground that adjectives are essential to speech. The remark, however, was strictly correct, though it may have conveyed an incorrect impression. These languages express many qualities by attributive particles, resembling the personal ones in being meaningless apart from the holophrase in which they are embodied. They are not adjectives. Other words used as adjectives are really verbs or substantives.

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Guarani, Muysca, Kiriri, and Lule languages the adjective is suffixed. Occasionally, as in the Carib, both forms are used; as in the Tehukehi of Asia, the transition is incomplete. More advanced American languages, such as the Mexican, Quichua and Aymara, Chimu and Araucan, to which may be added the less developed Arawak and Abiponian, detach the adjective from the holophrase, and place it before the noun qualified by it.

The less important distinctions of personality for the most part disappear in the higher American languages; and this has generally happened in the more analytical but still largely holophrastic Turanian languages. In the latter group, however, a double set of personal particles, importing minor differences, often occurs; and this phenomenon is connected in different groups with different aspects of contrasted personality identical with those above enumerated from the languages of America. In each of them the contrast indicated has undergone considerable development, and has come to form a conspicuous characteristic in the grammatical scheme of the particular language or group of languages in which it occurs. The primitive contrast of absent and present is prominent in the Tungusian, Yakut, and Turkish; that of transitive and intransitive in Samoyede and Ostiak; the Hungarian verb still retains different personal particles, of thoroughly American character, for definite and indefinite objects respectively. Collective and selective forms may be traced in the Aleutian, bridging the ocean between the Old World and the New. The Dravidian languages of India distinguish between rational and irrational personality. Distinction of status has developed in Japanese into 'reverential' and 'contemptuous' forms of verbs and pronouns. Want of space forbids our pursuing the comparison further: it must suffice to observe summarily that these primitive ramifications of personality, which are among the most conspicuous characteristics of the lower

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America.*

Traces of
minor distinctions of
personality
in Asiatic
languages.

BOOK II. American languages, are still widely represented in the Turanian languages of the Old World, where they exist side by side with other common elements of Turanian and American grammar, such as the holophrastic noun and holophrastic verb, the double 'we,' inclusive and selective, and the Object Conjugation. We shall presently show that a close correspondence between the two groups is found in their development of circumstance in the verb and their rejection of gender in the noun. Meanwhile, in tracing the development of the personal particle from prefixation to suffixation we shall find the same process taking place in both groups; in a less advanced degree in America, where prefixation is the rule and suffixation the exception; in a more advanced degree in Asia, where suffixation is the rule and prefixation the exception.

Dynamics
of the
Holo-
phrase.

This multiplication of elements denoting personality, in combination with more and more elements denoting Things, tends to the dissolution of the holophrase. As the meaning becomes fuller and more precise, more and more phonetic material is accumulated; and at length the unwieldy and overburdened unit no longer holds together. Its break-up is not merely an advance from the whole to the parts, due to intellectual analysis; the parts themselves show signs of disintegration long before the moment of dissolution arrives. The holophrase naturally follows the progression of the mind from point to point, during its continuous endeavour to symbolise the relations of things, and things themselves; and in this movement, we have reason to believe, there is a certain natural order or sequence. The holophrase begins with this natural order; it is disturbed, as the holophrase grows, by some disuniting force. Analytical speech restores it; the break-up of the holophrase may indeed be considered as a natural revolution made for this purpose. What, then, is the nature of this force, and how does it originate? The answer seems to be that in passing from the indication of

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¹ Λόγος

² Ante

relations to the symbolisation of things themselves, the force which underlies the motion of the mind¹ undergoes a change. To borrow an illustration from Physics, it loses the character of a 'finite' force—one which requires a definite time to generate a definite amount of motion, like the force arising from the gravitation of bodies—and acquires that of an 'impulsive' force, which generates a definite amount of motion in an indefinitely short time. The impulse to which this change is due may apparently be identified with the greater mental effort required, as we have indicated above², to symbolise the unseen, and to convey a corresponding impression to the mind of the hearer; it is at any rate certain that the parts of the holophrase affected by it are those which correspond to the substantive, verb, and adjective of grammar. These portions of the expression—the only ones really significant, that is, denoting things as contrasted with relations—assert a greater prominence; they force themselves, regardless of the natural sequence of thought, to the beginning of the holophrase, where, as we have seen, vocalisation is naturally more strenuous, leaving the elements of relation to cluster at the end. In the growing holophrase, therefore, the sequence of thought can no longer be collected from the sequence of elements in the expression. A superficial examination of a well-developed but purely holophrastic language, such as the Esquimaux, might perhaps suggest that here, at length, the expected phonetic chaos has been found. Nothing is less true. The order, though disturbed, obeys a new law; and when at length the holophrase is dissolved, and the personal noun yields to the general noun, the verb, and the adjective, and the particles to pronouns, prepositions and auxiliary verbs, the natural sequence of thought tends to reassert itself. How far it succeeds in

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¹ Λόγον δύναμις . . . ψυχαγωγία οἶσα. (Plato, *Phaedrus*, 271.)

² Ante, p. 192.

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 America.
 Incomplete
 Dissolu-
 tion.

doing so depends on the progress made—on the power of expression which language has acquired—during the holophrastic stage.

Before discussing the natural sequence of thought it should be observed that although the dissolution of the holophrase may be considered a natural incident in the life of speech it takes place in different languages in different degrees of completeness, and at different stages of growth. There is, indeed, nothing to prevent it from taking place, whether wholly or partially, at a very low grade of development; and we find, accordingly, that some of the lowest American languages, as the Bribri of Costa Rica, have assumed a distinctly analytical aspect. The grammar and vocabulary of such languages are invariably poor, and their power of expression of the most limited description; they suggest an arrested development of the holophrase, due to causes probably to be sought in the physical conditions of the tribes employing them. Some languages, as the Chinese and others of South Eastern Asia, appear to have become completely analytic after a prolonged continuance in the holophrastic stage. A few of the Middle Asiatic languages show the change still in progress: thus the Mongolian and Manchu, following the model of the Chinese, have lost their personal particles, while the cognate Buriat and Tungusian retain them. What is interesting to the European philologist is to notice that no Semitic or Indo-European language has in practice become absolutely analytical, though in both groups a power of analysis has been developed capable of dispensing with every remnant of holophrasis. The Teutonic languages, especially the English, display this power in the highest degree. The Latin and Greek retain considerable remains of holophrasis, notably in the cases of nouns, though these have lost their personal particles—and in the personal parts of their verbs, which remain absolutely holophrastic. The Semitic languages, on the other hand, have either lost, or are still

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losing, all traces of case in the noun¹, but scrupulously retain its personal particles, while their verbs are more holophrastic than the Greek and Latin, retaining, as they do, the culminating characteristic of holophrastic speech, the Object Conjugation. Dissolution, in the case of these languages, has only operated on the more easily separated particles of relation; the particles of person tenaciously adhere to the stem, and continue to give to the most important words in use an absolutely holophrastic character. Precisely the same thing, in different degrees, has happened in the more advanced American languages.

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America.*

What, then, it will be asked, is the natural sequence of thought? We have already anticipated this question². The mind advances from relations to the things related, and from these things as wholes, by diminishing collectivity, to their parts. Before applying this general principle to the simple holophrase, it will be convenient to consider its effect on analytical speech. Three only among the 'parts of speech,' the Noun, the Adjective, and the Verb, are names of Things, and possess real significance, the rest being merely consignant, that is, relational or demonstrative; and these three elements are combined in four ways. (1) Two nouns may be joined, one being regarded as belonging to the other, the name of such other replacing a personal particle. (2) An adjective, replacing an attributive particle, may be joined to a noun. (3) A verb may be joined to a noun, the latter being its subject or nominative, and also replacing a personal particle. (4) A noun may be joined to a transitive verb as the object of its action, & replacing a personal particle, and forming the triple combination of noun as subject, verb, and noun as object. The natural sequences appear to be as follow:

Natural
Sequence of
Thought.

¹ Hebrew had already lost its cases when the Biblical text assumed its present form. Arabic is losing them; they survive in the literary language, but have disappeared, or are disappearing, in the spoken dialects.

² Ante, p. 175.

BOOK II. (1) Noun denoting that to which something belongs + noun
Aboriginal denoting the thing belonging; (2) Adjective + noun; (3) Sub-
America. ject + intransitive verb; (4) Subject + transitive verb +
 object. The first case, to which the third and fourth are
 closely assimilated, represents a mental advance from a
 relation (belonging) to the things related by it; on the one
 hand, to the thing possessing, or to which the other thing
 belongs; on the other, to the thing possessed, or regarded as
 belonging. As these things are brought, by their com-
 mon relation, within the scope of speech, and denoted by
 names, the mind advances from a whole to its parts; for
 the possessor is associated by the case in which the noun
 denoting him stands (the genitive of possession) with all
 that he does or can possess, while the consequent noun
 selects from this collective whole the particular object of
 possession. The second case also represents an advance
 from a whole to its parts, for the quality is first con-
 templated as a general fact, and then limited by the
 substantive to a particular thing or particular things.
 The third case is substantially identical with the first,
 and merely substitutes for the name of a substantive be-
 longing some name of being or doing¹. In the fourth

¹ The fundamental sequences of thought in analytical language
 may be thus tabulated (after Terrien de la Couperie, with some
 modifications). The corresponding sequences in the holophrase are
 given in parentheses.

THREE SIMPLE SEQUENCES, each of two alternatives.

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|----------------------------------------------------------|----------------------------------------------------------|
| 1. { Genitive + Noun.
(Personal Particle + Stem.) | 2. { Noun + Genitive.
(Stem + Personal Particle.) |
| 3. { Adjective + Noun.
(Attributive Particle + Stem.) | 4. { Noun + Adjective.
(Stem + Attributive Particle.) |
| 5. { Subject + Verb.
(Personal Particle + Stem.) | 6. { Verb + Subject.
(Stem + Personal Particle.) |

COMPOUND SEQUENCE (Object Conjugation), of six alternatives.

- | |
|------------------------------------------------------------------------------------|
| I. { Subject + Verb + Object.
(Personal Particle + Stem + Objective Particle.) |
| II. { Subject + Object + Verb.
(Personal Particle + Objective Particle + Stem.) |

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case the action of the transitive verb is finally determined by indicating its object. The sequence Subject + verb + object appears to be more in accord with the working of mind than that of Subject + object + verb; the two forms, however, are so nearly related that they may be regarded as a single one liable to this limited variation.

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It may be objected to our identification of these sequences as more natural than others, that the alternative ones are largely used by languages of all types and grades, and that some languages, the Latin for instance, admit both alternatives in the simple sequences, and all alternatives in the compound sequence, almost indifferently. It might further be urged that there cannot be, strictly speaking, any natural sequence of thought, because thought possesses the power, shared by sense but denied to language, of taking in several things at the same moment, and does in fact contemplate simultaneously the various things and relations of things which language is compelled to arrange in some kind of order because it can only express them one at a time. The sequences of speech, therefore, are mere successions of material elements, obeying no law of mind, and presumably of accidental origin. We need only reply that the balance of usage, in analytical language, is in favour of the sequences indicated; and that the corresponding sequences in the holophrase, with the exception of the attributive sequence, preponderate in the lowest holophrastic languages. The adjective was originally a suffixed particle; a syntax prefixing it to the noun can only be natural when the abstract quality expressed by it

Sequence
of thought
in the holo-
phrase.

- III. { Verb + Subject + Object.
(Stem + Personal Particle + Objective Particle.)
- IV. { Verb + Object + Subject.
(Stem + Objective Particle + Personal Particle.)
- V. { Object + Subject + Verb.
(Objective Particle + Personal Particle + Stem.)
- VI. { Object + Verb + Subject.
(Objective Particle + Stem + Personal Particle.)

BOOK II. has become familiar to the mind as a separable object of thought. In the remaining sequences the mind seems naturally to assign the first place in the expression of thought to the personality with which the thing spoken of is associated, rather than to the thing itself; and this priority, though liable to be lost as the holophrase is augmented and things become of more importance than personalities, reasserts itself as language becomes analytical, and personal particles give place to nouns and pronouns. Whether holophrastic or analytical, language seems naturally to treat things as appendages of the personalities associated with them.

Personality
at first
initialised.

We may illustrate less obtrusely the priority obtained at first by the personal particle, in the holophrase, over that part of the expression which denotes the thing, by borrowing a figure from Physics and considering the holophrase, as Semitic grammarians have long since habitually done in distinguishing the 'heavy' from the 'light' personal suffixes, as affected by the laws of weight. When a personal conception is formulated by expressing it as a short syllabic series, in accordance with the principle of Repetition, and differentiating it by varying some part of the expression, the personality must evidently gravitate to one or other extremity. The expression, in other words, must either assume the form 'Personality + thing' or 'Thing + personality.' Were the elements of person and thing equally poised in the mind it would apparently be a matter of chance which of these alternative forms the expression would assume. Nature excludes this possible equilibrium: language would otherwise retain for ever its original amorphous character. This exclusion operates in the form of a law—a law which may apparently be relied on to explain the fundamental relation between the languages of America and those of Asia. The personality at first preponderates: it gravitates to the beginning as the most strenuous part of the expression, and forms a prefix. As

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language advances from the personal to the general, and gives objective names to things in ever-increasing number, the relative value of personality diminishes; and the stem, representing the thing as contrasted with the personality, tends to assume the first place in the expression. The particles of relation and circumstance have an original tendency in the contrary direction; these particles, always in the nature of afterthoughts, naturally append themselves either to the personal particle, in which case they become 'infixes,' or to the stem, in which case they become suffixes. In either case the tendency of accumulation is to the end of the expression; and the personal particle itself follows, drawn with the rest by the stronger attraction which the particles seem to have for each other than for the stem to which they are attached. The prefix becomes comparatively lighter; in many instances it partially detaches itself, and slips to the end of the holophrase in the form of a light suffix. The way is thus prepared for the formal change which takes place when the sense of things has obtained a decisive preponderance over the sense of personality¹. The suffix tends to become heavier: ultimately the prefix vanishes, the personality settling down in the suffix alone. The application of this principle to the ethnological relation under investigation is as follows. The majority of American languages are still in the original or prefixing stage; to a large extent they still exhibit the heavy prefix. In most cases of prefixation the personal prefix has become light; in a few it is supplemented by a suffix. But a certain number of these languages have become absolutely suffixing; and suffixation is the general method of the agglutinative languages of Asia and Europe. The northernmost parts of Asia still retain some traces of prefixation: in neither continent, therefore, does either principle prevail to the

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America.

¹ The same process might probably be traced in the languages of Africa. The Bushman language, for example, prefixes its personality: the more advanced languages use suffixes.

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 America.

exclusion of the other. When they are surveyed together we see the archaic habit of expression dominant, but yielding to the more advanced one, on the American side of the Pacific, while it has generally, but not universally, succumbed on the Asiatic side. The beginnings of suffixation in America, and the remnants of prefixation in Asia, more than any others among the facts adduced in favour of our view, link these continents together as a linguistic whole.

Heavy and
 light pre-
 fixes.

We rank the personal prefix as 'heavy' when it consists of two or more syllables; two syllables are rarely exceeded. With the exception of the Iroquois, including its Cherokee cognate, heavy prefixes are not found in the languages of the more advanced American peoples. They chiefly occur in the lower languages; but even here they do not predominate, for languages of low type usually have light prefixes. Some languages, as the Athapascan, Dacota, Kolush, and Guarani, retain heavy prefixes in the dual and plural, but lighten them in the singular. Of those which exhibit a more or less general heaviness of the prefix, extending to all the numbers, the Iroquois and Cherokee, Chinook, Sonoran, Matlatzincan of Mexico, and Chiquito of the southern continent, may serve as examples. The personal prefixes are not uniformly heavy; the majority of those constituting a given conjugation may be monosyllabic, while others contain as many as three syllables. The rare prefixing languages of northern Asia, of which the Yenisee-Ostiak is the prominent example, have light prefixes. The Cottian, a language nearly akin to that last named, retains few traces of prefixation, chiefly personalising both nouns and verbs by means of suffixes. Traces of a vanishing prefixation in the verb seem to be retained in some forms found in the Tchukchi, though the verb in this language is described as suffixing; and these are explained by grammarians as related to similar prefixed particles still used in the Koriak.

Suffixing
 American
 languages.

Of more importance than these scanty traces of prefixation on the Asiatic side is the abundant evidence furnished

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by American languages of a tendency to reduce the personal particle to a suffix, and thus to assume a form which is wellnigh universal in the holophrastic languages of Asia. This tendency is found in all parts of America. The Esquimaux, common to both continents, is wholly suffixing; the Araucan, which occupies so large a space near the southern extremity of the New World, suffixes the personality of its verbs, prefixing that of its nouns. The Tsimshian and Choctaw of North America use suffixes. The Quichua and Aymara of Peru are wholly suffixing. The ancestors of the Aymara, according to a credible tradition, reached the plateau of the Andes from the Gran Chaco. The language of the Lules, who partially occupy the latter region, though widely varying from the more cultivated languages of Peru in its general aspect, resembles them in the exclusive use of suffixes; and these, as in Quichua, are identical in the noun and the verb. The Mosquito of Nicaragua and the Miztec and Zapotec of Mexico are suffixing languages. In the numerous languages which exhibit a mixture of prefixation and suffixation it is found that the latter process is chiefly employed in the case of the third person. Such a tendency anticipates the development of generalisation: for while suffixing languages generalise with ease, merely dropping their particles, prefixing ones are often driven to generalise indirectly, by employing the noun of the third person in a general sense.

In tracing the gradual substitution of suffixation for prefixation, we have suggested, as the leading motive to the change, the gradual preponderance of the sense of the thing over the sense of the personal relation conceived as affecting it, and shown that with this motive another of equal cogency concurred, for the development of particles of relation universally tended in the same direction. In the course of this development language advanced, as more and more elements were introduced into the same holophrase for the purpose of indicating direct and indirect

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increasing
suffixation.

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objects, to particles denoting the specific relations of each object to the action expressed, regarded in grammar as case-endings; and to particles indicating Tense, Mood, and what is called Voice, in those names of being and doing which grammar classes as Verbs. Particles of the last-named class, as will shortly appear, belong to an extremely numerous group of elements by which the active verb was differentiated for the purpose of expressing the conditions and circumstances of the action. All these represent the spread of thought, closely followed by speech, upon the things which it strove to symbolise; hence they were naturally suffixed, either to the entire holophrase, or to the personal particle, intervening between it and the element denoting the thing. As they accumulated, one or more might indeed be customarily prefixed; and it is in fact found that in some of the lower languages a struggle is taking place between the prefixation and the suffixation of these particles. But the tendency to suffixation preponderates. The personal particle and the element denoting the thing take precedence in the expression, furnishing at once a general clue to the meaning to be conveyed; and finally, in those languages which become completely suffixing, the personal particle itself yields the first place in the sequence to the element denoting the thing. This tendency exists alike in the noun and in the verb; elements of language originally identical, but which at the stage under consideration tend to diverge, and in the end to assume distinct forms and functions as 'Parts of Speech.'

Differentiation of the Noun and the Verb.

The fundamental unity of the noun and the verb, to be precise, the fact that the verb is only a species of the noun—long since recognised by philosophers in the case of the highly analytical languages of the Old World¹—is

¹ Plato (*Theaetetus*) describes the sentence (*λόγος*) as a tissue of nouns (*ονομάτων συμπλοκή*) and the verb (*Sophistes*) as a sign of action (*τὸ ἐπὶ ταῖς πράξεσιν ὄν δῆλωμα*). Aristotle, *De Interp.* c. 2, 3; Spinoza,

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abundantly confirmed by the languages of America. To repeat what has been already said, the various particles denoting personality are in many American languages identical in the noun and the verb; in others they show slight divergences; in the rest they are different in form, and therefore convey a suggestion of some more strongly marked difference in meaning¹. In other words, where formal identity still subsists, as in Algonquin, there is but one expression for 'I-love' and 'my-loving,' 'I-am-hungry' and 'my-hunger,' 'he-is-dead' and 'his-death'; nor does the formula used suggest the slightest ambiguity as to its meaning. The meaning is probably unchanged, whichever form may be used in translating these holophrases into analytical language; only minds accustomed to employ analytical forms would detect a double significance. At what point, then, is the distinction between the noun and the verb established? The logician, untrained in holophrastic habits of thought, would probably

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Compendium Gram. Ling. Heb. c. 5. Spinoza, regardless of grammatical traditions, boldly describes all the Hebrew parts of speech, except conjunctions and interjections, as 'nouns.' Locke, in his well-known discussion of language, does not recognise verbs as a class. He appears to divide words into general nouns, abstract nouns, and particles, and treats verbs as general names of the beings and doings of persons and things, connected with demonstrative names for these persons or things by signs of affirmation or negation ('is' or 'is-not').

'The identity of the oblique cases of the pronominals with the personal formatives of verbs is equally close (with the Lule) in the Moxan, the Maipurian, and the Mixtecan. In the Araucanian, the Betoï, the Mexican, and several other languages, the resemblances of the two classes are considerable, but do not amount to perfect identity' (Garnett, *Philological Essays*, p. 317). The nouns being in all these languages holophrastic, 'personal particles' should be understood in the place of 'oblique cases of the pronouns.' To the languages having identical formatives in the noun and the verb might be added, besides the Quichua, the Paez, Kiriri, Chiquito, and probably others of the lower languages of South America. The Esquimaux, Athapascan, Algonquin, Iroquois, Cherokee, Chinook, Maya, Arawak, and Abiponian, with many others, belong to the second class (resemblance short of complete agreement).

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answer that it appears when man has learned to distinguish between his conceptions on the one hand, and his beliefs and judgments on the other; that the verb denotes predication, which is wanting in the noun. Holophrastic language, which predicates by substantives and adjectives as readily as by verbs, ignores this difference; nor is it true that predication is a general function of the verb. It is peculiar to those moods which have been classed as 'responsive,' the affirmative and negative; the gist of it, moreover, is outside the scope of grammar, for predication may always be thrown into the form of question and answer, and the answer may be effectually given by an affirmative or negative particle, or even by gesture. The divergence, then, of the verb from the noun can only be due to superficial differences. The chief of these consists in the association of particles of Mood and Tense with elements denoting acts and states, and with these only¹; an association probably to some extent as old as personalisation itself. The gradual generalisation of all names of sensible objects and qualities, while the names of acts and states were still associated with personal particles, may have given greater prominence to the contrast; but American languages treat the noun and verb as not essentially different, and the modern theory of the sentence, which regards the two as necessary complements of each other, is foreign to them.

Further divergences.

The divergence of the verb from the noun, incomplete though it often is, is usually sufficiently marked to serve as a basis for further divergences. Most nearly connected with it is the differentiation of the personal particle, which may change to the possessive pronoun in elements treated as

¹ Aristotle (*De Interp.* c. 3) distinguishes the verb as a part of speech connoting Time (*τὸ προσσημαίνον χρόνον*). This definition is still in use (cf. Germ. *Zeitwort*) and for practical purposes is doubtless sufficient; the noun, however, is equally capable of distinctions of time, and is habitually associated with them in some American languages (Algonquin, Guarani, &c.).

nouns, and to the substantive pronoun in those treated as verbs. This divergence, like that in which it originates, is imperfectly established in many American languages. Separable possessive pronouns are almost always wanting, the personal particle being considered a sufficient indication of possession. The substantive pronoun ('I,' 'thou,' &c.) is treated as a noun; and where, as in Mexican, distinctive forms have been acquired by the names of objects, it may assimilate to one of these forms, the personal particle being attached to an element signifying 'body' or 'substance'.¹ In some cases it is represented by the personal particle itself, slightly varied; in others a wholly different element is employed. The attributive adverb, often imperfectly distinguished from the adjective in highly analytical languages, is even less distinguishable in holophrastic ones; while adverbs of circumstance and relation are seldom or never recognisable apart from the verb. The specific relations of the noun are usually represented by case-endings, though they are sometimes marked by true prepositions, and are often left to be inferred from the context. The conjunctions are generally syllables or syllabic groups of indefinite meaning, sometimes merging, even in such languages as Mexican and Aymara, into a margin of superfluous articulation, employed more for the sake of euphony and bulk than for any relation to the meaning to be conveyed.

In employing the familiar expression 'Parts of Speech,' and the names by which these are commonly known, in connexion with the indigenous languages of America, we must therefore avoid the notion, derived ultimately from the Platonic conception of the Logos or sentence as an animal of divine nature and origin, and the Noun, Verb, and other grammatical forms as its 'Parts' or limbs²—that these differ organically from each other, and that two,

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*Aboriginal
America.*The 'Parts
of Speech.'¹ See note, p. 262 post.² Phaedrus, pp. 264, 276.

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at the least, of them must be joined in order to constitute the unit of speech. Words, as they appear in the American languages, should rather be regarded as the prominent portions of a homogeneous mass, having a tendency to separate from each other, but not completely separated; as having few settled differences of form, or of meaning as dependent on form; as deriving whatever distinctive character they possess principally from their relations to the whole which they constitute, but partly from the different degrees in which they absorb the mental energy employed by the speaker, and transmit it to the consciousness of the hearer. As the habit of analysis gains force, these fragments may not only assume a certain external uniformity, but may be adjusted to each other in the various ways appearing in grammar as 'governments' and 'concord.' This mode of connecting words, which appears, from the fact that some languages which have acquired it show a tendency to discard it, to be fundamentally of a rhetorical nature, and to have little or no connexion with the logic of speech, is for the most part wanting in the languages of the New World. The 'parts of speech' themselves do not tend to become strongly differentiated. The holophrase is only partially broken up; the fragments into which it separates are themselves holophrastic and continue to develop on the holophrastic principle. They have not as a rule acquired distinctive shapes, much less adopted the grammatical devices by which analytical language tends at once to distinguish and to connect the fully differentiated 'parts of speech.'

Relation of
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In what relation, it will be asked, do the American languages stand to the Turanian as to the development of the Word from the holophrase? We can only reply that in the latter the process of dissolution has been carried further than in the former. An eminent philologist draws a more definite boundary, and arranges those languages in which the words have structural relations to the sentence—

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those in which such relations are wanting being dismissed as 'Non-word-forming'—in three progressive groups; (1) the Incorporating or 'Sentence-Word-forming,' typified in two characteristic languages of America, the Mexican and Esquimaux; (2) the Agglutinating or 'Apparent-Word-forming,' typified in the Turanian languages (Ural-Altai and Dravidian); (3) the Inflecting or 'True-Word-forming' (the Semitic and Indo-European). According to this view, the Word is not distinguishable in the first group, appears in the second only as a fleeting phantom, and is permanently realised only in the third¹. Such a classification can only be accepted so far as it asserts a tendency, increasing in accordance with the order in which the groups are arranged, to advance from a stage in which the parts are lost in the whole, to one in which the whole is lost in the parts. Were it possible to sift every language of the New World and of the northern parts of the Old World, so as to determine the ratio of the holophrastic to the analytic elements in each, it would probably appear that the former largely predominate in America, lose their predominance in Northern Asia and Europe, and amount to a fraction only in the highly analytical languages of European civilisation. Subject to this modification, Misteli's classification coincides generally with the view above advocated. The same may be said of the conclusions of an acute scholar whose labours in the field of general philology probably exceed those of any

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¹ Misteli, *Charakteristik der hauptsächlichsten Typen des Sprachbaues* (1893), p. 109. Prof. Misteli denominates those languages whose words bear no ratio to the sentence *Nichtwortig*, and arranges them in three groups, the 'Root-isolating' (Chinese, Siamese and Burman), the 'Stem-isolating' (Malayo-Dayak), and the 'Loosely-stringing' (*Anreihende*), typified by the Egypto-Coptic and the Bantu. The Constructive groups are (1) the *Satzwortig*, (2) the *Scheinwortig*, and (3) the *Aechtwortig*. Prof. Misteli rightly regards the Substantive, Verb, and Adjective as fundamentally interchangeable, and as corresponding to the objective, predicative and attributive aspects of the *Satz* or proposition.

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contemporary, and whose opinions, in whatever branch of the subject, are entitled to great respect. According to the Dean of Clonfert, the true classification of languages depends on the degree in which they reduce conceptions to fragments, their essential difference consisting in the greatness or smallness of the object of thought which is at one time before the mind. The American languages, denominated *Megasynthetic* or 'massive,' mark one pole of the general linguistic group: the African, described as *Fragmentary* though polysynthetic, the other. Next to the American languages, and placed between them and those of the Intermediate zone, occupied by the Chinese, Indo-Chinese, Japanese, and Tibetan—are the languages of 'the nomad races of Central Asia, and the aborigines of Northern Asia and Northern Europe¹.' Dean Byrne does not share the view which denies to the constituent parts of the American holophrase the character of Words; some readers, indeed, might be disposed to charge him with not adequately recognising the weak relation in which these parts stand to their whole. But his testimony is clear and emphatic, alike as to the fundamental nature of the languages of the New World, and as to the general connection subsisting between the American and Turanian groups. The latter, he concludes, share the essential characteristics of the former, but exhibit them in a less marked degree².

The Object
Conjugation.

The most remarkable instance of the resistance offered by holophrastic forms to the inroads of analysis is afforded by the *Object Conjugation*; an archaic grammatical form, widely prevalent in America, which will be best understood by reference to the table of its sequences given on a previous page³. In the case of the transitive verb, which relates both to a subject and an object, the fact that the act is a single thing, impressed on the mind by a single

¹ Byrne, *General Principles of the Structure of Language*, vol. i. p. 87.

² *Ibid.* p. 352.

³ p. 224.

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intuition, welds the three elements involved in it into a single expression; and the two personal elements are by force of custom incorporated with the verb in forms which are irreducible into parts having any separate significance. The sequence of thought, moreover, is often varied in the same language, according as the objective or subjective relation is sustained by the different grammatical persons; and in some low languages different particles expressing the relation of the object and subject are customarily employed with different verbs¹. Hence the Object Conjugation is usually irregular, and often arbitrary, in its formation. There is a general tendency to regularise its elements, and to assimilate them to the simple personal forms; but this tendency is largely resisted, with the result that this archaic form survives to a late stage, an insoluble remnant of holophrasis, bound together by its double personality, a monument of the process by which language was built up. It is characteristic of the Object Conjugation, in its complete form, that it is employed even when the subject and object are completely identified by nouns².

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¹ See Dobrizhoffer, *Hist. de Abiponibus*, Part ii, ch. 16, where the extreme irregularity of the Abiponian is contrasted with the regular forms of the Guarani Object Conjugation. The Guarani itself varies the order of its elements in accordance with the personality of the subject. Abundant illustrations of the complexity which may be introduced into the Object Conjugation, by employing different sequences, occur in the Algonquin, Iroquois, Chibcha, Quichua, and Aymara grammars.

² Thus, instead of 'The boy kills the snake,' the original formula is 'Boy-he-kills-him-snake.' Mr. Garnett (*Philological Essays*, p. 322) furnishes the following illustrations of the Object Conjugation: 'In the well-known passage in Alciphron—"I want fifty pieces of gold, and not letters, εἰ με φιλέῃς, δὸς"—it is clear from the context that the full meaning of the last word is *Give-me-money*. Nevertheless an Algonquin would think that he left the matter imperfect if he did not say *Money-give-thou-it-me*. A Basque would embody all the pronouns with the verb, but would separate the word *money*. A Mordwinian would perhaps strike out the objective pronoun *it*, as superfluous, carefully retaining *give-me-thou*. An European thinks

BOOK II. *Aboriginal America.* Extremely common—indeed well-nigh universal—in the New World, it survives more rarely in the Old. The Cottian of Northern Asia has a well-marked Object Conjugation of thoroughly American character; and it is found in Ostiak, Vogul, and Mordwinian¹. The ancient Accadian of Babylonia possessed the Object Conjugation; and traces of it exist in Hungarian and Basque. The Semitic languages have the Object Conjugation, but do not employ it when the subject and object are expressed by nouns; the same thing occurs in the Coptic and the Neo-Persian.

Active and
Passive
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ality.

When the Object Conjugation has been established, the work of personality as the instrument of thought in the development of language is practically complete. It covers a larger area than any other grammatical form found in strictly personal language; for action connected with its objects is the main matter of speech², because it takes up the greatest space in human life and thought. While the Object Conjugation distinguishes between the active and passive elements, it interweaves them as warp and woof, and presents them to the mental eye in a vivid and consistent picture. That its original form, like that of the simple personal noun, was interjectional is suggested by the arbitrary form it often takes, and by the fact that many interjections hint at or indicate an object, besides expressing a relation to that object on the part of the speaker. To give precision to such indications, and expand them into

the simple *ōds* sufficiently significant, and more emphatic. . . . An [American] Indian, if he wished to say "I give him the axe," would not only embody the subject "I" and the dative "him," together with an objective pronoun "it," in one combination, but would moreover intercalate "axe," in an abbreviated form perhaps, but still distinguishable by one familiar with the language' (p. 319).

¹ See Ahlquist's Mordwinian Grammar, in which the Object Conjugation occupies twenty pages.

² 'Les actions . . . sont ce qu'on désigne le plus,' Leibnitz, *Nouveaux Essais*, liv. iii. ch. i.

the various forms of double personality, is the chief practical aim of language; and when the verb has been so expanded as to indicate not only the personality of the agent but that of the object or objects, this aim has been accomplished. Nothing remains but to increase the stock of names, and to add them to or substitute them for the personal symbols of the Object Conjugation. Language henceforth securely follows every footstep of human action. Resting on its verbs, the familiar symbols of action, it incorporates with them on the one hand the personalities in which the activity originates, on the other symbols for those on which it produces its effects. Established in this double form, personality assumes a passive as well as an active aspect; and this distinction, applicable alike to the noun and to the verb, suffices to account for whatever remains to be accounted for in the general system of grammar.

In the noun, as might be anticipated, the active and passive states of the word are most closely connected in themselves, and most nearly correspond to the active and passive states of the thing. In the holophrase the passivity of the thing denoted by the noun is expressed by inseparable particles, indicating it as an object with which the action is directly or indirectly concerned. When the noun has been separated by dissolution from the rest of the holophrase, these particles remain attached to it as 'case-endings'; and in the course of time they may become more closely incorporated with it, assuming the form known as 'inflections.' Completely analytical speech detaches them from the noun; and they are then usually known as 'prepositions,' because when so detached, they are for the most part prefixed to the noun which they qualify. In the Indo-European languages the inflected noun and the preposition occur together in established relations of concord, each preposition requiring after it a certain case or certain cases. Nothing of this kind occurs in the American languages. The particle denoting the relation of object or

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Passivity
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Book II. *Aboriginal America.* circumstance in the passive noun is usually appended to the stem, and may be treated either as a case-ending or a 'postposition,' at the grammarian's option; in rare instances the particle of relation is prefixed, forming a true preposition. Case is unequally represented in the American languages, and in general is less developed than in those of Northern Asia. It is best illustrated in Quichua and Aymara, the former of which distinguishes, besides the nominative and the genitive of possession, no less than ten cases indicating the direct and indirect object—the accusative, dative, illative, ablative, transitive, terminative, inessive, instrumental, social, and causal¹. In the number and significance of its cases, as well as in their non-inflexional character, this language closely resembles such languages as the Finnish and Sirianian, each of which has fourteen case-terminations beside the nominative; and the caritive or abessive of these languages, which is wanting in the Quichua, occurs in other American languages. The Mexican, on the other hand, is an instance of an advanced language which pays little regard to the precise indication of case-relations. It uses the simple stem, without suffix or preposition, to express the accusative, the dative, and the genitive alike, the relation generally expressed by case being left for the hearer to infer from the context; in this

¹ These are as follows:—

	<i>Aymara.</i>	<i>Quichua.</i>	
1. <i>Nominative.</i>	Huahua.	Huahua.	A child.
2. <i>Genitive.</i>	Huahuana.	Huahuac.	Of "
3. <i>Dative.</i>	Huahuataqui.	Huahuapac.	To or for "
4. <i>Accusative.</i>	(Same as nominative.)	Huahuacta.	" "
5. <i>Illative.</i>	Huahuaro.	Huahuaman.	Towards "
6. <i>Ablative.</i>	Huahuata.	Huahuamanta.	From "
7. <i>Terminative.</i>	Huahuacama.	Huahuacama.	As far as "
8. <i>Inessive.</i>	(Same as genitive.)	Huahuapi.	In "
9. <i>Instrumental.</i>	(Same as genitive.)	Huahuahuan.	With or by "
10. <i>Social.</i>	Huahuampi.	Huahuantin.	Together with "
11. <i>Causal.</i>	Huahualaicu.	Huahuaraicu.	On account of "
12. <i>Transitive.</i>	(Wanting.)	Huahuanta.	Through "
	<i>Vocative.</i>	Huahuay.	

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it resembles the Chinese, which employs the simple stem as an accusative, and generally omits those words denoting the genitive and dative which its vocabulary provides. The only cases which the Mexican can be said to possess are the instrumental ('mitl'=an arrow; 'chimalli'=spear; 'mitica chimaltica'=with arrow and spear), and the inessive or locative, which can be expressed by various particles, ranked by grammarians as adverbs. Mexican presents this further peculiarity; where a noun qualified by an adjective requires the inessive case, it is sufficient to append the inessive particle to the adjective, which stands first in the sequence, the substantive retaining its simple form. Thus 'town' being 'huey altepetl' (great village) 'in the town' is 'hueycan inaltepetl,' *can* being the inessive particle and *in* a demonstrative element serving as a definite article. In general, an abundant development of the passive relations of the noun is unusual in the American languages; the Mexican, in this respect, represents them more fairly than the Quichua and Aymara.

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The same may be said of the development of passivity in the verb, though in this respect the relative aspects of the Mexican and the two Peruvian languages are reversed. One passive form alone, the past participle, is generally found in the lowest languages; although derived from the verb, it is obviously an attributive noun, and is treated accordingly in grammar. The personalisation of this verbal noun readily supplies a practical equivalent for the Passive Voice; and in a large section of the American languages, including some of the more advanced ones, this is the only way in which passivity is habitually expressed. Such is the case in Quichua, Aymara, Esquimaux, Algonquin, Dakota, Guarani, Chibcha, and many of the lower languages¹; and it is noticeable that some North Asiatic

Passivity in
 the Verb.

¹ According to Byrne, the Quichua, Aymara, and Guarani should be ranked among the languages forming a passive; but it will be seen by reference to the grammars that in all these cases the passive is only a personalised participle. 'In Cree (Algonquin),' he says (vol. ii.

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languages, as the Samoyede and the Yenisee-Ostiak, remain in the same stage. Yet the power of forming a regular passive verb from the active one, possessed by many languages of the Old World, is by no means totally wanting in the New. It occurs in Iroquois and Cherokee, in the Mexican and Maya, and in some of the lower languages of the Mexican district, such as the Tarascan and Totonac. It is found more rarely in South America, but occurs in the Chimu of the Peruvian coast, and in other languages of minor importance. Occasionally, as in Iroquois, it is peculiar to a few verbs, or to certain moods, tenses, or persons, to the exclusion of the rest; and in general there seems to be a preference for expressing the effect of action by the active verb, rather than by the corresponding passive one. It is characteristic of the American passive, wherever it occurs, that it rejects the support of the causal, instrumental, and other cases of the noun, by which it is so often accompanied in analytical speech. These belong to the direct expression of action only; passivity is conceived as a state by itself, dissociated from the causes which may have produced it or the circumstances which attend it.

Holo-
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 Verb.

The passive verb is in fact only one of a vast class of derivative verbs which tend to spring up in holophrastic language, but disappear in proportion as the power of analysis is developed; another derivative verb, which has often survived with it, is the reflexive active verb, known in Greek and Sanskrit grammar as the Middle Voice. The latter modification of the active verb, adopted whenever the action has the personality of the agent as its direct or indirect object, often occurs in American languages; they enable us, moreover, to refer it to the class to which it

p. 312), there is an intensely strong sense of the object, and a passive form of the verb.' Mr. Howse, on whose admirable Grammar this conclusion is based, divides the 'passive forms' of which he speaks into definite and indefinite ones, and admits (p. 106) that the former are really active forms (*nosakehikowin* = 'me-loveth-somebody') and the latter personalised participles (p. 111).

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² Thus it
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 reflexive *lla*

belongs, and to compare it with other derivatives once coexistent with it which are seldom found in European languages, though they are met with in the holophrastic languages of Asia. Here again, as everywhere in the early growth of speech, we trace the working of personality. It has already been shown, in investigating the nature of Number and Person, that these grammatical devices originated in the distinction between collective and selective conceptions of the individuals constituting the group by whom the problem of speech was being wrought out. The Object Conjugation, as might be anticipated, extends this distinction to the element denoting the personality acted upon; what, however, is unexpected is to find that the same distinction, conceived as affecting the object, invades the substance of the verb itself. Thought and language, in their early stages, always tend to spread on their object; and this is especially the case when they are struggling to symbolise action, which admits of endless variety in its direct and indirect objects and circumstances. Holophrastic language indicates these differences by the introduction of particles, usually appended to the stem. One of the first things to be distinguished in the various actions involved in the daily life of the food-group is the circumstance for whose benefit a particular action is understood to enure. Hence any verb denoting an act done for a man's own exclusive benefit takes a particle by which this fact is indicated; another particle may indicate that the act is done for some other person or persons; a third particle, which may be compared to the grammatical personality already described as the 'collective singular', indicates that it is done for the common benefit of himself and of others understood to be similarly engaged². The Middle

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¹ Ante, p. 206.

² Thus in Quichua *liankkan* = he works; the verb, however, would rarely occur in this simple form, but would appear either as the reflexive *liankkacim* = he works for himself, the applicative *liankkapun*

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 Aborigine-¹
 America.

Verb, or verb of action for self, thus appears to be the logical complement of two other primitive forms of the verb. One of these, called the 'applicative' in some American grammars, denotes action for others, while the other is the 'coöperative,' which often occurs in the languages of Northern and Central Asia. The latter, which may be regarded as one of the earliest developments of language in the food-group, is usually accompanied by its near cognate, the reciprocal.

Modes of
 expansion.

This habitual spreading of thought upon the objects and circumstances of action, and its expression in the verb by means of particles, forms at once a valuable illustration of the nature of holophrasis, and a prominent link between the languages of America and those of Northern Asia. In the latter group, as might be anticipated, it has been more extensively checked by the growth of analytical forms; and to see it working in full vigour we must have recourse to the rich storehouses of primitive expression which survive in the languages of the New World. The majority of the numerous holophrastic forms assumed by the active verb in the American languages for the purpose of indicating more precisely the objects and circumstance of the action are reducible to three classes—relations of space, of time, and of energy¹. Under the first of these headings the verb takes many particles, each indicating the action as taking some particular local direction, as upward, downward, inward, outward, sidewise, near, distant, over, around, or in several ways in succession; and to each of these particles other specific meanings of a very varied character may conventionally attach. Among relations of time we have particles conferring on the verb the various characters classed as inceptive, continuative, reiterative, properative,

= he works for somebody else, or the coöperative *Uankkaisin* = he works with others for the common benefit.

¹ This classification of derivative verbs is based with some modifications on that of Dr. Middendorf, *Die Aymara-Sprache*, p. 129.

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¹ See fo
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frequentative, habitual, and completive or finitive; others indicate that the act is conceived as not yet begun, but as on the point of being begun, or as merely desired or meditated; others that it is taking place either slowly and continuously, or more or less rapidly, or suddenly once for all. Among relations of energy particles are found indicating the act as having a narrow or a wide scope, as extending in one direction only, or in many directions; as slight and perfunctory, or as vigorous, persevering, and energetic. Attributive particles relating to the object, such as have been described in indicating the origin of adjectives, are often incorporated with the verb: it is common, for instance, to incorporate with the verb 'to carry' particles indicating that the thing carried is heavy or light, long or massive. Among miscellaneous relations it may be indicated that the act is conceived as operating to some one's prejudice, or with a result contrary to, or in some other way different from, that which might have been expected or was intended. Such forms are sometimes called 'deterioratives.' The derivative verbs as a class, following the general principle of holophrasis, can be compounded among themselves in endless variety by employing their characteristic particles cumulatively; and the compounds thus formed often acquire very various conventional meanings¹.

Two of the most useful among these holophrastic forms denote an act and a state absolutely different from the original verb, and related to it as cause and effect respectively. The first indicates a previous act, regarded as the cause of that described by the simple verb; the other describes the subsequent state produced in the object of the action when the action is completed. The former is the causative or factitive, the latter the passive². All action

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Factives
Passives

¹ See for examples Middendorf, *op. cit.* pp. 132-158, and Koshua-Sprache, pp. 140-192.

² It seems to follow that what is called 'Voice' is not a general incident of the verb, like Mood and Tense; and the use of the term in

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 America.

can be regarded as dependent on some cause other than the immediate agent; but an examination of actual vocabularies tends to show that the factitive was primarily associated with intransitive verbs. The passive can only be suggested by a transitive one; and it therefore seems probable that factitive and passive forms originated separately—the former in the instinct to identify and describe the action to which the states of persons and things are due, the latter in the necessity of finding terms describing the state produced in the object by the action. In any case these two forms of the verb illustrate the natural advance of the mind from the expression of bare succession, which may be merely fortuitous, to that of necessary succession, or Cause and Effect. It is needless to dwell on the importance of the relation which these verbs assisted language, in two different ways, to symbolise, for the succession of facts and events, linked by the chain of causation, includes all that is fruitful and permanently valuable in human knowledge. Factitives and passives, by providing a simple and ready means of bringing and keeping this relation, in both aspects, before the mind, promoted its application to all known facts and events, and largely contributed to that conception of the world as a system of regular sequences which is the practical basis of human activity.

Place of the
 Verb in
 linguistic
 develop-
 ment.

Hence it would seem to follow that as conceptions multiplied with ever-advancing experience, the verb had

this sense is probably due to a misunderstanding. The passive, and the middle or reflexive 'voices' are independent verbs, substantially different from the active verb, though relating to similar matter. Grammarians found it convenient to collect the personal and impersonal forms of these cognate verbs, and to exhibit them as parallel groups to the active verb; and these groups were appropriately headed 'Vox Passiva,' and 'Vox Media.' The proper translation of *vox* in these headings appears not to be 'voice,' but 'word' or 'verb.' The logical division of verbs is into transitive and intransitive; the passive verb is a derived intransitive, the middle or reflexive verb a derived transitive.

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a larger share than the noun in the arduous task of bringing speech into line with thought. If we reconstruct the natural inventory of the mind in some low food-group, we shall probably conclude that names of persons and objects would come into use in nearly equal numbers with names denoting acts and states; some such conclusion is at all events warranted by a comparative examination of savage vocabularies. The noun, however, multiplies and extends itself less rapidly than the verb, for cases and derivative adjectives represent a less degree of fertility in new forms and meanings than the endless variation produced in the verb by tense, mood, and circumstance, including the fruitful relation of Cause and Effect¹. Though language may be the offspring of sensation and memory, it has evidently been the foster-child and disciple of imagination, which invariably precedes and directs voluntary action. As thought and language spread by many channels from action to the agents, real or imaginary, in which it was conceived as originating, the means by which it was maintained, the objects modified by it, and the varied effects produced by it, the growing power of expression reacted on the activity with which it was associated, sharpened the imagination which directed that activity, and gathered by steps and stages more and more things and relations into its treasury. Hence, while the verb expanded and multiplied, it invaded the domain of the substantive. When some hitherto nameless thing had to be designated in a stage of language in which the verb was imperfectly developed, it would most naturally receive an entirely new

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 America.

¹ Augmentative and diminutive substantives, and those quantitative variations of the adjective, corresponding to the augmentative forms of the substantive, which are known as 'degrees of comparison,' should also be ranked among the means of modifying the noun: but they cover a small area when compared with the endless series of variations produced by derivation in the verb. The verb, especially the intransitive verb, often has augmentative and diminutive forms, like the noun, among its derivatives.

BOOK II. name; it would be distinguished as unlike other things. by assigning to it some unappropriated combination of syllables. Where, however, the expression of action is more advanced, and things are habitually associated with it, as agents, instruments, objects, and effects, it would be easy to describe an unnamed thing in terms of its relations to action by means of some verb of the third person; such a verb is naturally adopted as a name, which in practice ascribes these relations of action, whether active or passive, as fixed attributes, to the object or person named by it. This verb when dispersonalised becomes a general noun.

Nouns
based on
Verbs.

Verbs thus contribute largely to the general system of naming; the closer the observation of the beings and doings of things, and the more ample the verbal forms describing them, the more perfect the list of nouns tends to become. The most useful names are those based on verbs, because these suggest the principal permanent attributes of the things they denote. Low languages often admit many names for the same thing. While some of these doubtless represent archaic combinations of syllables, having no connexion with other words, others were evidently borrowed from verbs denoting acts and states with which the thing was associated. Among these some would be found more suggestive than the rest, and would tend to drive the less suggestive from use; probably a general movement might be traced in speech by which it has from time to time cast off, like the serpent, a slough of outworn substantives, and assumed a fresh vesture woven out of its verbs. The fact that a noun is derived from a verb must as a rule raise a presumption against its remote antiquity as the name of a thing. To a large extent names thus formed have been substituted for others possessing less significance, or a meaning less in accordance with ever-advancing knowledge of the qualities of things. At first language seems to have rested chiefly on the perception and expression of difference; the etymo-

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logical assimilation of its elements is comparatively recent, and is largely due to the number of similar words produced by the multiplication of the verb. The sense of agreement is more readily excited in the case of acts than in that of sensible objects; hence the verb is the most fertile source of uniformity which language possesses.

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America.

This principle, although less fully developed in the New World than in the Old, is nevertheless well established in aboriginal speech, and may here be briefly illustrated from an American language. In Mexican the name of the Sun is 'Tonatiuh'; summer is 'Tonaleco'; heat is 'Tonalli.' All these contain the verb 'tona' = 'he glows' as with muscular exertion; the Sun's name is its third person singular future gerundive, primarily denoting the Sun at his rising, and meaning 'he-will-wax-warm.' It explains the Mexican conception of the Sun's action. They regarded him as a god of animal nature whose property it was to wax warm during his laborious ascent of the celestial arch, and to cool while descending it; hence the duty of sustaining him by sacrifice while performing his beneficent task. The same name was bestowed on Alvarado, the fiery lieutenant of Cortes. Again, the Mexican verb 'he-eats' is the pure swallowing explosion 'qua.' Hence 'Quaitl' = the head, or 'eating' part of the body; 'Qualli' = good or 'eatable'; 'Tequani' = a biting, voracious, or dangerous animal. Similarly, 'Cohuatl' = 'snake,' which means the 'hurting,' 'angry,' or 'sickness-producing' thing, belongs to a group of words denoting hate or anger as causes, and pain, sickness, or injury as effects. Such derivations might be produced indefinitely from European languages; and to the infusion of significance into the noun by means of the verb these languages chiefly owe their etymological character. In the American languages the philologist is more quickly brought to a stop in his efforts to group words by their common elements. At the base of these languages he encounters a mass of irreducible vocables, in

Illustrations from
the
Mexican.

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 —
 Aboriginal
 America.

which things essentially the same are often denoted by names having no etymological connexion¹. Etymology, as a method in language, is dependent on an habitual classification of things in thought by their permanent common attributes; and the knowledge of things implied in such a classification is largely stored up in language by means of names founded on verbs.

Rhetorical
 character
 of the Verb.

What has preceded seems to indicate that the function of the verb in advancement as based on speech is, in the technical sense of the term, rhetorical rather than logical. It has contributed less to the structural growth of language than to its impregnation with fulness of meaning. The verb has a stronger affinity than the noun for personality; it passes with difficulty, and chiefly by the assistance of the noun, into the more comprehensive forms of thought. In its general forms the verb acquires the grammatical character of the noun; and this is equally true of its abstract form, the infinitive, in those languages which possess this form beside the general ones. To the substance of reasoning—the classification of things in thought according to their attributes—the verb has contributed in an important degree. Yet it is unnecessary to the framework of reasoning; all reasoning can be conducted by means of nouns—including in nouns the

¹ The Fuegians, who largely live on shell-fish, have special terms for the shells, differing entirely from the names of the fish. Thus the large shells of the *kaiatim* are called *tellash*; the shell of the *camunna* mussel is *galluf*; that of the *cachouin* mussel is *lupa*. The shells of eggs, crabs, and nuts are indifferently called *lacush*; for the shells of fish generally there are two words, *cusi* and *lapash*. Burnt masses of shell are *dashan*. Shell heaps round the wigwams are *cusimara*; but in no other instance does 'mara' mean a heap or mound. Derivative verbs, on the other hand, are most abundant in the Fuegian language. As an instance of the extent to which the expression of circumstance may be carried, *mamihlapinatapai* is explained as 'to look at each other, hoping that either will offer to do something which both parties desire but are unwilling to do' (F. B., loc. cit. p. 200, note 1).

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pronoun, the adjective, and the general forms of being and doing—and affirmative and negative particles¹. Narration and description, on the contrary, ordinarily move on the wheels of the verb; it most readily sets the machinery of thought in motion. Advanced rhetoric, it is true, sometimes prefers the noun as the weightier element, and often produces brilliant effects by omitting verbs altogether². But the verb, in the earlier and middle stages of speech, must have been the main source of energy; it is largely indebted for this power to its original connexion with the energy of action, to its acquired capacity for adapting itself to the endless differences which action admits, to the command exercised by it over the noun as a direct and indirect object, and to the ease with which it assumes the generalised forms of gerund and participle.

Before tracing the transition from personalisation to generalisation, it will be proper to glance briefly at the American personal verb under its various aspects of Tense and Mood. Tense, it has already been noted, is an attribute of the noun, as well as of the verb: the tense-particles in Algonquin, for example, can be appended to nouns and verbs alike. The simple present tense is usually, as in the Old World, an indefinite form, or aorist; this indefinite character attaches to the primary forms of past and future also. To each of the three primary aorists of the present, past, and future the complete scheme of grammar adds three definite forms, an inceptive, an extended, and

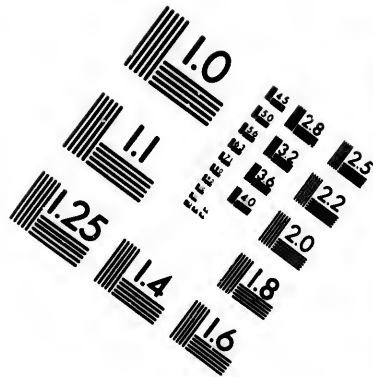
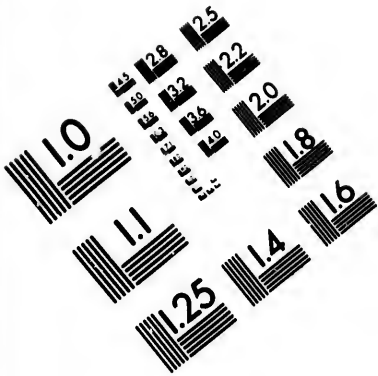
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America.*Tense and
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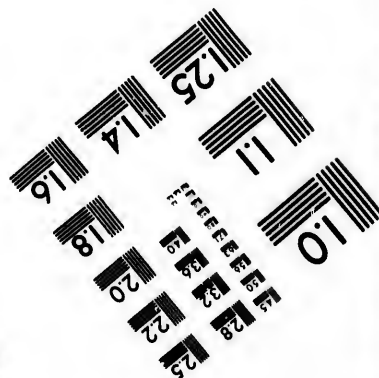
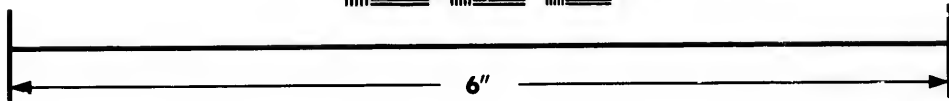
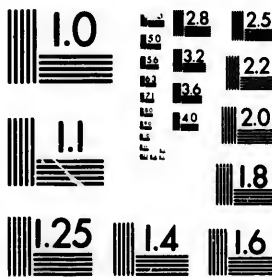
¹ Mansel, *Prolegomena Logica*, ch. 9: 'It is sometimes said that Logic recognises two only of the grammatical parts of speech, the noun and the verb, forming the two terms of the proposition, with and without time. It would be more correct to say that Logic, viewing language in a different light from Grammar, and analysing on a different principle, does not recognise the grammatical parts of speech at all.'

² 'Crebra hinc proelia, et saepius in modum latrocinii per saltus per paludes, ut cuique sors aut virtus, temere proviso, ob iram ob praedam, jussu et aliquando ignaris ducibus' (Tacitus, *Ann.* xii. 39).





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a completive¹—forms which have already been shown to belong to the natural development of circumstance in the verb; tense thus appears, like voice, to merge in and form part of the general system of derivative verbs, on the growth of which language in its early stages so largely depended². Of the twelve forms of tense thus constituted, American languages usually possess one or more representatives in each class; occasionally they add sub-distinctive tenses denoting a greater or less degree of remoteness from the time present. A supplementary set of tenses is sometimes produced by combining the personal particle with a participle or gerund, as in Mexican; this device—founded on generalisation, for the gerunds and participles are general forms—resembles the participial conjugation in English.

Moods—
Affirma-
tion and
Negation.

In regard to Mood, American languages furnish us with something of more distinctive interest, both in itself and as connecting them with the cognate group in the Old World. In order to explain this we may recur to the fundamental division of moods into the dialectic relations of wish, question, answer, and command³. The optative, interrogative, and imperative moods may each assume a positive or a negative character, but are incapable of further analysis⁴. The responsive has four forms; for every ques-

¹ These names were given to the definite tenses by Harris (Hermes, Book i. ch. 7), to whom the discovery of the theory of tense is due (1751). The Completive Present is the Perfect of grammatical treatises: the Extended Past the Imperfect: the Completive Past the Pluperfect. 'Extended' (Harris also gives it the alternative name 'Middle') is = 'continuative.' The fundamental tenses of the Semitic verb are a general Completive (perfect state) and a general Non-completive (imperfect state) which may be either inceptive or continuative: the particular relations of Past, Present, and Future are inferred from the circumstances.

² Ante, p. 245.

³ Ante, p. 124.

⁴ The imperative may indeed be varied in the forms called precative, cohortative, and permissive; but this does not affect the original mental attitude which constitutes the modality, as is the case with the subdivisions of the responsive.

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tion must be answered, if answered at all, either (1) affirmatively, (2) negatively, (3) doubtfully, or (4) conditionally. Of these the affirmative, or so-called 'indicative,' the simple dubitative, and the conditional are common ground in almost all languages; what is observable in America is the frequent survival of special negative forms, such as occasionally occur in the holophrastic languages of Northern Asia and Europe. These forms exist in various languages in different degrees of extension, from a single variation of the negative particle, used with the imperative, to a series of negative particles so varied in form and so complicated in their application that it is impossible to frame any general rule prescribing the proper ones to be used with particular persons, tenses, or moods, and the negative forms have to be committed to memory as a separate conjugation. Of this extreme development of the negative the Guarani affords a prominent instance. Languages very closely related may differ widely in their treatment of negation; thus of two Algonquin languages, the Cree and the Chippeway, the latter incorporates with its verbs many varied negative elements, while the former employs only two general negative particles, one used with the indicative, the other with the conditional and imperative.

The means of affirmation, in analytical language, are largely supplied by the so-called 'substantive verb' (to-be). This is, in fact, no verb at all, but a conjugated affirmative particle, convertible into a negative one by the addition of the negative adverb 'not', and having the effect of restor-

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America.

The Sub-
stantive
Verb.

¹ The proof of this is a simple one. A verb is a name denoting some being or doing. But 'being' is not a being, as 'number' is not a number. 'Be' then cannot be a verb; it can only be a part of a verb, i. e. a particle. The pseudo-metaphysic of 'absolute being' is founded on a simple mistake in the meaning of language. To say that anything 'is,' without saying what it is, is in point of fact, so far as it can have meaning at all, a negative proposition; it amounts to saying that the idea the speaker has of the thing in question is not an illusion of the sense, or a fiction of the imagination, and inferentially has its counterpart in the world of substantive

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ing to the noun preceding it the predicative force which all nouns once possessed, but which tends to disappear in analytical language by the predominant association of predication with the verb. Many American languages wholly dispense with the substantive verb, affirmation being sufficiently expressed by the juxtaposition of two terms, negation by adding a negative particle. The more highly organised languages, as the Mexican, Quichua, Aymara, and Chimu, employ it, but sparingly, as do the Semitic languages. In many American languages the negative particle remains unconjugated; even the element of affirmation, where it is found, may vacillate between the character of a particle and that of a verb. This indeterminate character in the simple elements of affirmation and negation frequently occurs in the Turanian languages of Asia. The development of the substantive verb from a simple affirmative particle is shown in Quichua by the fact that in certain constructions of the third person such a particle replaces it. In Mexican, as in Latin, the substantive verb is irregular, being apparently based on two different particles of affirmation, one relating to the present, the other to the future. Languages which, like the Quichua, have no true passive verb supply its place by subjoining the passive participle to the substantive verb, as in English.

Transition
to general-
isation—
Transfer-
able Per-
sonality.

While language was at once growing in fulness of significance, and tending to exchange the cumbrous phronesis of the holophrase for the elaborate machinery of the Parts of Speech, it was simultaneously breaking through the meshes of personality, and becoming a broader basis of thought by recognising more and more the permanent qualities of things as the principles of its classifications. The persons and things, the acts and states, which form the primary group of objects with which speech is concerned

things. The fact that the 'substantivo verb' is no verb at all, because it implies no attribute, was pointed out by Dean Mansel (*Prolegomena Logica*, ch. ix. note p. 274).

are bound by the associations of personality in unequal degrees; some are severed from it in thought more easily than others. As between the noun and the verb it seems clear that the former is less closely connected with personality than the latter. It is true that the passive participle and the gerund, both general forms, make their appearance at an early stage of speech: but they appear only to be speedily repersonalised in the participial and gerundive conjugations. In the noun a broad line separates two classes of things which are personal belongings in widely different senses. 'My-house,' 'my-spear,' 'my-canoe,' belong to their possessor in a different sense to that implied in the expressions 'my-child,' 'my-hand.' Hence the distinction, marked in some American languages, as the Hidatsa of Dacota, between transferable and non-transferable personality; the latter including parts of the body, blood-relations, and friends or comrades, and personal beings and doings, the former these belongings which can be transferred to others. In Hidatsa non-transferable personality is denoted by a light particle, transferable by an augmented one. In many other American languages the distinction is marked by the circumstance that transferable belongings may drop their personality and assume the general form, while non-transferable ones invariably retain it, and are considered incapable of generalisation¹.

Things which are transferable in the sense above described stand midway between the persons of the food-group, with their beings, doings, and intransferable belongings, on the one hand, and unappropriated natural objects on the other; and the three classes thus constituted, though alike prepared by their connexion with personality to undergo the process of dispersonalisation, to which the system of general names is due, submit to it with unequal readiness. Natural objects, which are invariably thought and spoken of in the third person, are dispersonalised most easily; for frequent changes

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America.

Disperson-
alisation.

¹ Ante, pp. 120, 121.

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 Aboriginal
 America.

of person, pursuant to the requirements of dialogue, are needful to keep the sense of personality vigorously alive. The personality of the nouns or verbs by which such objects are described insensibly dies down or is absorbed in the attributive element; and the latter becomes a simple name, or general term¹. Transferable belongings, severed from the realm of nature, appropriated to human use, and to some extent transformed by human action, lose their personal character less easily. It is natural to personalise them, because they are always the subjects of possession; but it is equally natural to dispersonalise them, because they are often contemplated apart from their owners, and compared with other things of the same class. Constantly assuming this double aspect, being now classed with things of different kinds belonging to the same person, now with things of the same kind belonging to other persons, they acquire a double nomenclature, the personal form often remaining in use long after general forms have become established. The last stronghold of personality is the class of names denoting the inseparable belongings of the individual—his blood-relations, the parts of his person, and his various beings and doings. Here the habit of thought resists dispersonalisation longest; many low languages have no general forms for things of this intimately personal description². Yet even here, in advanced

¹ The personal aspect of nature is best illustrated by examples. The five words which formed the vocabulary of Dumb Pablo ('water,' 'wood,' 'fire,' 'snake,' 'mouse,' ante, p. 159) might be suggested as names which must originally have appeared in their general form. The corresponding words in Mexican are plainly derived from conceptions of the third person. 'Water' (atl) is a compound of the negative and objective particles, and means 'the insubstantial thing' (personal form, 'it-has-no-substance'). 'Wood' in the sense of 'fire-wood' (tlatlatilli) means, 'that which will burn.' 'Fire' (tletl) means 'that which ascends' (tleco = 'he-goes-up'). 'Snake' (cohuatl) has been explained above as the 'hurting' or 'injurious' thing. For 'mouse' the nearest equivalent is probably 'tozan' (the Mexican mole), which means the 'burrowing animal' (toca = 'he-buries').

² The difficulty of passing from personal to general forms in this

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¹ Ante, p
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languages, the tendency to classify things by their essential attributes prevails in the end, and language succeeds in severing things which are inseparably joined in nature.

The personal noun, to whichever class it may belong, can be dispersonalised in three ways only. (1) One of the particles of personality may come to be used in an indefinite sense. (2) A special indefinite particle, indicating the possession associated with the noun or verb as 'somebody's' or 'anybody's,' instead of the definite personalities, might be used with the stem in the same way as the personal particles: this particle becomes a connecting link between personal and impersonal forms. (3) The stem may be used alone in the general sense, the particles being dropped altogether. The indefinite modes of dispersonalisation appear naturally to lead up to this method, which produces true generalisation; and to those who are familiar with analytical languages only it appears so simple and obvious that it is not easy to understand why it should not have been universally adopted in the earliest stage of speech. Only when the origin of general terms is fruitlessly sought by the logician, can those who regard them with the indifference of habit realize the difficulty with which they have been evolved¹. That which seems the simplest of expedients is often of comparatively recent invention; and the difficulty of passing from a limited to a more extended conception by means of the same elements is illustrated in another form by the American languages. Instances could be cited of nouns and verbs which pluralise not by adding to or otherwise varying the singular, but by using a totally different stem².

class is well illustrated by the fact that in the lowest languages the doctrine of the Trinity cannot be stated in the usual way. For 'God the Father, God the Son, and God the Holy Spirit' missionaries are compelled to substitute 'God our-Father, God His-Son, and God Their-Holy-Spirit.'

¹ Ante, p. 110.

² Such irregularities, which are evidently survivals from a very primitive stage, occur in the Tsimshian, and some other languages.

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Illustrations from
 Guarani.

Similarly, instances may be cited of languages in which some of the commonest nouns have totally different stems in the personal and the general forms. An example is given from the language of the Kotch-a-Kutchin, an Athapasean tribe of the Yukon River in Alaska¹.

Although the three modes of dispersonalisation appear naturally to follow each other in the order above described, it scarcely needs be said that language did not immediately abandon the more rudimentary expedient as soon as the more advanced one was discovered. More than one of them is often traceable in the same language; and the Guarani exemplifies the simultaneous use of all, with different groups of nouns². As will be seen from the table below, one group of the Guarani nouns (2) employs the particle of the third person in an indefinite or general sense. Another group (3) selects for the same purpose one of two alternative forms of this particle. Another group (5) forms the indefinite

¹ 'Mother.' Personal stem *-ah*; my-mother, *na-ah*. General word *hau* (the word also means 'river,' the water being regarded as the 'mother' of fish). 'Dog.' Personal stem *-lik*; my, thy, his or her dog, *silik, nilik, vilik*. General word *Iklain*; small dog, *Thuyatsul* (*-tsul* small).

² TYPES OF THE GUARANI NOUN.

	FIRST GROUP.		
<i>First person.</i>	<i>Third person.</i>	<i>Third person reflexive.</i>	<i>General or Indefinite form.</i>
Cherera (my-name) . . .	Hera . . .	Guera . . .	Tera
	(nomen ejus)	(nomen suum)	
Cheröo (my-flesh) . . .	Höo . . .	Guöo . . .	Zöo
SECOND GROUP.			
Cheruba (my-father) . . .	Tuba . . .	Guba . . .	Tuba
THIRD GROUP.			
Cheratiu (my-son-in-law) . . .	{ Hatiu }	Guatiu . . .	Tatiu
	{ Tatiu }		
FOURTH GROUP.			
Cheroga (my-house) . . .	Hoga . . .	Guoga . . .	Oga
FIFTH GROUP.			
Chetuti (my-uncle) . . .	Ytuti . . .	Otuti . . .	Tuti

¹ There from Spain (*tienda*) = the church. particle *ya-*
² *Nabedna* Francesco,

prefix from the same particle by dropping an initial vowel. In another group (1) special indefinite forms are constituted having prefixes of their own. The remaining group (4) generalises by simply dropping the personal particles altogether.

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The readiest mode of dispersalisation is to employ one of the personal particles in an indefinite sense; and for this purpose the particle of the third person naturally suggests itself. If the personality indicated by this particle be unknown, as when Crusoe beheld a foot-print in the sand, dispersalisation takes place automatically; 'His-foot,' the natural and proper formula for the idea suggested by the sight, naturally expands into 'somebody's,' 'anybody's,' 'a man's' foot. This use of the third personal form in an indefinite sense is extremely common in America; nor is it confined to the prefixing languages, though far more frequently met with in these than in suffixing ones. The Otomi language is a living monument of dispersalisation by extension of the third personal form. It has never lost its vesture of personality; all its general nouns retain the personal particle¹, the great majority taking that of the third, though a few, by some species of attraction, take that of the first. Even proper names, those of persons² and towns, invariably take the personal particle. In the case of the latter, the particle of the first person is sometimes employed, this particle being customarily prefixed in the case of some general nouns having a strongly subjective connotation, particularly to such as signify some relation of time or place. The Iroquois word 'canada' (= 'a village') is a memorable instance in which

(1) Dispersalisation by extending meaning of the personal noun.

¹ There are a few exceptions, mostly representing ideas introduced from Spain; these are *Ogha* = God, *bohka* = money, *denda* (from the Sp. *tienda*) = tent (in the general sense of shelter), *nidu* = hell, *nigha* = church. Even these, when pluralised, take the plural personal particle *ya-*, which represents indifferently 'our,' 'your,' or 'their.'

² *Nabednu* = Pedro, *Naando* = Antonio, *Nacoxi* = Marco, *Nyixco* = Francesco, &c.

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the particle of the first person has served as a general particle. Understood by the first French explorers as the proper name of a village inhabited by their Indian guides, this simple personal noun has become the name of a great American nation. The use, however, of the particle of the third person in an indefinite sense is far less common than that of the third.

(2) Disper-
 sonalisa-
 tion by
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The use of a special indefinite particle, producing the sense 'a-father' instead of 'his' or 'my-father'—a natural development from the personal form last mentioned, may be illustrated from the Iroquois and Mexican. The former represents the general personality 'somebody's' or 'anybody's' by a prefix evidently derived from the third person feminine. This form, however, is not in universal use; the general noun is most emphatically expressed by employing, as described in the preceding paragraph, the vigorous prefix of the third person masculine 'ra-' or 'ro-'; this, indeed, occurs so frequently as to have given the general European name to the languages of the group. Languages, we have seen, at a certain stage of development prefix some of their personal particles and postfix others, and the postfixes have evidently been developed latest. Such a tendency is traceable in Mexican; this prefixing language forms its indefinite or general nouns by means of suffixes, choosing for the purpose its favourite and characteristic articulant. The Mexican general particle is '-itl' or '-tli'; and it is remarkable that even in the highly generalised Mexican of the Valley a few familiar words retain the particle of the third person concurrently with it¹. In the Mexican of Xalisco², where the Toltecs and Aztecs were settled previously to their occu-

¹ *Ititl* = stomach; *Icxitl* = foot; *Yollotl* = heart; *Yacatl* = nose; *Iloca* = name; *Icel* = alone, &c.

² Properly *Xalisco* = Place of Sand (*xalli*). The district still forms, under its indigenous name, one of the United States of the Mexican Republic.

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portion of the valley, and where a more archaic dialect prevails, the particle of the third person is prefixed to a larger number of nouns; and a similar phenomenon appears in the Mexican of Isaleo, still spoken by the descendants of Tlaxcaltec colonists who migrated to Central America long before the conquest. In this dialect several nouns still retain the prefix of the first person, as in the Otomi¹.

At this point it will be convenient to introduce an important verification of the personal theory of language with

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Personal
theory of
Language
proved
by the
Mexican.

¹ A few specimens are subjoined:—

MEXICAN OF XALISCO.

(Particle of third person retained.)

Imac, pl. imahuun.

Imaqualli.

Imapoch.

Ichan.

Itatzin.

Inantzin.

Ipiltzin.

TLAXCALTEC OF ISALCO.

(Particle of first person retained.)

Nuteen = father (my-chief).

Nunan.

Nuhuelitigu.

Nuzuntecun.

Nuzuncal.

(Particle of third person retained.)

Iten.

Itan.

Izuat.

Iquechquiu.

MEXICAN OF THE VALLEY.

(Generalised forms.)

Maitl (hand).

Maqualli (right hand, lit. 'good hand').

Mapoch (left hand, lit. 'weakhand').

Chan (house, country of domicile).

Tatli (father).

Nantli (mother).

Pilli (son).

Tecuyo (chief).

Nantli (mother).

Hueltiuh (brother).

Tzontecomatl (head).

Tzoncalli (hair).

Tentli (lip, mouth).

Tlantli (tooth).

Xihuitl (leaf, grass).

Queehtli (neck).

Other noteworthy features of the Xaliscan dialect are (1) the absence of the use of the article *in* as a sign of the accusative, and as a preposition meaning 'to' or 'in'; (2) the archaic termination in *-c* for *-tl*, as *tepec* for *tepetl* (mountain), *icxie* for *icxtil* (foot). The Mexican of Nicaragua, and that of Isaleo, use *-t* for *-tl* in terminations; this is also characteristic of the Olmtec Mexican, spoken in the sierra of Puebla (Anales del Museo Nacional de Mexico, tom. iii. p. 229).

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which the Mexican furnishes us. The current philology treats personal forms as having been produced by the synthesis of an original personal pronoun with an original general form, considered as a stem or root; according to the theory which results from the American languages the general form has been produced by analysis from antecedent personal holophrases. The personal and general forms of the Mexican appear quite inconsistent with the current theory. The latter have evidently been formed from the former by dropping the personal prefixes and suffixing the indefinite or general particle Tla; and the vowel of this particle has either been dropped (-tl), or has changed into the vowel which has the greatest affinity for the lingual explodent (-tli), in accordance with a principle already indicated¹. The contrary hypothesis would involve the improbable conclusion that general nouns of a substantially uniform and highly oralised type could give rise, by composition with the possessive pronouns, to a varied series of terminations, some of which are oralised, while others, for no apparent reason, are gutturalised. No philologist familiar with the American languages can doubt that the stems used with the Mexican personal particles represent the original forms of these nouns, and the weakened general forms are derivatives; and this conclusion is supported by the substantive pronouns, which represent the personal particles compounded with elements denoting 'body' or 'substance'.²

¹ Ante, p. 139. Some old derivatives of 'hand' ('maca' = give; 'macuilli' = five) are clearly formed from the personal stem '-mac.'

² TYPES OF THE MEXICAN NOUN.

PERSONAL.	GENERAL.
<i>Guttural endings.</i>	
Noyacauh (my-nose)	Yacatl.
Nomac (my-hand), pl. Nomahuan	Maitl, pl. Maimô.
Nocac (my-shoe)	Cactli.
<i>Oralised endings.</i>	
Notoca (my-name), pl. Notocahuan	Tocaitl, pl. Totocamô.

Our illustrations of the rudimentary modes of dispersonalisation have been drawn from the prefixing group of languages, to which those modes are manifestly most applicable. Suffixing languages, in which the sense of the thing has come to predominate over the sense of the associated personality, and the stem precedes the personal particle, dispense with these rude expedients. These more advanced languages easily drop their personal particles, leaving the unburdened stem ready for use as the general form, the particles being reappended at will when occasion may require. An illustration above cited from the Guarani shows that prefixing languages may generalise by simply dropping the personal particle. In this language, however, the rudimentary expedients above described are also resorted to; and it seems clear that the adoption of suffixation

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(3) Dispersonalisation by dropping the personal particles.

Notecpa (my-knife, of stone) . . .	Tecpatl.
Nocal (my-house), pl. Nocalhuan . . .	Calli (once Caltli), pl. Caltin.
Nonan (my-mother)	Nantli.
Notecon (my-pot, earthen)	Tecomatl.
Notoch (my-rabbit), pl. Notoch-huan	Tochtli, pl. Totechtin (mod. Tochtin).
Notematl (my-sling)	Tematlatl.

MEXICAN PERSONAL PARTICLES AND PRONOUNS.

No- (my-)	Nehuatl, Nehun (I).
Mo- (thy-)	Tehuatl, Tehua (thou).
I- (his-)	Yehuatl, Yehua (he, she, it).
Tla- (somebody's, something's)	Iitla (somebody, something). Aca (somebody).
To- (our-)	Tehuan, Tehuantin (we).
Amo- (your-)	Amehuan, Amehuantin (ye).
In- (their-)	Yehuan, Yehuantin (they). Acamé (some-persons).

Kleinschmidt (*Gram. der Grönländischen Sprache*, p. 11) is convinced that the Esquimaux particles were never independent words. Prof. Misteli (*op. cit.* p. 112) calls the Mexican -tl the 'absolute flexion,' and in reference to the special plural termination of the personal forms compares (p. 128) the Hungarian personal nouns, which form the plural in -i, not in -k, the plural termination of the general noun.

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must greatly facilitate the transition from limited personal conceptions to the classification of all things by their essential attributes, and the creation of a system of general names as the main substance of speech. Yet even the suffixing Turanian languages of Asia afford instances in which personal conceptions resist generalisation in what has been described as their last stronghold, the inseparable belongings of the individual¹. An eminent naturalist, unable to reconcile facts of this kind with a particular theory of the origin of reason, would reject them as incredible². The Americanist sees in them sporadic illustrations of a law which the lower languages of America establish by abundant evidence, and one link among the many which connect those languages with the Turanian group in the Old World.

Third person the leading factor in dispersonalisation.

The last-named mode of dispersonalisation, so far as its working can be inferred by comparing various American forms, shows such an agreement with what has been observed in the two modes previously examined as to leave no vestige of doubt concerning the uniformity of the process by which general terms have come into existence. The particles have not been dropped suddenly and simultaneously; that of the third person, which contains the germ of generalisation, has led the way, and seems to have disappeared by gradual wasting. While the first and second persons commonly require strong explodents, the third admits weak ones, often using an unsupported vowel. We

¹ Ante, p. 256.

² 'Dr. Latham is quoted as telling us that a Kurd of the Zara tribe, who presented Dr. Sandwith with a list of native words, was not able to conceive a hand or father except so far as they were related to himself or something else. Now it is very likely that we have here some misunderstanding on the part either of Dr. Latham, Dr. Sandwith, or the Kurd. It is simply incredible that the Kurd could not think of a hand or a father not his, nor that of Dr. Sandwith, nor that of some other given man,' &c. Dr. St. G. Mivart, 'The Origin of Human Reason,' p. 275.

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have seen that in some prefixing languages its particle loses place, and becomes a suffix¹; both in prefixing and suffixing languages it has a tendency to vanish altogether, leaving the first and second only as representatives of the personal stage of speech. This process recalls what was noticed above in discussing dispersonalisation by reference to the three classes of things symbolised in language—the fact that the names of objects external to the foot-group, in the personal stage always denoted by words of the third person, lose their personality most easily². Knowledge has mainly advanced through conceptions of this class; the development of speech has thus co-operated with general mental progress in driving personality from the field, and establishing language on a predominant basis of generalised names. These largely consist of what were once terms of the third person; hence in whatever aspect this powerful factor in thought and speech is regarded, it stands forth as the chief agent in bringing the universe of things within the grasp of language³. Having a more extensive association with attributes than the second and first persons, it has fostered the natural tendency of mind to separate wholes into their apparent parts, and hence to consider the qualities of things apart from the things themselves. Lastly, it has a stronger affinity than the other persons for the absent and the imaginary; and we have already observed that the successful struggle to symbolise things of these classes—the

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America.*¹ Ante, p. 229.² Ante, p. 255.³ The first and third persons belong to thought as well as language, the second to language only. The advance of thought, in the earliest stage, seems to have consisted in gradually separating things thought of in the third person (see ante, pp. 208, 209) from the general contents of the consciousness—a process carried on in various degrees by the speechless animals—and enlarging the class of ideas thus marked off, so far as mental capacity and experience in different circumstances permitted. The second person, being the creature of language, is probably recognised only by those among the lower animals which are associated with man, and by these only in some rudimentary form.

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Imagina-
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latter of which in strictness includes the former—marked the chief turning-point in the history of speech¹. Each of the characteristics above noticed may be supposed to have had some share in developing the general noun; they do at all events reappear in it, and in more marked forms.

The wider grasp of the general noun is the most obvious among the characteristics connecting it with the third person; and it is plausibly said that the force of words depends on the number of ideas of which the word is a sign². The superiority of the general over the personal as a vehicle of thought largely consists in the power of suggesting more individuals; but this is not all. To discard the shifting attribute of personality, wholly valueless as an indication of the nature of things, enables and induces the mind to dwell with more freedom on those permanent attributes in which that nature essentially consists³. The

¹ Ante, p. 192.

² Horne Tooke, *Diversions of Purley*, Part I. ch. 2. The observation may be accepted if 'force' be understood in the sense of 'impulsive' or logical force (see ante, pp. 220, 221), for the wider the comprehension of any term the larger is the group or train of ideas suggestable by it. The 'finite' or rhetorical force of terms, on the contrary, is the greater the fewer the number of things denoted by them.

³ The most highly personalised book is the Hebrew Bible; the least personalised, Homer, the Greek tragedians, Pindar, and Sæmund's Edda. English usage, which stands midway between Holy Scripture and the Greek poets, has probably been affected by the Biblical idiom. Instead of 'he drew his sword from its sheath,' Homer has 'he drew sword from sheath': the indications of person are superfluous, for no warrior, at the moment of action, would draw the sword of any person other than himself, or from any sheath other than its own. The contrast between Hebrew and Greek as regards the progressive forms of speech is fundamental, and extends to the abstract noun, for which Hebrew has no distinctive form. Thus in Psalm lxxxv. v. 10, 'mercy and truth have met each other, justice and peace have kissed,' where all the substantives are masculines, concrete persons are forcibly suggested; in the next verso truth sprouts forth from the earth like a plant, while justice looks on (favourably) from heaven. In Psalm lvii. ver. 11, both these abstractions are conceived as plants or persons of gigantic stature. All

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power of analysis is stimulated on the one hand, the imagination, or power of bringing ideas, stored up in memory, either singly or by groups or trains, from the substratum to the surface of the mind, and varying or transposing them at will, on the other¹. For general terms open the broader way to that realm of the absent and the imaginary by the conquest of which language has reduced the mental universe to order. Rudimentary speech, we have shown², represented in some halting fashion the effect produced on the mind by the real and present, advancing from this, by a natural transition, to the real and absent. The absent is always imaginary in thought; and from what is imaginary in thought the transition is easy to what is imaginary in fact as well as in thought—a class which includes all the past, the future and the possible, and whatever comes within the scope of will, besides those unreal conceptions to which the name Imaginary is commonly appropriated. A certain margin of imaginary things may be suggested to the mind by the personal noun; but this margin is indefinitely enlarged when the limiting element of personality is removed. As the essential attributes of the thing, separated

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the abstract words in the English Bible represent terms the original meaning of which is concrete. It is easy to see why the Semites had no philosophy until they came in contact with the Greeks. The peculiarities above noticed are usually classed as 'poetical.' They appear rather to be of a logical nature, and to represent a struggle between advancing thought on the one hand, and established forms of speech on the other. Qualities when first recognised as 'things' (ante, p. 194, note), were conceived and represented as concrete living objects. The higher forms of poetry freely employ abstractions; Homer and Milton begin their great epics with 'wrath' and 'disobedience.'

¹ 'Imagination' is used in substantially the same sense as by Aristotle (*De Anima*, Lib. iii.), Bacon (*Adv. of Learning*, Book ii), and Hobbes. Bacon's observation on the still subsisting abuse and degradation of the term (as in 'works of imagination') deserves more attention than it has received.

² 'Mentem praesentia ducunt.' Ante, p. 186.

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from the accidents of personality, are contemplated in a clearer light, the mind tends to fix more and more upon them, and less upon the substantive things in which they inhere; and the way is thus prepared for the fruitful process of abstraction. The mind exercises with more freedom the power of comparison as the enlarged groups and trains of ideas which are suggested to the mind by general terms are classified with greater ease; and a scale of excellence is thus formed, in which imaginary things tend ultimately to occupy higher places than those belonging to the realm of actual fact. As thought insensibly rises to higher and still higher standards, the general name, by virtue of its unlimited power of suggesting the imaginary, becomes a specific element in progress: for when the Imaginary is persistently presented to the mind, and conceived as desirable, the will is prompted to realise it¹.

Imagination and
 abstraction.

While generalisation lays open a wider prospect into the vast realm of the Imaginary, abstraction awakens and disciplines a new sense wherewith to explore it—an organ of purely mental vision. It introduces into language names for attributes; conventional entities or 'entia rationis,' feigned as existing, but which no more exist, or can be imagined to exist, apart from the substantive things, or 'entia realia,' in which they are understood to inhere, than force can exist, or be imagined to exist, apart from matter². We have here something resembling what was observed in reviewing the beginnings of material progress, and also

¹ This species of the Imaginary is the so-called 'ideal.' As everything in the mind is necessarily 'ideal,' this degraded term might be dispensed with.

² 'Imagined' is used in the strict sense. There can be no image or idea of an attribute in the mind apart from a substance. The old Realists *alleged*, and probably *supposed*, attributes to have independent existence, but could not possibly *imagine* them as so existing. All that is done, in naming them, is to feign or make believe that they exist (Hobbes). 'Force' and 'matter' themselves, as Du Bois-Reymond puts it, are 'only abstractions, taken from different points of view, from things as they are.'

in tracing the foundations of speech itself¹. In each of these cases there has been a transition from reliance on the natural to reliance on the artificial; a new basis of subsistence and of thought has been gradually established. But abstractions are artificial in a double degree; they are conventional symbols for conventional things. They abbreviate thought by enabling and habituating it to classify its objects apart from their manifold aspects in the concrete, according to those qualities which alone give to substantive things the importance attached to them by man²; they enlarge and correct it, by enabling it to classify these qualities themselves. Generalisation discards a shifting attribute which interferes, wherever it persists, with the only useful classification of things for mental purposes—that which regards them in the light of their permanent attributes. Abstraction completely clears the path of thought; it neglects concrete objects altogether, and condenses, by a rational magic, the essential qualities of numberless things into a single pregnant symbol. The two processes are the necessary complements of each other. Generalisation can only take place by the recognition, though in a latent form, and to a limited extent, of those factitious things which abstraction subsequently names; abstraction can only maintain itself by concurrent reference to the treasury of ideas stored up under general terms. Apart from such reference, no abstract term can suggest any idea whatever, except that of some sequence of articulated sounds apprehended through the ear, or the substituted one of some group of literary symbols apprehended by the eye. Abstract terms are the bank-notes, general terms the coinage, of language. The former require the latter, to support their value and sustain their circulation; they are valueless unless they can be exchanged for it at will, and immediately. The germ of abstraction, like that of generalisation, is latent in

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¹ Ante, vol. i. p. 303; vol. ii. pp. 106, 107.

² Bacon, Nov. Org. Lib. ii. Aph. 17.

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the lowest forms of speech. Pain and hunger, heat and cold, are abstractions: the equally primitive conceptions of 'day' and 'night,' importing the presence or absence of solar light, are double abstractions. Language, in creating abstract terms, has merely analysed what has existed for the mind, in some concrete aspect, from the very beginnings of thought¹.

Travellers who have lived familiarly among the American aborigines have commonly found that even after acquiring a knowledge of their language some invincible obstacle seems to prevent the free interchange of ideas with them. Some specific difference, it has been suggested, must exist between the European and the Indian mind². The Indian appears not to see or feel, think or reason in the same way as the European³. The depths of his being conceal some inexplicable mystery; the mirror of his intellect is of abnormal focus, or throws off distorted reflexions. Idle platitudes such as these could only result from superficial or prejudiced observation. Mind is essentially the same in all varieties of man; the lowest American Indian thinks and reasons like ourselves⁴. The difference between him

¹ See ante, pp. 195, 196.

² Karl Andree, 'Globus,' Vol. IX. p. 42.

³ Roger Williams called the New England Indians 'wolves with human brains.' 'Men with wolves' brains' would have been nearer the mark.

⁴ The writer's friend Sig. Giovanni Pelleschi, of Buenos Ayres, who spent several months among the Mattacco Indians, maintains that 'these Indians possess, to the full, the intellectual faculties of man, and his power of reasoning; and in so high a degree that they are like ourselves both as to ability and antiquity. The distance between us is that of the actual world of facts and of the ideas relating to them; but it is disproportionate to their faculties and ours. . . . Hereditary physiology must have had little or no effect on mankind throughout the world during the period of barbarism. It is by overlooking these considerations that the public in general is led to wonder at the relative inferiority of the wild races. The very small intellectual and moral distance between them and us is an eloquent proof of the immense antiquity of man' ('Eight Months

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and the European is a difference only of degree; and the considerations adduced above lend opportune aid in estimating it. The truth is that like the lower animals, he lives mainly in the real and present¹; his mental action, insufficiently stimulated by mere thought, requires sensible things for its support. He sees everything from the standpoint of the small food-group; the personal system of speech, the language of the small food-group, gives the clue to his mental condition. General terms, the mental apparatus of advanced reason and imagination, are checked in their growth, by the persistence of personalisation: abstract terms, which enlarge the mental grasp in a compound ratio, exist for him, if at all, in still more limited numbers. The materials for the intellectual temple which language raises have been provided, often in lavish abundance, and the foundations of the structure have been laid. Nor is this all. Rude, apparently amorphous, and constructed with little experience and no knowledge of the laws and resources of art, some primitive bulwark of speech has universally been raised, marking and preserving the scanty conquests made by the mind over the material universe. The vast and symmetrical temple of advanced language, with its arcades, towers and domes, is wanting; to erect and complete this is the task of civilisation.

Although generalisation introduces no fundamental change into the scheme of grammar, certain fresh outgrowths from existing grammatical elements tend to show themselves as general terms come to predominate in the system of speech; and these affect both the noun and the

on the Gran Chaco of the Argentine Republic,' p. 295). Sig. Pelleschi's work contains an instructive outline of the Mattacco grammar.

¹ Ulloa, 'Noticias Americanas,' ch. 18: 'Lo mismo sucede con los que se mantienen en su primitiva libertad, sin percibirse que pongan cuidado en mantener especies de lo pasado, ni en ampliar las ideas a lo sucesivo; unicamente se ocupa su imaginacion en lo presente, y de ello en lo que tienen mas inmediato.' The writer refers to the 'unreduced' Indians of Peru.

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Effect of
generalisa-
tion upon
grammar.

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verb. While the general noun suggests a new development of Number and Gender, the dispersal of the verb leads to the practice of compounding it with one or more prepositions. Could the beginnings of this practice be traced, in those languages which employ it, it would probably be found to have been based on the holophrastic expression of circumstance in the verb, which has so prominent a place in American and Turanian speech¹; and in such languages the practice is readily extended to the abstract noun. To this use of the preposition the unlimited power of analysis possessed by the most advanced languages is largely due. Like the system of objective gender, this artifice is wanting in the American and Turanian languages; objective number is fairly developed in both. Pluralisation, notwithstanding Locke's dictum to the contrary², has a fundamental connexion with generalisation. The general noun, unlike the personal one, essentially 'signifies' a plurality of things; in the singular number, it denotes one individual, while connoting other individuals, besides the attributes suggested by the name: in the plural it denotes all individuals possessing the attributes, connoting nothing but the attributes themselves. Both objective number and objective gender have been produced by extending to the substantive part of the holophrase attributes which naturally affect the personal particles³; and neither, apparently, should rank as a necessary part of the grammatical scheme. So far as regards gender, this view, as will presently appear, scarcely requires vindicating; in regard to number some explanation is necessary.

¹ Ante, pp. 241-245.

² 'General terms . . . do not signify a plurality, for "Man" and "Men" would then signify the same,' &c. (Essay concerning Human Understanding, Book iii. ch. 3, § 12). The illustration is singularly unfortunate; for 'Man' is used in all advanced languages as an abstract term signifying all men in the widest or metaphysical sense of 'All.' Locke confuses the two different meanings of 'signify' distinguished in the text.

³ Ante, pp. 215, 217.

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The expression of number in objects by simple indefinite pluralisation does not belong to primitive speech; archaic languages prove the General Plural to be an abstraction, based upon less comprehensive concrete forms. Besides the definite numbers (1) 'One,' denoted by the Singular, and (2) 'Two,' represented by the Dual, archaic languages appear to have usually recognised two indefinite ones: (3) 'Some,' the Plural of Paucity (as in Arabic), and (4) 'Many,' the more widely employed Plural of Multitude. The last three forms tend to merge, and in course of time have usually merged, in the General Plural of ordinary grammars. As language becomes more and more analytical three others are added to the forms above cited; (5) the comparative plural 'More,' with (6) its absolute form 'Most'; and lastly (7), the comprehensive numeral 'All. This, as the logician well knows, involves several ambiguities; it is uncertain, when it is employed without qualification, whether it denotes the 'All' of present space and time ('All present')¹, the 'All' of experience ('All known,' or, more precisely, 'All as far as observation has extended')², or the metaphysical 'All,' including every individual that can be named by the noun, whether present or absent, past or future, and whether real or imaginary (the 'All' of formal logic). The nature of the general Plural, founded on the forms above numbered 2, 3, and 4, will best appear from a brief survey of this familiar element as exhibited in the American grammars.

The inherent tendency of general terms to suggest to the

¹ This rudimentary conception may be considered to have been the primitive 'All' (= 'every-one'). 'All' in the Botocude language is = 10 (all the fingers). Mexican has two words for 'all' (mochi, ixquich), which can now be used either in the singular or plural (mochintin, ixquichtin).

² Bailey, *Theory of Reasoning*, p. 79. The want of a short and generally adopted expression for this limited 'All,' to distinguish it from the metaphysical one, is one of the most fertile sources of fallacies.

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 Generalisa-
 tion and
 objective
 number.

mind more things than one, in groups or trains—a tendency which exists only in a limited degree in personalised terms—is prominently illustrated by the fact that the practice of pluralising the names of objects is better developed in advanced languages than in rudimentary ones. Objective number usually follows personal number in its admission or rejection of the dual as well as the plural; yet this is far from being a general rule. The Araucan, for example, dualises as well as pluralises both its personal particles and its nouns, while the neighbouring Tehuelche, which dualises and pluralises its personal particles, rejects objective number altogether; and there is a parallel in some Melanesian languages, which not only dualise, but trinalise, as well as pluralise, their personal particles, but limit objective number to a singular and a plural. The limits of objective dualisation are therefore somewhat narrower in America than the narrow limits of the personal dual, and objective number practically regards pluralisation only¹. Two things chiefly arrest attention in connexion with pluralisation: (1) the existence or absence of a restriction on its employment, and (2) the mode or modes by which it is effected. In both respects the American and the Turanian languages closely correspond. In more advanced languages most nouns which can possibly denote more than one object are capable of pluralising, and are pluralised accordingly when employed in the plural sense. The Turanian and American languages divide their nouns into two groups; this division roughly corresponds with the distinction between animated and inanimate objects. The higher group alone is admitted to pluralisation; in the lower the same vocable stands for the singular and plural alike. Different languages draw the line of division in different places. Thus the Tamil diminishes the pluralising group, and includes among its 'high-caste' or pluralising nouns only names applied to gods and human beings, irrational animals being regarded as

¹ Ante, p. 204.

¹ Vol. i.
of Spanish

'heaven,'

² Vol. i.

mere 'things,' and relegated to the lower or 'casteless' group. The Dakota restricts pluralisation to names denoting men. American languages, as a general rule, show a tendency to enlarge the pluralising group; the principle seems to be that many objects which are to all appearance inanimate are really inspired with life. Aymara pluralises many inanimate nouns, and Quichua does the same in a less degree. Mexican relaxes the restriction but slightly; only a few inanimate objects, such as 'heaven' (ilhuicatl), 'star' (citlalin), 'cloud' (mixtli), 'mountain' (tepetl), are permitted to pluralise (ilhuicamê, cicitlaltin, mimixtin, tetopê or tepemê). Grammarians rightly assign as the reason the fact that these objects were believed to be in fact animated beings¹. On the same principle, the names of inanimate things, when metaphorically applied to things animate, were pluralised; thus 'torch' or 'light' (ocotl, tlahuilli) when used to designate gods or distinguished men make in the plural ocomê, tlahuiltin. When number is precisely indicated by a numeral, the use of the plural form is considered superfluous; thus 'Seven Snakes' in Mexican is not Chicome cocohuâ, but Chicome cohuatl². The Algonquin shows an unusual degree of advancement as regards objective number, pluralising all its nouns, and distinguishing animated from inanimate things by different forms of the plural particle.

The resemblance between the Turanian and American languages as to the modes of forming the plural is equally striking. In both groups there are two principal ways of pluralising. (1) The simplest is merely to repeat the singular; thus in Quichua 'runa' = a man, 'runaruna' = men; 'llama' = a llama, 'llamallama' = llamas. (2) The other mode prefixes or appends to the singular a particle of multitude ('many-' or '-many'); suffixation occurs more

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pluralising.

¹ Vol. i. pp. 448, 545. Modern Mexican, following the analogy of Spanish, relaxes the restriction in a greater degree. See, as to 'heaven,' note 1, p. 269 post.

² Vol. i. p. 464.

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often than prefixation. Thus again in Quichua 'cuntur' = a condor, 'cunturecuna' = condors. Ancient Accadian, a Turanian language only recently recovered by scholars after slumbering during thousands of years, presents precisely the same modes of pluralisation in concurrent use; 'khar,' for example (= a hollow), pluralises as 'kharkhar,' and as 'kharrina.' So, among many other instances, in Japanese 'yama' (= a hill) makes yamayama; 'fito' (= a man), fitogara. Sometimes the plural particle is prefixed; thus again in Japanese 'dai' = a generation, 'sudai' = generations. Chinese equally employs the repeated singular and prefixed and appended particles, the latter assuming several forms: the same thing occurs in Mexican. The numerous modes of pluralising in this language are unusually instructive: in this respect it exhibits a marked contrast to the less advanced Otomi, which invariably forms its plural by the prefixed particle 'ya-.' Mexican has no plural form of this description¹; its numerous plural forms are in every case traceable to the doubled singular and to appended particles of multitude. The doubled singular is contracted in both members, the contraction, however, being strongest in the former. Thus the plural of 'teotl' (= god) has been contracted from its original form 'teotl-teotl' into 'teteô'; 'cohuatl' (= snake) from 'cohuatl-cohuatl' makes 'cocohuâ'; similarly 'huexolotl' (= turkey) forms 'huehuexolôh,' &c. The plural particles taken by general nouns are '-mê, -tin,' and '-quê'; personal nouns pluralise in '-huan².' One group of words, following a principle of redundance common in Mexican, combines both forms of pluralising; thus 'teuctli' and 'pilli' (both = chief) make respectively 'teteuctin' and

¹ There is indeed a form of pluralisation which consists in simply prefixing to the noun the word *miec* (= much). It is regarded as a vulgarism; thus the grammatical plural of *tlacatl* (man) is *tlacoi* or *tlallacâ*, but an Indian will sometimes say *miec-tlacatl* (much-man). There are also a few words as *nacatl* (piece of flesh) and *quahuill* (tree) which pluralise only by means of *miec*, as *miec-nacatl*, *miec-quahuill*.

² See ante, p. 262.

'pipiltin.' In another group, consisting of ethnological names, the doubled singular is treated in a remarkable way; the former member is omitted, the latter one still retaining its abbreviated form. The result is a plural consisting simply of the singular minus its final explodent. Thus 'Mexicatl' (=a Mexican) makes in the plural 'Mexicáh,' 'Otomitl' (=an Otomi) similarly makes Otomih. Occasionally a common noun employs both this abbreviated form and that from which it is derived; thus 'cihuatl' (=a woman) makes both 'cihuã' and 'cicihuã.' A British Columbian language, which shows a remarkable affinity with the Mexican, exceeds even the latter in the number of its plural forms¹; but American languages rarely possess this great

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¹ The Tsimshian, which illustrates all the American forms of pluralisation better than any other language that can be mentioned. In the following table the accounts of Dr. Franz Boas (Report of Committee of British Association on the N. W. Tribes of Canada, 1889) and of Graf von Schulenburg (Sprache der Zimshian-Indianer, 1894) have been compared.

TYPES OF PLURALISATION (TSIMSHIAN OF BRITISH COLUMBIA).

(The illustrations are taken from the list of nouns, but the same modes of pluralisation are used in the verb.)

I. PLURAL SAME AS SINGULAR.

All animals except the dog; divisions of time, weights and measures, some natural objects and implements.

II. HETEROPHONIC PLURAL.

'Tiquamelk' (= child), pl. 'kapetgeretelk.' Many of the commonest verbs, transitive and intransitive, and some common adjectives.

III. REPETITIVE PLURAL.

[Unabbreviated Repetition.]

1. Simple Repetition. 'Hash' (= dog), pl. 'hashhash'; 'si' (= foot), pl. 'sisi.'
2. Repetition with Vowel-Variation. 'Lâp' (= stone), pl. liplâp: 'wash' (= article of clothing), pl. 'wishwash.'

[Abbreviated Repetition (Reduplication).]

3. Prefixing Reduplication without Vowel-Variation. 'Kait' (= hat), pl. 'kakait': 'lukshâk' (= door), pl. 'lulukshâk.'

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variety in modes of pluralising. In Quichua many nouns pluralise by means of the so-called 'social' case of the singular, which originally means 'in company with.' Thus 'huauquentin,' the social form of 'huauque' (= a brother), means not only 'in company with a brother,' but also 'brother with brother,' or 'brothers together.' The name applied by the Incas to the entire district of their domination is a familiar instance of this usage; Peru was called by them 'Ttahuantin Suyu,' or 'The Four-together Districts.' The word 'suyu' (= district), it will be observed, does not pluralise, while a needless indication of pluralisation is attached to the numeral preceding it. This curious idiom is repugnant to the general method of American and Turanian languages. More logical than those of Europe, these languages even abstain from pluralising the numeralised noun, regarding it as pluralised by virtue of the number definitely expressed. The practice of converting the numeral into a plural adjective, agreeing with the noun in gender and case also¹, is unknown to them.

Number,
 Logic, and
 Arith-
 metic.

The mention of numerals reminds us that before proceeding with our analysis of pluralisation it should be briefly considered in a broader aspect. Its prevalence marks a stage in mental advancement scarcely less momentous than that announced by the predominance of generalisation, on which, indeed, it seems to follow by equal steps. The

4. Prefixing Reduplication with Vowel-Variation. 'Balaq' (= ghost, pl. 'bilbalaq.'

5. Reduplication with Euphonic Explodents ('k' or 't') inserted.

6. Suffixing Reduplication. 'Natatl' (= company), pl. 'natatlatl.'

IV. PLURAL FORMED BY PARTICLES OF MULTITUDE.

Great variety is found in this mode of forming plurals. Prefixes, infixes, and suffixes all occur, sometimes independently, and sometimes in combination, an infix being most commonly combined with a suffix. Particles of Multitude are sometimes accompanied by repetition, abbreviation, or vowel variation, in the stem, as in Group III.

¹ As in *duo, tres*, and the series *bini, trini*, &c.

scale of its forms above given ¹ indicates it as the common root (1) of consecutive or syllogistic reasoning, and (2) of numeration or arithmetic, so far as these processes employ the artificial basis of thought, and are conducted by words ². Separating the definite from the indefinite series of numerical terms—the singular ‘One,’ used in different senses, being common to both,—we have (1) the indefinite, or logical series ‘One,’ ‘Some,’ ‘More,’ ‘Most,’ and (2) the definite or arithmetical series ‘One,’ ‘Two,’ and so forth; both series end in the variable term ‘All,’ which in its widest sense is equivalent to the ‘infinity’ of arithmetic. It is easy to determine which of the two series first became an instrument of thought. Classification precedes calculation; the mind advances, as we have shown, from the indefinite to the definite. The lower animals undoubtedly classify; it is doubtful if they possess even the rudiments of calculation. In some low languages, of which the Chiquito is an example, the indefinite series of plurals is completely formed, while definite plurals, or numerals, are wanting. Logic and arithmetic are founded alike on observing the ratio of ‘One’ to other quantities of the same kind, each pursuing one of the two series of terms above indicated. Both proceed by simple addition and subtraction, for logic does nothing but add things to things to form classes, attributes to attributes to form general propositions, and propositions to propositions to form syllogisms ³. The process of counting is a consequence, not a cause, of classification; the

¹ Ante, p. 273.

² Numerals figures (not unknown, as will presently appear, in aboriginal America) are symbolic substitutes for words. Prof. Misteli proposes to swell the list of ‘Parts of Speech’ by making the ‘Numeral’ a distinct species. Numerals are abstract nouns.

³ Predication, even when it proceeds beyond the mere analysis of personalised conceptions (ante, p. 131), merely adds some attribute or attributes to those implied in the name of the subject. It is scarcely necessary to refer the reader to the etymology of ‘syllogism,’ and to the opening pages of Hobbes’s ‘Computation or Logic’ or ‘Leviathan.’

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judgment of Pythagoras, ascribing to the supposed inventor of numbers a higher degree of ingenuity than to the equally imaginary inventor of language, may therefore be accepted as substantially sound. Gesture, moreover, as we have shown¹, retarded the development of objective number in speech, while it facilitated that prior development of mind which rested on indefinite classification.

Non-plural-
 ising Lan-
 guages.

Pluralisation adds emphasis to the broad classifications of the general noun. Wherever it is imperfectly developed it may be inferred that the sense of genus and species is as yet but feeble: and an imperfect development of it is a prominent characteristic in most American languages. All of these to a greater or less extent employ the singular where more advanced ones use the plural. In its lowest phase, there is no separate plural form, the singular being employed for the plural also, and various particles of multitude being occasionally added, as circumstance suggests. At this rudimentary stage, which occurs in many American languages, the plural occasionally bears witness to its origin in a remarkable manner. The Chiquito, and probably other languages, admit it only in the case of the dispersonalised noun, personal nouns inflexibly retaining the singular form. Traces of this limitation are found even in the Mexican; it is easy to see that the plural of the personal noun is of recent establishment, having probably been formed by imitation of the general noun². Among languages which possess no true plural may be mentioned the Chibcha (now a dead language) and Lule of South America, and the Miztec and Zapotec of Mexico. In the Choctaw, and the Hidatsa of Dacota, plurals are for the most part only distinguishable from singulars by the context.

¹ Ante, p. 213.

² See 'Types of the Mexican Noun,' ante, p. 262. *huan* is an extremely common particle in modern use denoting addition, something following on, and largely used as a conjunction.

The general principle exhibited in these non-pluralising languages survives, to a greater or less extent, in most others; the Tsimshian Group No. I illustrates it in a language which has largely outgrown it. Its logical aspect is easily explained. The general noun, from which the plural is derived, connotes multitude¹; the most archaic speech, apparently, was satisfied with this mere suggestion of 'many,' and did not proceed to its denotation. Yet it is scarcely necessary to borrow the technical terms of logic in order to prove what a moment's consideration must make obvious to the reader—the fact that most things named in primitive language occur in groups consisting of locally contiguous individuals, and that the mental image suggested by the greater number of general names, even in the singular, would therefore naturally be of a plural nature. The same must be true in the case of things not thus abundantly distributed in nature, but only to be individually discovered by gradual experience, and often widely separated, in time or space, or both, as to the mental impression produced by each. The mental image evoked by the name of such a thing, even in the singular, may include many individuals, appearing less and less distinctly in an ever receding series; yet the sum of such a series can be proved mathematically not to exceed unity, and would find appropriate and sufficient expression in a name of the singular number². Paradox as it may at first sight seem, objective number is unnecessary to speech; language, considered as a mere machine for the transmission of impressions, would probably be more logical without it. It is otherwise with personal number, which is essential to speech, and has been a powerful factor in its development.

The heterophonic plural (Tsimshian Group No. II), like

¹ Ante, p. 272.

² The reader who cares to verify this statement will be satisfied by consulting Taylor's little-known 'Elements of a New Arithmetical Notation' (1823).

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Logical
aspect of
Non-plural-
isation.

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phonic,
repetitive,
and dif-
ferentiated
plurals.

the corresponding form of the general noun¹, appears to be comparatively rare. It should probably be regarded not as an original plural form annexed to a correlative singular, but as one among many alternative singulars used in the food-group, each representing the thing in some slightly different aspect. Several heterophonic names having come into use on a principle already illustrated², it would not be unnatural for one among them to be customarily employed in a plural sense. Its establishment in this form, probably once more common than might be inferred from the scanty remnants found in existing languages, seems to mark a transition from occasional pluralisation, as described in the preceding paragraph, to those permanent plurals, formed by repetition and differentiation of the singular, which represent the final stage of pluralisation. The repetitive plural (Tsimshian Group No. III), which recalls the repetitive pictograph of Egyptian hieroglyphic, may originally have been a plural of paucity. Pluralisation by particles of multitude (Tsimshian Group No. IV) is the mode employed in advanced languages; and in these the particle is always a suffix. The Araucan and other American languages, besides the Tsimshian, afford instances of a prefix or prefixes being used concurrently with a suffix or suffixes. The Kiriri generally employs distinct prefixes of multitude and totality; but nouns of blood-relationship pluralise by the suffix '-te,' those of personal belongings by the suffix '-a.' Athapascan has different plural suffixes for blood-relations and for human beings generally. Cherokee different plural prefixes for inanimate objects and animated beings. Abiponian has an augmentative plural, the suffix '-ri' denoting 'many,' and '-ripi' 'very many.'

Vowel-
change.

Our discussion of objective gender will be facilitated by interposing here a few words respecting a mode of differentiation already illustrated by the Abiponian personal

¹ Ante, p. 257.

² Ante, p. 199, note 2.

forms¹, and reappearing in the reduplicating Tsimshian plurals². Hitherto conscious differentiation has been considered as proceeding mainly by change of explodents; and this appears to be the primary method of speech. Thought naturally clings to the consonants; and these not only strike the ear more distinctively, but aid the listener to interpret what he hears, by impressions of the eye³. Change of explodents, nevertheless, contains in itself the germ of vowel-variation, for each of the three fundamental ones has by its nature an association, though a slight and unstable one, with one of the three primary vowels, rather than with the rest⁴. In the earliest stages of speech, as we have seen, the consonants and vowels alike undergo continual change⁵. Fixity, first given by slow degrees to the consonants, was in time extended to the vowels. The ease with which words are varied by mutation of vowels, when once the ear has been educated to it, and the advantage obtained by leaving the consonantal framework of words untouched, ultimately led to a large place being given, in some languages, to this mode of differentiation. Conscious vowel-change, however, as a permanent resource of grammar, is probably among the most recently acquired artifices of speech; like the unconscious vowel-change which it succeeded, it seems to have appeared first in an unstable, and subsequently in a stable form.

Unstable vowel-change is best illustrated in the well-known 'vowel-harmony' of many Turanian languages. According to this principle the chief vowel-sounds are divided into two classes, 'strong' or 'hard,' and 'weak' or 'soft,' the rest remaining 'neutral': the fundamental rule is that only vowels of the same class—the neutrals, for the purpose of the rule, not ranking as a class—can stand in the same word. Some philologists rely on the supposed fact that such a principle is foreign to the American

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¹ Ante, p. 210.

² Group III, No. 2 and No. 4.

³ Ante, pp. 142, 157.

⁴ Ante, pp. 139, 140.

⁵ Ante, pp. 99-101.

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vowel-
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languages as separating the latter from the Turanian group by a trenchant line. Such a conclusion would be sufficiently refuted by the fact, which a less superficial research would have revealed, that this characteristic is far from universal in the Turanian group itself. If it cannot be truly said that vowel-harmony chiefly affects the southern belt of the Turanian area—ethnologically more remote from the New World than the northern one—it is nevertheless the fact that some of the most characteristic languages of the northern belt, as the Samoyede and Ostiak, substantially reject it. In many languages its operation is partial only; one dialect of the Sirian employs it in a limited degree while the rest reject it altogether. Vowel-harmony in a wider sense—as a free modification of vowel sounds for euphony's sake, and a tendency to repeat the same vowel in each syllable or several syllables of the holophrase—is a common American characteristic. Those remnants of prefixation, which have been noticed¹ as connecting the North Asiatic and American languages, occur in precisely those Turanian languages which reject vowel-harmony; and what has been considered as a mark of separation therefore constitutes in reality one more link in the connexion between the languages of the New World and those of Northern Asia.

Gram-
matical
vowel-
variation.

As language advances the vowel encroaches on the domain of the consonant: and most of those regular differentiations by which languages best acquire and retain an 'etymological' aspect are in the latest stage effected by shifting vowels. Instances from well-known languages of vowel-variation marking case, gender, and number in the noun, voice, mood, and tense in the verb, and distinguishing derivative verbs from original ones², will readily occur to the reader. In American and Turanian languages this

¹ Ante, p. 228.

² The regularly formed derivative verbs of the Semitic languages afford a prominent illustration.

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=goo
woma
dying
'maiz

¹ So
the nas
'arapu
(man),
is a l
'anase
(woma
'makhw
khorl'
(mas.),
² The
page 20
well kn
it suffic
by some

device is little resorted to; the stage of development marked by it has rarely been reached. Yet it is not wholly wanting. The Abiponian personal forms exemplify it at an unusually early stage of linguistic development. They use it to mark distinctions of personal gender: a purpose for which it seems to have a natural fitness. The Dakota applies it for the same purpose, carrying the distinction a stage farther by extending it to the names of blood-relations. Thus, 'kinski' = son, 'kunski' = daughter; 'kin' = elder brother, 'kun' = elder sister; 'hepan' = second son, 'hapan' = second daughter. In the Carib group these indications of gender, based on vowel-variation, are still further developed. The practice remains limited to human beings; but by a surprising advance the distinction of sex is marked by vowel terminations, with a regularity equal to that of Italian, the masculine termination being -i, the feminine -e or -u. Thus in Arawak we have not only 'elonti' = male child, 'elontu' = female child, and 'basabanti' = boy, 'basabantu' = girl, but attributive nouns such as 'üsati' = good man, 'üsatu' = good woman; 'kansiti' = man-who-loves, 'kansitu' = woman-who-loves; 'ahaduti' = dying-man, 'ahadutu' = dying-woman¹. The language of the extinct 'Taensa' or 'maize-growers' of the lower Mississippi², still commemo-

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¹ So in the Calinago (Carib of the Islands), 'iropöti' (ö denoting the nasalised vowel) = handsome-man, 'irupatu' = handsome-woman; 'araputi' = murderer, 'araputu' = murderess; 'kîshîti' = beloved (man), 'kîshîtu' = beloved (woman). In the Goakhira dialect there is a large development of attributives: 'anashi' = good (man), 'anase' = good (woman); 'autushi' = dead (man), 'autuse' = dead (woman); 'morsashi' = little (man), 'morsase' = little (woman); 'makhwaintchi' = sad (man), 'makhwainre' = sad (woman); 'apushakhori' = fisherman, 'apushakhore' = fisherwoman; 'oikari' = trader (mas.), 'oikare' = trader (fem.).

² The reader is asked to cancel the last sentence in note 2 on page 203, ante. Without entering into the details of a controversy well known to Americanists, but of no interest to the general reader, it suffices to say that a Taensa grammar and vocabulary, followed by some specimens of the language, were, some years since, edited

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rated in the State-name 'Tennessee,' appears to have dropped its masculine vowel-ending, retaining the suffix -à to indicate females; thus 'nuhor' = man, 'nuhorà' = woman. This language included the males of all animals in its higher group, relegating the females to the lower one; and we accordingly find in it correlative forms such as 'tido' = beaver (mas.), 'tidoà' = beaver (fem.); 'konswar' = horse, 'konswarà' = mare. Similar formations appear sporadically in widely distant Turanian languages. Thus in Manchu, 'chacha' = man, 'cheche' = woman; 'ama' = father, 'eme' = mother; in Tungusian, 'akmu' = elder sister, 'ekmu' = younger sister; in Finnish 'ukko' = old man, 'akka' = old woman¹. The vowel-changing plurals of the Tsimshian strongly resemble similarly formed plurals occurring in a North Asiatic group which has already yielded resemblances to the American—the Yenisee-Ostiak and Cottian²; by MM. Parisot and Lucien Adam from a MS. of the last century, preserved at Plombières (France) in the former gentleman's family. When these were published in the 'Coleccion Linguistica Americana' (Tom. ix), a well-known American professor condemned the work as a deliberate fabrication, and pertinaciously maintained this opinion, after the genuineness of the work had been vindicated by Mr. Albert Gatschet, of the U. S. Bureau of Ethnology. The writer regrets that at page 203 he deferred an investigation which must have been in due time undertaken; and in the result he is satisfied as to the genuineness of the grammar and vocabulary in question. The contents of the 'Cancionero Taensa,' as commonly happens, have been thrown into their existing form by an European hand. Those interested in pursuing the matter further are referred to the 'American Antiquarian' for 1882 and 1885, and the Paris 'Revue de Linguistique,' vol. xxi (1888), pp. 202, 340.

¹ Mongolian does not appear to admit this species of distinction in the noun: but 'when the noun is qualified by an adjective denoting colour then the adjective takes from the female the suffix -kthin' (Byrne, op. cit., vol. i. p. 381).

² Yenisee-Ostiak: 'thip' = dog, pl. 'thap'; 'ses' = river, pl. 'sàs'; 'fas' = sorcerer's drum, pl. 'fàs,' &c. Cottian: 'alship' = dog, pl. 'alshap'; 'ég' = goat, pl. 'ag'; 'shèt' = larch, pl. 'shat,' &c. Grammarians describe such plurals as 'internally indicated.' Both languages admit also, like the Tsimshian, the usual 'external' indication of pluralisation by particles of multitude; and in both,

and but for the fact that similar plurals in other languages are traceable to non-reduplicating forms which have disappeared¹, it might be inferred that in this group such plurals are also due to reduplication, the original singular having been dropped, and the varied duplicate left to denote the plural. The Algonquin languages, like the Semitic, largely employ variation in the principal vowel of the verb to distinguish the various derivative verbs from the fundamental one; and the Dakota carries the principle so far as to use it to distinguish the noun in its independent denotative form from its attributive forms, under which it figures syntactically as a verb or an adjective.

Objective gender appears to be as closely allied to objective number as personal gender to personal number; both seem to be consequences, though not necessary ones, of an analytical impulse arising at the very beginnings of speech, and further developed by the combined effect of generalisation and pluralisation. The distinctions of objective number, as we have shown², emphasize by their presence or absence that contrast between animated beings and inanimate objects which the lowest languages often mark by employing different personal particles³; those of objective gender pursue the discrimination a step farther. They created, in the first instance, two classes of names within the group of human beings⁴. The next step, if we may reason from the

as in the Tsimshian, internal and external indication are sometimes combined.

¹ Thus the O.E. plural 'fēt' (feet) of the sing. 'fōt' appears to have originally been 'fōti': similarly the original plurals of the words now represented by 'tooth,' 'mouse,' 'goose,' &c., were formed by suffixation. In the German 'Mann,' pl. 'Männer,' external and internal indication are combined.

² Ante, pp. 274, 275.

³ Ante, p. 217.

⁴ If we may reason from the Chiquito (ante, p. 217), which in fact establishes by its personal particles a 'masculine' and a 'neuter' class, women being included in the latter, the original distinction was traced between male human beings on the one hand and the rest of the universe on the other.

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America.*

Objective
gender

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single instance above quoted—the Taensa—was to extend the distinction of male and female to other animals. At a later stage inanimate objects also are admitted to the distinctions of gender; this extension has been gradual, for while languages like the Greek and Latin are only partially sexuous outside the circle of animal names, those which have succeeded the Latin by filiation have become wholly sexuous¹. At a still later stage the more advanced languages revolt against the distinction altogether. Old Norse and Anglo-Saxon alike possessed masculine, feminine, and neuter nouns. Modern Danish does not distinguish between masculine and feminine, though it preserves the neuter; it has reverted to the primitive distinction between animated beings and inanimate things. English has now become completely insexuous in the grammatical character of its nouns; it assimilates in this respect to the American languages.

Objective
gender
wanting in
American
and Tur-
anian lan-
guages.

Objective gender is alike wanting in every language of the New World and of the northern parts of the Old World. The reason of this probably belongs to material advancement, and has no strict connexion with linguistic progress². The fact is nevertheless too prominent and too nearly

¹ Modern Greek still remains partially sexuous.

² Objective gender appears to be confined to the languages of pastoral peoples possessing several domesticated animals, and prevails only throughout a well-marked district comprising Southern Europe, South-Western Asia, and Northern Africa. The Indo-European languages (excluding the Armenian), all the Semitic languages, and many North African languages (the Old Egyptian, Bari, Galla, Amharic, Tamachek Berber, Haussa, &c.) make up the sexuous group. In every case these are languages of peoples rich in cattle of several kinds. Most Indo-European languages are only partially sexuous, having masculine, feminine and neuter nouns, but a few, like the Semitic, are completely sexuous, having the masculine and feminine only. Partial sexuousity, as in Zend, Sanskrit, Greek, Latin, and Slavonic, probably preceded complete sexuousity, as in Celtic and Lithuanian. The incongruous effect of partial sexuousity in modern German is amusingly illustrated in Mark Twain's 'Tale of the Fishwife and Its Sad Fate' ('A Tramp Abroad,' Appendix D).

1 e. g. J.
'T
An
To
Y
2 Mr. C
adds, from
VOL. II

associated with what has preceded to permit of its being here passed over ; and it may be illustrated by a comparison with the Semitic languages, which mark the opposite extreme. In these languages, every noun, whatever object it may denote, possesses gender as a necessary grammatical attribute, and is either masculine or feminine ; more logical than the principal Indo-Germanic languages, which assign gender to a certain number only among their nouns, they reject the neuter. Not merely the sensible universe, but the intangible creations of thought, when mirrored in the grammatical glass, are instinct with life ; hence the feeble pronoun 'it' is wanting in the Bible. The magical vivacity which results, a prominent feature on the sacred page, wholly vanishes in translation into languages whose nouns are insexuous¹. Turning to America we find no American language possessing general objective gender. All nouns, for grammatical purposes, are neuters ; when the sex of animals requires expression a word meaning 'male' or 'female' is added. Few American languages possess any other means of distinguishing it. Those mentioned in the preceding paragraph, to which some northern Athapascan and Maya dialects may be added², distinguish the sex of human beings by a simple grammatical artifice. Only one, so far as our information goes, has thus distinguished sex in other animals : none has ever ascribed sex to inanimate objects. To this rule there is no exception. It is true that the Taensa applied to the intransferable and transferable belongings of male human beings a distinction easily mistaken for an indi-

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America.

¹ e.g. Job xvii. 14-16 :—

"To rottenness (*masc.*) I have said, "My Father (art) thou!"
"My Mother and my Sister!" to the worm (*fem.*).

And where, then, is my hope (*fem.*)?

And my hope, who shall behold her?

To the barriers of the under-world shall she descend ;

Yea, surely, in the dust shall we lie down together!

² Mr. Gatschet, in 'Science' (Cambridge, Mass.), April 29, 1887, adds, from personal observation, the Tonica of the lower Mississippi.

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cation of objective gender. The hair and the weapons of a chief, according to the Taensa classification of objects, belonged to the lower class; yet children and youths attached to the names denoting them a particle associated with names of their owners, as belonging to the upper or male class; women similarly distinguished the names of their husbands' moveable belongings¹. The first investigators of the Taensa language, unfamiliar with the broad principles of American grammar, seem to have treated such particles as indications of a masculine objective gender; there can, however, be no doubt that they belong to the class of 'reverential' elements, elsewhere illustrated from Mexican and Abiponian. The practice in question represents no approximation to the broader and looser distinctions employed in sexuous languages: in these languages grammatical gender, whatever may have been its original significance, is essentially an attribute of words, and has no connexion, save in the case of animal names, with the things denoted by them².

Recapitulation.

Whether the history of speech, as traced in the preceding pages, could have been recovered from the Turanian languages, either alone or in connexion with any other group belonging to the Old World, is more than doubtful. Compared with the definite picture presented by American

¹ Parisot and Adam, 'Langue Taensa,' p. 6. The term 'brother,' in the proverb 'sleep is the brother of death,' was in Taensa replaced by 'sister,' sleep being a thing of the non-masculine or lower class, and therefore incapable of masculine associations.

² A recent admirable manual of a Semitic language by way of explaining objective gender informs the pupil that 'to primitive man all nature seemed endowed with life; he, therefore, ascribed the distinction of sex to every existing thing.' Rarely has more error been got into two lines. The writer has been misled by 'animism.' Language proves that primitive man, whatever power and importance he may have ascribed to inanimate objects, drew the strongest of lines between such objects and what was endowed with life. Many ages probably passed before man ascribed the distinction of sex to any inanimate thing in connexion with its general name.

languages, Turanian speech presents a faint and vanishing outline of language in its earliest aspect. But the features in both, when examined, prove substantially identical. They practically cover the whole area of speech, and are equally striking on the negative and the positive side of the survey. Holophrasis and polysyllabism, yielding in varying degrees to analytic disintegration, are common to both. There is a common system of phonesis; a common basis of strenuity, shown in the Turanian group by its extensive avoidance of weak articulants as initials; a common want of certain adjustments, and a common use of others wanting elsewhere; and by an opportune survival, the rejection of labial explodents, which obtains in a well-defined group of North American languages, extends through the Aleutian Islands to the Asiatic shore. The development of grammar from the crude holophrase has proceeded on the same lines, the American languages representing the lower stages, the Turanian somewhat higher ones, of the transition. This is equally true of collective and selective personal forms; of numerous minor distinctions of personality above enumerated, which have long vanished from analytical speech; of the progress from prefixation to suffixation which leads to the dissolution of the holophrase; of the Object Conjugation, which introduces the development of passivity, both in the noun and the verb; of the introduction of circumstance and of negative forms in the verb; of gradually advancing dispersalisation, abstraction, and objective pluralisation. The chief common points on the negative side are the absence of vowel-mutation as a resource of grammar, of objective gender, and of composition by prepositions. Incidentally our investigation has solved a greater problem. It has explained the causes and methods of that revolution in human phonesis which not merely enlarged its range, but inverted its scope¹. The turning point was the dispersalisation of the personalised noun founded on the

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America.*¹ Ante, p. 110.

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interjection¹. Chiefly effected through the third person², this converted the developed ejaculation into the general name, changed a finite into an impulsive force, and conferred on speech the power of symbolising the whole world of outward things, including not merely the present and real, but the absent and imaginary³. Abstraction provided language with an endless series of comprehensive symbols, denoting conventional entities, which at length possess for man a higher degree of reality than the real things in which he supposes them to inhere⁴. Pluralisation opened for him the gates of logical and mathematical science. With indefinite and definite numerals⁵, joined to general and abstract terms, as with dice and counters, slowly and reluctantly exchanging bad guesses for better ones, he has played against nature that never-ending game of questions and answers in the course of which he has wrung from her willing breast secret after secret, until the process has at length become a confession rather than an examination.

Latham
 and the
 American
 languages

The American languages are described by a philologist whose opinions deserve great respect, as bearing less resemblance to those of the interior of Northern Asia than to those of the islands and peninsulas fringing its northeastern coast. These languages, which include those of the Koreans, the Japanese, the Aino, the Koriaks, and the Kamtchadales, not only have a general structural agreement, but agree in being more closely akin to those of America than any other⁶. This opinion, which Latham undoubtedly had some ground for entertaining, we have not succeeded in verifying; and our own investigations rather indicate

¹ p. 257.

² p. 264.

³ p. 267.

⁴ p. 268.

⁵ p. 279.

⁶ Latham, *Varieties of Man* (1850), p. 275. Latham was the first to suggest the now widely-accepted theory of the European origin of the Aryan nations:

Felix arbitrii princeps, qui congrua mundo
 Judicat, et primus sentit quod cernimus omnes.

the Northern or Arctic belt of Asia, from Behring's Sea westward at least as far as the Samoyede peninsula, as forming the substantial meeting-ground of the cognate languages of the Old and New Worlds. In many of the conclusions reached by this versatile and accomplished scholar, and ardent student of American glossology and ethnology, most of those who have followed in his track will heartily concur. Ethnologists are indebted to Latham for enunciating the law of ethnic extension in relation to language—that the greater the area over which a given language is spoken with little or no variation in dialect the more recent is the extension of the population that speaks it¹; from which the corollary follows that wherever population is distributed in contiguous limited areas, in each of which a language prevails sharply distinguished from that of the neighbouring ones, the settlement of such populations is presumably of considerable antiquity. The value of these generalisations, in their application to American ethnography, will appear in the sequel. Latham's specific conclusions in regard to the New World are of unequal value. That the Esquimaux are as truly American as any other stock of the New World—that on the Pacific side of the continent ethnological areas illustrate the above corollary, showing few traces of that diffusion which becomes conspicuous as we approach the Atlantic—these conclusions remain undisturbed by recent researches, and may be said to have laid the foundation of rational American ethnography. His opinion that the Mexican tribes, instead of having immigrated from some remote land in comparatively recent times, are true aborigines, having occupied approximately the same district for thousands of years, appears to us no less untenable than that which would connect the American languages with those of the Asiatic islands and peninsulas rather than with the general continental area of Turanian speech.

¹ *Opuscula, Essays chiefly Philological and Ethnographical* (1860), p. 141.

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*Aboriginal
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 America.*
 Theory of
 imported
 advancement.

We cannot but think that in hazarding the conclusion above quoted Latham not merely exceeded the limits of his knowledge¹, but was unconsciously influenced by an extravagant theory which regarded the Indian Tribes as representing, to some extent, emigrants from some populous maritime nation of Eastern Asia, who had sought the opposite shores of the Pacific Ocean in geographical circumstances not materially differing from those now subsisting, and had carried with them the elements of an already existing advancement. Such a theory could only refer to the Japanese and Chinese; and if it were true some closer connexion than has been shown to exist would probably be traceable between the languages of these nations and those of the New World. On the other side of the ocean the people primarily indicated in such a theory would be the Mexican, though if admissible at all as a practical hypothesis it would perhaps be most plausibly applied to the Peruvians of the coast. To the Chibcha of New Granada, and the Peruvians of the Sierra, having regard to the known history of these peoples, it could not be applied with the least semblance of probability. So vague and elastic is the hypothesis, when indefinitely stated, that it can only be controverted by reducing it to definite alternative forms; we can here do no more than briefly consider it in two contrary aspects: (1) that in which the imported advancement, in whatever it may have consisted,

¹ Since the above was written we have discovered a passage in Latham which apparently explains his misconception and confirms the view here taken of it—a passage previously disregarded because it relies on the unsound principle of ‘miscellaneous verbal affinities.’ Latham announces (*Opuscula*, p. 274) that he has found *Esquimaux words* in Koriak, Kamtehadale, Aino of the Curulian Islands, Korean, and Japanese; the very languages in which he professes to see a *structure* resembling that of the American languages. In a later work (*Elements of Comparative Philology*, 1862) he confesses to having no grammatical acquaintance with Korean (p. 166), or Kamtehadale or Koriak (p. 174); yet he maintains (p. 176) that ‘the Koriak is notably American, the Korean notably Chinese.’

is treated as having practically remained stationary, and (2) that in which it is considered as having retrograded. The third alternative, which considers the imported advancement as having been progressive, is substantially what is advocated in these volumes—the advancement however being limited to such elements as are associated with the status of savagery, and considered as having reached the New World in the course of migrations taking place mainly by land, and to a very limited extent, if at all, by sea.

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America.

In discussing this hypothesis the arts of life generally must be considered as they existed in America at the Discovery, in connexion with mental progress as evinced by the grammatical expression of thought: and as a preliminary it will be useful to illustrate the cultivation which the principal native language of America had attained a century after the conquest, by giving a specimen of the Mexican language in its natural form, free from the influence of European models. It is a narrative of the Spanish Discovery written by Chimalpahin, the native chronicler of Chalco, born in 1579:—

Specimen
of Mexican.

Auh çà no ipan inin omoteneuh macuilli tecpatl
Afterwards then also in that (before-)named five knife
xihuitl [de 1484 años,] in ocallac inin tlatocatepan-
year [1484,] then entered that revered-house-of-the-
chantzinco¹ in huehueintin tlatocuê Don
sovereign-family (of) the great-great ones, sovereign-chiefs, Don
Fernando ihuan Doña Isabel, reyes Castillan, iyehuatl
Fernando and Donna Isabel, kings (of) Castile, he-himself
itoca Don Christoval Colon, inin² callac
his-name Don Christoval Colon, that he-entered (the court)
tecan amo Español, amo huel oncan ichan in
(from) family not Spanish, not truly there his-house, the
España; auh ye huel ompa, chane huel ompa,
Spain; afterwards now truly there, having-a-house truly there,
huallehuac, in itlahuillanalpan in imapan,
he-had-come, (by) the his-crossing-over the on-the-water,

¹ i. e. 'the court.'

² i. e. 'who.'

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 ———
 Aboriginal
 America.

ihueican in altepetl in motenehua Genova; ihuel from-his-great the pueblo that it-named-itself Genoa; his-truly oncan ialtepeuh, itocayocan Nervi; huel oncan in there his-pueblo, by-its-name Nervi; truly there the ichan in Christoval Colon, iyehuatl in huey his-house the Christopher Columbus, he-himself the great tlalmatini, ihuan huey teoaamatini, ilhuicaa-¹ earth-knower, and great water-of-the-gods-knower, heaven-water-matini; inic itech mitohuaya, motenehuaya, cosmoknower; for-that in-him² he-was-called, he-was-named, cosmographo; huel mochintin quinmachtiaya, in atlacá, in grapher; truly all-of-them he-directed-them, the water-men, the atlan nemini, in marineros. Ipan inin omoteneuh xihuitl, on-water dwelling, the mariners. In that before-named year. in quipehualti³ iye quimitlanilia in huelitzin ihuan inin that he began that he-begged⁴ the revered-power and the tepalehualitzin in tlatocuê Don Fernando ihuan revered-help (of) the sovereign-chiefs Don Fernando and inamietzin Doña Isabel, inic hualiaz⁵ nican ipan his wife (rev.) Donna Isabel, for-that he-shall-come hither over to

¹ *Ilhuicatl* = 'heaven,' primarily denotes not the sky generally but the space immediately above the horizon. Hence it is often found in the plural. So in the compound name Moteuczomai!huicamina (the complete form of 'Montezuma') = 'When-the-chief-is-angry-he-shoots-to-heaven,' it is perhaps not suggested that the archer aims at the zenith, but that he can shoot in the ordinary way with such force as to clear the horizon. The similar name given to a Dacota chief—'Hole-in-the-day'—is, however, explained by Mr. Rührig in the 'Smithsonian Report' for 1871, p. 450, as 'intended to express simply one who as a powerful archer perforates the sky with his arrows.' The Mexican word for 'star' (*cillalli*) means 'hole-in-the-sky.' *Ilhuicatl* means 'place where day (*ilhuittl*) appears.' The place of the evening and morning star was called *ilhuicatillan* (vol. i. p. 545). In old Mexican the sea was called *ilhuicaatl* (= heaven-water), because it appeared to join and merge in the 'heavens' or the horizon. In modern Mexican the sea is simply *hueyatl* (= great-water).

² i. e. 'for that quality.'

³ Middle form: 'for himself.'

⁴ Middle form: 'for himself,' itlani = he-begs.

⁵ i. e. 'in order to come.' Future for infinitive, wanting in Mexican.

Nueva España, inic quinextiquiuh yancuic tlalli, Book II.
 New Spain, for-that he-should spy-out-for-them new land, *Aboriginal*
 in intechtzinco pohuiz tlatocquè España; oc *America.*
 that unto-the (rev.) shall-belong¹ sovereign-chiefs (of) Spain; also
 chiucnauhxiuitl inic onen quitlantimanca España, camo
 nine-years that in-vain he-below-remained (in) Spain, not
 niman ie yuh ca omacoc ihuelitiliztli, inic niman ye
 after thus thus for he-has-got his-powerfulness², that after now
 chiuhcnauxhiuhtica, in oncan ohualla; ye achtó oncan
 by-nine-years, that there he-has-come; now first there
 omotlallico in aihitic in omotenehua Española,
 he-has-settled that in-the-water that he-has-named Española,
 ihuan itocayocan Sanctiágo Cuba, ihuan oc ceeni in
 and by-its-name Santiago (of) Cuba and also afterwards that
 oncan itocayocan Sancto Domingo; moch aihitic,³
 there by-its-name Santo Domingo; all water-in,
 ilhuicaatl tehuatl ihtic⁴.
 heaven-water, water-of-the-gods, in.

It needs little discernment to see that the native Mexican Literary
cultivation
in Mexican. was the language of a barbarism little removed from savagery. Omitting Spanish elements, our extract contains 144 words, of which only half are in any sense significant, the rest being either connectives and continuatives, or demonstratives; and half the substantives remain undispersonalised. The writer has one virtue: he is sincerely anxious to make himself understood. Distrusting his efforts, he repeats himself from time to time, in various forms, and his phrases fall hopelessly dead upon the ear.

¹ i. e. 'that should belong to their highnesses the Kings of Spain.'

² i. e. 'for it was not until after thus long that he obtained authority,' &c.

³ *Aihitic* (= atl + ihtic, 'in water') is a postpositional compound employed to describe an island, just as *anahuac* (= atl + nahuac, 'by the side of water') is used to describe the shore of a lake or sea. '*Anahuac*' as a local name means primarily the land by the side of the lakes of the Mexican valley.

⁴ *Annales de Chimalpahin*, ed. Siméon, 1889, p. 151. M. Siméon's text is so accurate as to need only slight emendations.

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 America.

He takes five lines to explain that Columbus was not a Spaniard but a Genoese. These defects are not to be ascribed to sheer feebleness on the part of the writer. Partly, perhaps, they may be due to the necessity of writing down to the capacity of the Indians for whom the work was designed. Yet it can scarcely be doubted that the extract truly represents the utmost cultivation attained by the Mexican in native hands. The Spanish missionaries transformed it when they applied it to the catechism, hymn, and sermon. The mighty phrases of Holy Scripture, embodied in this language by the powerful pen of a Sahagun, have a different aspect. Penetrated with the spirit of his original, Sahagun avoids the defects which deform the style of the native chronicle. It would be easy to quote, from his great Lectionary, versions lacking indeed in the characteristic grandeur and grace of Scripture, but possessing a sombre beauty of their own—copies of the antique, in which the proportions of the original are maintained, though expressed in a coarse and intractable material. Yet even the Mexican Lectionary, destined ever to remain a noble monument at once of ancient American speech and of a devotion which overcame all obstacles in its zeal to convey the doctrines of Christianity to the Indian in his mother tongue, bears witness by its many defects, its continual redundancies, and its repetitions, to the backwardness of the language it employs, and to the low mental cultivation which that language represented.

Mexican
 and
 Japanese.

It would be superfluous to dwell on the contrast presented by the Chinese or the Japanese language on the one hand, and the Mexican or the Chimu on the other. Not even the boldest advocate of imported American advancement has ever seriously suggested such a comparison as an argument in its favour; it is too manifest that although all these languages are of the same widely-spread family, the Chinese and Japanese represent, in different ways, states of analytical development, grammatical progress, and phonetic change

immeasurably in advance of the highest languages of America. Were the suggestions of the linguistic data followed, the argument would be reversed; for, leaving the Chinese out of account, it is neither inconceivable nor inconsistent with these data that the Japanese should have been developed from American speech as its foundation. Compared with the Mexican, and measured by the standard of progressive grammatical forms, it exhibits a development roughly corresponding to the general superiority of Japanese advancement. The personal noun, so common in Mexican, has wholly vanished from Japanese, leaving only slight traces of its former existence in the forms of the general noun. The banishment of the personal particles has in Japanese been extended to the verb, which has been completely stripped of them, and has become as completely impersonal as the noun itself. The series of attributives in Japanese, as might be anticipated, is unusually ample; poor in simple adjectives of its own, it is rich in compound ones, and incorporates a large number of adjectival elements, for the purpose of composition, from the Chinese. But what is most remarkable in the Japanese vocabulary is its wealth of compound verbs. Like Greek, Latin, Sanskrit, and the Teutonic languages, Japanese forms these by composition with nouns and adjectives, as well as with other verbs: it lacks, however, the invaluable power which the former possess of compounding verbs with prepositions and adverbs. The place of these compounds is taken in Japanese by compounds of two verbs, the differentiating verb, performing the function of the adverb or preposition, being placed last, and receiving the qualifying particles; this, it will be noticed, is the reverse of the mode employed in the corresponding Indo-European compounds. In Mexican, again, the courtly or 'reverential' verbs are formed by simple derivation from those in ordinary use. The Japanese language possesses a separate series of courtly verbs, having a set of auxiliary verbs which are employed with them, and with them alone. The advance-

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ment of Japan offers other analogies to that of Mexico. Its agriculture, like that of Mexico, was exclusively based on human labour; analogies might easily be indicated in religion and social organisation. Its pictorial art, more advanced than that of Mexico, often reminds us of the latter; the conventional tree, for example, of the Mexican pinturas resembles that of Japan, and the picture-books of the latter country are still folded screen-wise, like the lienzos of Mexico. The pictographs of Mexico, when superficially examined, offer some analogy to the more elaborate symbols of China. The comparison above instituted, however, renders it extremely improbable that the Mexican, so cumbrous and so backward in grammatical growth, can possibly have been derived from either the terse, monosyllabic, Chinese, or the finely-developed language of Japan; it is equally difficult to suppose that the rude pictographs of Mexico represent in some decayed form either the complicated literary symbolism of China, or the ingenious written syllabaries which have been for ages employed by the Japanese.

‘Imported
 Advancement.’

The preceding comparison suggests a novel and somewhat startling question. Can it be that the theory of ‘imported advancement’ should be reversed? Beneath the surface of Japanese civilisation, moulded under foreign influence, the elements of an indigenous savagery are abundantly visible. We do not maintain that this was of American origin; does it not, however, represent some continuation and development of a lower human status, common to the whole shore of the two once continuous continents, and hence neither distinctively Asiatic nor distinctively American? To discuss this suggestion, equally applicable to the insular Ainu, and the Koreans, whose language has many affinities with the Japanese, is beside our purpose; it cannot, however, be more indefensible than the theory which regards the elements of advancement found in the New World as derived, wholly or partially, from Japan or China, and

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⁴ Dr.
 vol. i. pp

possibly, through those countries, from civilisations still further westward. This fantastic idea, born of ethnological speculation in its crudest form¹, received in the last century, from a misunderstood record found in the Chinese annals by the lexicographer De Guignes, an impulse powerful enough to survive when the misinterpretation had been decisively corrected. Contemporaneous in its origin with another fantastic theory already discussed², it is chiefly worth notice, like that theory, as illustrating the European tendency to refer everything American to some specific Old World source. As the Spanish theologian convinced himself of the Jewish origin of the American tribes, so the ethnologist eagerly seized the idea of a Chinese or Japanese origin for such culture as they possessed; the latter suggestion, moreover, accorded with a widespread belief that the American tribes were of a type specifically different from and lower than Old World man, if indeed they ranked as men at all—and were incapable of working out the problems of advancement for themselves³.

The history of this illusion will be best sought in a valuable work of more encyclopedic scope than our own⁴, from which the curious may learn how it passed from the learned to the half-learned and the unlearned, each class contributing its quota to a worthless though voluminous literature; it will here suffice to give its bare outline. The record above

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Discovery
of 'Fu-
sang.'

¹ Relation of Pedro de Castañeda (1540), Part II. ch. 6 (Ed. Ternaux-Companis, p. 184; ed. Winship, 1896, pp. 454, 525).

² Pages 82-93.

³ Many Spaniards, both lay and ecclesiastic, wished to exclude the aborigines from confession and the sacraments, on the ground that even if they were human beings they were in the condition of children below the age of reason. The question was judicially discussed at Rome, and in the end Paul III, by the bull *Veritas ipsa* (June 2, 1537), pronounced the Indians to be really human beings, and capable of understanding the Catholic faith and receiving the sacraments. Las Casas appeared as advocate on their behalf.

⁴ Dr. Justin Winsor's 'Narrative and Critical History of America,' vol. i. pp. 78-81.

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mentioned, found in the Chinese annals, vouched for the discovery by a Buddhist missionary of the distant country 'Fu-sang' in the fifth century of the Christian era. This country was supposed by De Guignes to have been that part of the New World now known as British Columbia'. Others held that 'Fu-sang' could have been none other than Mexico; and the origin of American advancement was forthwith ascribed to a connexion presumed to have been founded on similar voyages. It is not impossible that ships may from time to time have drifted hundreds of miles from Chinese and Japanese waters, and have brought back credible intelligence of lands previously unknown; and such vessels, it must be granted, may possibly have reached Kamtchatka, the Aleutian islands, and even the peninsula of Alaska. Von Tschudi, while summarily rejecting any interpretation of the voyage to Fu-sang as the foundation of American advancement, concludes, on the authority of the Chinese and Japanese annals, that in the seventh and eighth centuries, if not earlier, both Chinese and Japanese vessels actually reached both Kamtchatka and Alaska¹. Neither of these, however, could have been 'Fu-sang,' for Klaproth has shown its identity with some island of the Japanese group². Neither of them can be regarded as a promising seed-ground for imported advancement: and the historical significance of such voyages, if they ever took place, may be measured by the fact that so recently as 350 years after the Discovery no Chinese vessel was known to have crossed the Pacific to the New World³.

Evidence
 adduced

What chiefly gave wide currency to the doctrine of imported advancement was its adoption by Alexander von

¹ Mémoires de l'Académie des Inscriptions et Belles-lettres, vol. xxviii. p. 505 (1761).

² Organismus der Khetschua-Sprache, pp. 18, 19.

³ Nouvelles Annales des Voyages, vol. xxi. series 2.

⁴ J. F. Davis, *The Chinese* (1840), p. 278; compare De Pauw, *Recherches sur les Américains*, &c. 1777, vol. ii. p. 161.

Humboldt, whose acquirements as an Americanist, notwithstanding his considerable attainments in the physical sciences, were, at the time when he adopted this doctrine, of the scantiest description. In his earliest publication, written soon after his visit to Mexico, he suggested that 'some of those Asiatic priestly colonies whom mystic dreams sometimes impelled to embark in long voyages . . . may have been driven by storms to the coasts of New California¹;' and in a later work² embodying many interesting gleanings from American archaeology mingled with much that is spurious and some crude speculations of his own, he adduced certain imaginary resemblances between the calendars of China and Mexico, which have nothing whatever in common, as substantial evidence of borrowed culture. He supplemented this by other arguments, of which the following are fair specimens. The Mexican hieroglyph for water resembles the Phoenician letter Mem, which has passed into the Greek alphabet; the Mexican word 'atl' is itself preserved in Atelkusa, the name given

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¹ *Ansichten der Natur* (tr. Sabine), vol. i. p. 15. It is right to add that in a work written at a more mature age (*Hist. de la Géographie du Nouveau Continent*, vol. ii. p. 63), after the story of 'Fu-sang' had been explained by Klaproth, Humboldt expressed concurrence in this explanation. In his annotations to the third edition of the '*Ansichten*' (1849) he was either more careless or less conscientious. He there refers to Gomara as an authority for the statement that 'the remains of ships from Cathay, i. e. from Japan or China, were supposed to have been found on the coasts of the northern Dorado, called Quivira and Cibola, at the beginning of the sixteenth century' (tr. Sabine, vol. i. p. 177). Those who turn to the passage indicated will see that Gomara says nothing of the kind. Gomara's story is that those engaged in Coronado's expedition, in 1542, saw off the coast certain ships having their prows decorated with gold and silver, and laden with merchandise; and they supposed these to be of Cathay and China, 'because they intimated by signs that they had been thirty days on their voyage.' The incident has no place in the original accounts of the expedition, which had been published in 1832 by Ternaux-Compans; and if true must be understood of Indian coasting canoes.

² *Vues des Cordillères.*

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to their former district of residence by the Hungarians on the lower Danube. The Maya names for their twenty days are in several cases monosyllabic, and appear to belong to the monosyllabic districts of Eastern Asia. The Chinese termination 'tsin' occurs in many Mexican proper names, as Tonantsin, Acamapitsin, &c.

An eminent living authority more plausibly insists on the resemblance between an ancient Mexican game of hazard, usually known as 'patolli,' and the modern Hindoo game of 'pachisi,' as additional evidence to the same effect¹. The existence in both continents of myths relating to successive destructions and renovations of nature, and of the art of mixing copper with tin to form bronze, have also been thought to support the theory of a connexion between their populations in some stage of culture appreciably advanced beyond savagery. The myths in question, which have been referred to in our previous volume², seem to arise naturally wherever man speculates on the phenomena on which they are founded. The practice of mixing copper and tin, metals which occur in Mexico³, as in Cornwall, in close proximity, the lodes containing each often actually crossing each other, and probably have been from early times both accidentally and purposely mixed in smelting, can scarcely be admissible evidence of ethnic communication. Rather from respect for the names associated with the arguments from calendars and hazard games, than from any sense of their real importance, we shall examine them more closely, first, however, reviewing what advocates of imported advancement judiciously leave unnoticed—the peculiar system of arithmetic on which the Mexican calendar and games of chance were alike based; and for this purpose we proceed to consider the development

¹ Prof. Tylor's argument, stated by him long since in a less complete form, has been recently embodied in his tract 'On American Lot-games as Evidence of Asiatic Intercourse before the time of Columbus' (Leiden, 1896).

² Pp. 555-558.

³ As at Sultepec (Estado de Mexico).

in the New World of the art of number, which has been shown above to be a natural consequence of generalisation and pluralisation in language.

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The fundamental ethnological connexion which has hitherto been insisted on now gives place to a well-marked divergence, conferring on American advancement an aspect of strong originality. The race separates into two branches, and the character of each is determined by its surroundings. This aspect of originality, as might be anticipated, and as our former volume has amply illustrated, is by no means unbroken. There are resemblances, and striking ones, between the advancements of the two worlds, and these cover most of the field, for man remains ever man, under however various conditions. Such resemblances only serve to throw those differences which prove originality into stronger relief; and the differences are such, if our conclusions are right, as to show beyond reasonable doubt that the primitive connexion between the two worlds gradually ceased, and was followed by an extremely prolonged isolation. This, no doubt, was to some limited extent broken by occasional migrations from North-Eastern Asia to North-Western America—migrations representing in a weakened form the movement of the species by which the New World had been first peopled, and becoming less frequent as physical conditions became less favourable. The broad arguments in favour of this isolation have been already stated at length¹, and occasionally illustrated in discussing the arts of food-supply and the practices of religion. As we trace the intellectual development of aboriginal America, the indications of originality become numerous and striking; we find them on the very threshold of the inner temple of mental advancement, approached through the portal of completely developed grammar. The first results of our renewed investigation should suffice to dispose of the theory of borrowed culture, for the very district—the Mexican—to

Originality
of Ameri-
can ad-
vancement.

¹ Vol. i. Preface, p. x; vol. ii. p. 73.

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Primitive
 applica-
 tions of
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which the theory in each of its arguments relates proves to be the seat of a system of Number wholly different from that of China and Japan, and representing a successful struggle against difficulties never encountered by the arithmeticians of Eastern Asia.

Conceptions of objective number, to which mental advancement in its higher stages is so largely indebted, grow naturally out of analysis of the hand; and man's earliest applications of them scarcely need enumerating. His female mates and children, his blood-relations and comrades generally, and the living things encountered by him, are naturally associated with number; occasionally we find traces of 'collective' and 'selective' numerals, the numbers 1, 2, 3, and so forth, assuming one form when the persons or objects denoted are conceived as forming units of a larger group, and another when these are conceived severally or selectively¹. Fruits, roots, and seeds, the portions into which he divides his prey, his weapons and implements, all contribute to its development: the successions of day and night, of the waning and increasing moons, and of the slowly recurring seasons, in relation to the incidents and continuity of life², all unite to make number a part of his mental being, as soon as it is symbolised in language. Property stimulates the sense of number; possession and dispossession, gain and loss, quickly adjust themselves to numerical reckoning. Barter sooner or later comes to depend upon it, and it lends itself readily to gaming, the great solace of comfortable savagery and barbarism. Gaming

¹ Compare pp. 205, 206.

² The reckoning of time, in all its forms, comes late in the higher savagery. Of the powerful Hupà, a tribe of Athapascan origin, to whom several other tribes paid tribute, Mr. Powers (Tribes of California, p. 77) says: 'They take no account of the lapse of time, and consider it a ridiculous superfluity to keep the reckoning of their ages. "Snows," "moons," and "sleeps" answer to years, months, and days. They guess at their ages by consulting their teeth.'

is an agreement for the transfer of property on uncertain events, whether singly or in a series; and chance, or the uncertainty of events, must have been early recognised as a potent element in life. All the gains won by advancement are in substance nothing but bulwarks against the despotism of chance. The artificial basis of subsistence secures man against chance in the means of his preservation; language partially frees him from the tyranny of casual physical surroundings, which holds the lower animals firmly enchained; abstraction shakes off this domination altogether, and establishes complete freedom in man's mental converse with things. Created the plaything of chance, man wrestles with it and converts it into a plaything for himself.

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All facts and events, whether regular or casual, appear to man to be occasioned by some power adequate to their production; probably he at first attributes to all objects of sense an inherent force and will analogous to his own. The phenomena of gravitation, especially prominent in daily life, favour this conception. Why do fire and smoke ascend? Why do stones and other lifeless bodies, fruits and leaves, water, hail, and snow, fall to the ground? Why, especially, do light bodies thrown from the hand, such as leaves, shells, pebbles, and beans, fall now on one face, now on the other? In virtue, so man deems, of some hidden power; and his observations of such phenomena serve him as presages or omens of the action of unknown powers generally. From invoking the decision of chance as to whether some hunting expedition shall be undertaken, and who shall take part in it, the transition is easy to the distribution of its produce by this method; gaming does but extend the same process to the distribution of property in general between man and man. Gaming, as it develops, involves number in three different ways. Number enters (1) into the system and implements used in the game, (2) into the mode of scoring, and (3) into the reckoning of the stakes or forfeits; and as gaming is the natural pastime of

Number
and chance.

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 tion of
 Number
 extended.

barbarism, it may fairly be assumed to have been a powerful factor in the development of arithmetic. The same counters, and the same tables, serve as the instruments of gaming and of ordinary calculation; in Mexico, as in Europe, calculation generally and some favourite game of chance bore the same name¹.

As the artificial basis of life is more and more extended, man's numerical conceptions increase; and number becomes of paramount importance in connexion with sacrifices and tributes, the earliest developments of political economy². The fundamental covenants of society secure to the gods and chiefs certain fixed quantities of consumable stores, whether naturally or artificially produced, as prescribed or customary services; and the full tale must be rendered at prescribed intervals at the debtor's peril. The reckoning of time now assumes a new importance. Ancient opinion even assigned the regulation of the calendar by the solstices and equinoxes to the will of the gods that sacrifices should be rendered at similar times in each year, rather than to the strict requirements of agriculture³; and as religion undoubtedly makes larger demands on the cultivator as agriculture advances, the obligations of sacrifice may probably be ranked as of equal importance with agricultural necessities in urging the formation of reckonings in the nature of a calendar. These considerations apply equally to the relative position of the dominant chiefs, who must

¹ 'Patolli' means 'counting'; hence 'patolquachtli' = cloths of uniform size, packed in bundles of twenty and used as a currency. The score in the game of 'patolli' was kept by pebbles, placed on squares drawn on an oblong mat with liquid caoutchouc. It is scarcely necessary to mention the double abacus or 'tables,' used both for counting generally and for the game of 'tables' or backgammon, and the 'chequers' used for counting (as in the ancient English 'Exchequer') and in the game of 'chequers' or draughts, throughout Europe from very remote times.

² Vol. i. p. 482; vol. ii. p. 35.

³ Geminus, quoted by Sir I. Newton, *Chronology of Ancient Kingdoms Amended*, ed. 1728, p. 72.

know what quantity of tributes may be relied on, and of the tributary, whose dues must be raised in time for punctual payment. The relations of dominion and servitude were in early times subject to frequent change. As they become better established the dominant pueblo enumerates its successful chiefs, and the years of their sway; the servient one keeps in like manner the chronicle of its subjection. Military organisation, again, rests largely on the art of number. The number of warriors must be ascertained, for it is only by so doing that the economy of the campaign can be arranged for; a certain numerical provision must be made of food, weapons, and clothing. Such are the functions of arithmetic in the status of barbarism; economic organisation, the art of war, and a rude chronology, resting on the firm basis of number, even thus early made substantial progress. The most fruitful development of number depends on its application to the phenomena of extension and gravity; arithmetic prepares the way for geometry and mechanics, and when men have once measured land and weighed metals the road is open to the discoveries of Archimedes and Newton. Of only one of these—geometry—are the rudiments found in aboriginal America. The primary stimulus to measurement appears to have been the division, subdivision, and redivision of land in densely peopled districts of limited extent, such as Egypt and Babylonia, and Peru. Only in the valleys of the latter district were these conditions produced in the New World; and it is significant that the Peruvian peoples, in general less advanced than the Mexicans, excelled the latter in the practice and the proximate applications of a rudimentary geometry. The principle of the balance, like that of the wheel, was unknown in America.

Within the narrow limits above indicated the reaction of number on the general habit of thought is abundantly illustrated in aboriginal America; for when once estab-

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Thought

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lished it tends to affect all mental conceptions. Its domination in visible things naturally prompts its application to the powers who rule the universe. In the earliest stage of religious conceptions the number of spirits and gods is indefinite, the former and lower class being conceived as the more numerous. As the latter class grows in importance¹, a certain select number are assigned superior rank; this theological stage is illustrated both in Mexico and Peru. In Mexico 13 greater male and female gods were recognised; and to this number the Mexicans attached extraordinary importance. It was the number of days in one of the two reckonings of time used by them at the Conquest—the noctidiurnal birth-cycle; in the other reckoning—the ordinary civil and religious calendar—it governed the cycle of years, 4 cycles of 13 making a great cycle of 52 years. It represents the greatest number of new and full moons occurring in the year. The aborigines of Anahuac, like other savage peoples, doubtless counted 12 moons, which were distinguished by seasonal names; this number was probably changed to 13 by the Toltecs, who computed the number of days in the year, and perhaps added to the reckoning the fractional 13th moon, which this computation disclosed². The only other numbers used in the Mexican calendar were 5 (hand), 20 (hands and feet), and 4, the last being evidently the most recently introduced, and confined to the union of the 4 primary cycles in the great cycle of 52. Four is the number of limbs in man and other mammals, and the measure of 5 in 20.

¹ Vol. i. p. 438.

² In each solar year there must appear either 13 or 12 new and full moons, the former number, taking one year with another, occurring in about one-third of a given group. While 13, therefore, is the greatest number of new and full moons appearing in the course of any single year, 12 is the number of new and full moons appearing in the greatest number of years. The reckoning of 12 precedes that of 13. See post, page 356, for another mode of arriving at this number.

Together with its multiple 12, this number stands next in numerical development after the natural collectives 5, 10, and 20. The number 12, taken from the seasonal moons in the year, seems to have been in common use in a religious sense among the more advanced savage peoples; its measure 4 appears to belong to a somewhat higher grade, and is chiefly illustrated in Mexico and Peru.

In North America the use of 12 as the number of the great spirits or gods was widely extended. It occurs among the Lenni-Lenape, who recognised the 12 great spirits by placing in their council-house 12 poles in a circle, meeting at the top and covered with a blanket, and rolling into it in their honour 12 heated stones. Circles of 12 statues, as in Yucatan, and dances executed by 12 persons, point to the same conception, which might be amply illustrated by reference to the theology of the Old World. The use of 4 is equally common. It occurs in the 4 great gods of Mexico, the creators of all things¹; in the 1600 (400 × 4) gods who, according to other accounts, issued from a stone born of the goddess Citlalicue, and who desire that men should be created to serve them²; in the 4 mythical suns; in the 4 solar motions², represented by 4 flamboyant curves within the circular pictograph 'day'³, to which 4 dots correspond in the circular pictograph 'night'; in the 4 quarters of the heavens, the 4 chambers of Tlaloc, each with its vessel containing a different species of rain⁴, the 4 quarters of the pueblo of Mexico, and the sacrifices

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The Num
bers 12
and 4.

¹ Hist. de los Mexicanos por sus Pinturas, pp. 230, 231, 235, &c.

² Mendieta, Hist. Ecclesiastica Indiana, ch. 1.

³ See vol. i. p. 583, where the writer has given the usual explanation of 'Nauhollin' by the Mexican antiquaries. There is reason to suppose that the butterfly and its wings represent a gloss, though probably of aboriginal invention. 'Nauhollin' originally denoted the four motions of the Sun's limbs, the Sun being conceived as a god in human shape, who performed his daily task by gyration, revolving on his hands and feet successively (compare page 249).

⁴ Vol. i. p. 542.

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rendered to the gods 4 times daily. In Peru the use of this number follows similar lines; thus we have the 4 elements, the 4 principal huacas (the Creator, Sun, Thunder, and Earth-Mother), the 4 quarters of Cuzco (Ttahuantin Suyu), a division subsequently extended to the Cuzco District between the Apurimac and Paucartampu rivers, and later still applied to the wide-stretching quarters of the Inca dominion. All these applications of this number imply an appreciable degree of advancement; to some extent its use is evidently connected with mental analysis, whatever is prominent in extension being conceived as separable into 2 parts, and each of these into 2 others. 'Nauh,' the Mexican particle for this number, in the abstract form 'Nahui,' probably embodies some conception analogous to 'Nahua,' the 'Command' or Rule of Life, and suggesting wholeness, perfection, or indefeasibility; these austere and orderly barbarians recall the Pythagorean philosophers, who held the number 4 to be the root or source of all things.

Denary and
 Vicenary
 Number.

Systematic or rational number, as distinguished from the mere accumulation of units, is produced by choosing some multiple of 1 and treating it as a collective unit. Nature, we have seen, limits the numbers actually so adopted by man. Besides the hand, representing 5, and both hands, representing 10, the sum of digits on the four limbs suggests 20, explained by its name in some vocabularies as 'man,' or 'whole-man'; hence the three natural numerical systems, the Quinary, the Denary, and the Vicenary¹. Although the numerical system may in some few cases be properly ranked as quinary, the use of both hands and both feet

¹ Some tribes are said only to count to 3, and to base this rudimentary arithmetic on the 3 joints of the finger (Tylor). Such a reckoning could scarcely be confined to one finger, and seems to lead directly to a duodecimal arithmetic, for practical purposes the most advanced of all. Evidently such a reckoning is merely supplementary to a denary one, and really indicates a certain degree of arithmetical progress.

for all possible purposes is so natural to man that a quinary arithmetic cannot long hold its ground; and it may be considered as practically merging or merged in the others. It is otherwise as between the denary and the vicenary systems: the larger multiples 10 and 20 resist each other, dominating the mind each to the other's exclusion. This result, however, only takes place at an advanced stage, when one or the other has to be definitely adopted as the basis of a compound numeration. So long as the numbers requiring expression do not exceed 100, or thereabouts, 'both hands' and 'whole man' would be equally convenient as measures of the number to be indicated, and would probably be employed concurrently, with a tendency to use one rather than the other in proportion as numbers above 10 were or were not in common use for ordinary purposes. The frequent use of numbers exceeding 10 must necessarily carry the mind on to 20 as the natural limit of the simple numerical group; where, however, this number is not often exceeded, 'both hands' would remain the natural collective unit, and the system of number would become denary. Only when the collective unit comes to be multiplied by itself, or 'squared,' would it be necessary to choose between them.

Up to this point the denary and vicenary systems are equally convenient, the numbers below the collective unit being easily added to or used as multipliers for it, as may be required. When, however, the two systems are compared with reference to the facilities afforded by each for expressing numbers higher than the collective unit multiplied by itself, and for constituting a progressive scale of compound terms by the continuous multiplication of the product thus obtained, the inconvenience of the vicenary system is manifest. The multiples increase too rapidly. It has as its first compound term, instead of the useful 100, the rarely required number 400, and as its second, instead of 1,000, the number 8,000, which is so seldom reached in the reckon-

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Relative
value of
the two
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ings of common life that the mind scarcely attaches to it any definite idea; and here its supply of multiples practically ends. A vicenary arithmetic, though more favourable to mental advancement in a low stage because exercising the imagination in a higher degree, is less favourable to notation by compound terms than the system of multiplication by 10 in successive stages (100, 1,000, 10,000, and so forth); and while it might be expected to prevail rather than a denary arithmetic at a certain stage of culture, there must be a tendency to abandon it for the latter as advancement proceeds. It recalls the cycle passed through by objective gender, which is unknown in the lowest stages of language, and has a prominent place as advancement proceeds in the languages of certain peoples whose circumstances suggest it¹, but is either reduced to its lowest terms, or abandoned, by the most advanced of all. It possesses one advantage over denary arithmetic which cannot but be appreciated by the historian. It lends itself less easily to exaggeration and falsification. In denary reckonings the temptation to use a multiple one degree beyond the truth is too often irresistible: records, like the Mexican, kept by vicenary numeration, are more likely to retain a truthful character, because falsification of the kind indicated does not so readily suggest itself, and would often produce palpably incredible results.

Vicenary
 Arithmetic
 in America.

To trace the struggle between denary and vicenary arithmetic throughout the world would be beside our present purpose. The latter is more prominent in aboriginal America than elsewhere; but it is worth notice that it survives in the French 'quatre-vingt,' is employed by the Basques and Bas-Bretons, and is not wholly extinct in English practice, the 'score,' with its multiples up to four, being still commonly used for certain commercial purposes. Vicenary arithmetic has had its greatest known development in Mexico, where 'pohualli' is the exact etymological

¹ See note 2, p. 288.

equivalent of 'score¹,' and survives as a more or less imperfect system in many other parts of America. North of Panama it chiefly prevails on the Pacific side. The peoples of the Mexican district, including the Mexicans themselves, the Maya tribes, the Otomi, Tarascans, Matlatzincans, Zapotecs, and others, all have the vicenary reckoning. Southward, towards the isthmus, we find the denary in use among the lower peoples, such as the Térraba of Costa Rica². To the northward of Mexico the vicenary is used by most of the Sonoran tribes, the Pawnee, and the Thlingit. In South America it was used by the Chibcha of New Granada, the Caribs, the Abipones, and the widely-spread Tupi-Guarani, and by many low tribes of the forest, as the Moxos, Baures, Maipures, Yaruros, and Kiriri. The denary system, on the other hand, prevails in South America among the Peruvian peoples, who had in ancient times a highly developed arithmetic—the Yurucares, Lules, Araucans, and Patagonians; in the northern continent it has a wider area, being the reckoning of the Athapascans, Algonquins, Iroquois, Dakota, Cherokees, and Choctaws, and the tribes of Oregon and California. Does the contrast of these rival systems, it will be asked, throw light on the connexion with Asia? It affords yet one more suggestion of a primitive connexion; for while most Asiatic peoples use the denary system, the vicenary remains in use among the Tchukchi and the Ainu, peoples in whose languages affinities have been traced with those of the New World.

Had the solar system been designed by astronomers to

¹ 'Pohua' = he scores or reckons: 'pohualli' = score, is 'the score' by excellence, the full score of 20. The arithmetical term is 'cempohualli' = 'one score' ('cen' = 'one').

² The Térraba still retain those variations of the numeral according to the character of the object which are common among low tribes, and seem to be the germ of the Chinese and Japanese 'numeratives.' Thus, for small round objects the first syllable of the numeral is *kuo-*, for large and long ones *kro-*.

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 Reckoning
 of Time—
 Lunisolar
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the intent, among others, that man should employ it for measuring time, the earth's periodical course round the sun would doubtless have been made a multiple, as nearly as celestial mechanics permit, of the moon's course round the earth, and the latter a multiple of the earth's daily revolution. A primitive calculation, common in the Old World, of the solar and lunar periods as 360 and 30 days respectively, represents such an arrangement; and the two luminaries were probably believed to move in the perfect arithmetical harmony represented by the triple ratio involved in these figures. This illusion vanished as knowledge advanced; finally it was ascertained that the three periods are mutually incommensurable, leaving in every case large fractional remainders when the greater are divided by the less¹. The calendars invented by man represent attempts to coördinate these incoördinable quantities—to make phenomena marking incommensurable periods available notwithstanding for some uniform measurement of time. Those of the Old World alone attack the complicated problem of coördinating both the month and the year with the day, with the necessary result that the day alone remains a true natural unit, both the month and the year, in a greater or less degree, losing their natural aspects, and becoming in fact artificial divisions of time. Such calendars, called by Newton 'lunisolar,' first came into use in Chaldaea and Egypt, whence they had spread, long before the Christian era, to every civilisation in the Old World, from the Roman in the west to the Chinese in the east. With a single exception, which proves to be an apparent one only, they have remained in use ever since; and as the lunisolar reckoning was absolutely unknown in the New World, its nature may here be briefly reviewed in order to enable the reader to compare it with the reckoning used in Mexico.

Although the forms of the lunisolar calendar have histori-

¹ The mean synodical revolution of the moon is 29d. 12h. 44m. 3s.; the mean tropical year is 365d. 5h. 48m. 49s.

cally been extremely numerous, and are theoretically unlimited in number, the principle on which they are founded must necessarily be applied in one of two alternative ways. Either the year must give place to the lunation, or the lunation to the year, as the paramount unit. The older calendars, of which the Athenian is a typical example, favoured the month in their schematism; a preference due to the fact that the month came into use, as a practical division of time, long before the year. The lunar phenomena, changing daily in their uniform sequence, first suggested some larger measure of time than the succession of day and night; the new moon alone provided a fixed and familiar point with which any larger period could be begun and ended. When, however, the moon's course came to be definitely measured by calculating an average from the number of days comprised in several successive lunations, the traditional estimate of its length as 30 days continuously was found to be false. The lunation, which occupies about $29\frac{1}{2}$ days, can only be calendarised by alternate periods of 29 and 30 days; and the principle of vacillation, thus established, was extended to the year itself. In order to keep the month to the actual length of the lunation, the lunisolar calendarists unscrupulously varied the length of the year, computing this as 13 instead of 12 months whenever the epact, or excess of days at the end of the estimated seasonal year above 354, the sum of 12 lunations—an excess accumulating year by year—amounted to 30 or more; at this point 30 of these days were reckoned as an additional or thirteenth month, the balance, if any remained, being carried on, and added to the regular epact of the ensuing year. This device was no subtle contrivance of astronomers, nor was it originally suggested by the vacillating month; it was forced on man by the combined effect of religious duty and physical laws. It arose, long before the true length of the lunation had been ascertained, from the necessity of deferring observances which in certain

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Vacillating
Lunisolar
Calendars.

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years could not be fulfilled at their due time¹. Sacrifices, largely consisting of seasonable natural products, had to be offered to the gods in each month. If the year, however, remained a sequence of 12 lunations, or 354 days, the successive years rapidly lost their seasonal character. In 16 years, or thereabouts, the seasons became reversed, gradually regaining their places during the 16 years following; and were the year taken as 13 lunations this result must come about even more quickly. By the method of intercalation above described the lunar reckoning and the course of the sun could be so far harmonised as never to vary from each other by more than 30 days, whatever length might be assigned to the solar year, and to come together at the end of some ascertained period, depending upon the number of days of which the year was assumed to consist.

Original
Lunisolar
Cycle—the
Octaeteris.

The solar year seems to have been generally assumed, in the first instance, at the round number of 360 days; an estimate which leads easily, by the method of intercalation, to a lunisolar cycle in which the mean year closely approximates to the true length, or $365\frac{1}{4}$ days nearly. An assumed year of 360 days loses on the seasons at the rate of $26\frac{1}{4}$ days in 5 years, the period in which it returns to the lunar reckoning. The most obvious experiment by way of correction was to double the epact, counting 366 days to the year; for an assumed year of this length returns to the lunar reckoning, by two intercalations, in the same period (5 years) as the year of 360 days. Such a year is not far from the truth, only gaining on the seasons at the rate of $3\frac{3}{4}$ days in 5 years; an error which was corrected by regularly alternating this 5-years cycle with another of 3 years, in

¹ 'The Passover was kept upon the fourteenth day of the first month, the moon being then at the full; and if the corn was not then ripe enough for offering the first fruits, the festival was put off, by adding an intercalary month to the end of the year, and the harvest was got in before the Pentecost, and the other fruits gathered before the feast of the seventh month' (Newton, *op. cit.*, p. 77).

which the length of the year was assumed as 364 days. The composite cycle thus constituted is the well-known Octaëteris, or 8-years period, of the early Greek calendars. By this system the solar and lunar revolutions were almost exactly co-ordinated; but the uniformity of nature was wholly lost, the month vacillating between 29 and 30 days, the lunar year between 354 and 384 days, the solar year between 364 and 366 days, and the epact between 10 and 12 days. Nothing was stable but the co-ordination of the month with the year once in each 8-years period; and this advantage was purchased by sacrificing the stability of the month itself. The mean revolution of the moon exceeds $29\frac{1}{2}$ days, the standard assumed in the cycle, by a fraction accumulating to a whole day in less than 3 years. Under the primitive system of loose intercalation such a discrepancy corrected itself. When, however, the month had become fixed by co-ordination with the year, it necessarily began to lose on the actual revolution of the moon. Each year, henceforth, had its calendar new moon and its natural new moon, the latter happening later and later in each successive month, until in the course of 80 years or thereabouts the end of the month was reached, and the process recurred as before. Such a system produced little practical inconvenience, for the time of each natural new moon was always ascertainable in advance; it operated, nevertheless, as a standing admission that the problem of a uniform chronology remained unsolved.

We are compelled to enter into these details, because the calendar of China, from which the advocates of imported advancement allege that of Mexico to have been borrowed, is not merely lunisolar in its constitution, but has admittedly employed, from very early times, the most ingenious and serviceable lunisolar cycle ever invented—that devised by the Athenian mathematician Meton, and proposed by him for adoption in Greece in the year 432 B. C. The Chinese, indeed, claim to have possessed this cycle long before its

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Metonic
Lunisolar
Calendar—
adopted in
China.

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discovery in Europe; and although this claim is unfounded, the fact that the Metonic cycle became the basis of their calendar soon after its discovery indicates that the reckoning which preceded it was of a lunisolar nature; that the calendarists of ancient China were no less familiar than those of Greece with the difficulties and discrepancies involved in the co-ordination of the month and the year; and that they eagerly adopted a scheme which substantially overcame them. Meton solved the double problem of securing the periodical return of the month to the year, and confining the resulting discrepancy between the calendar new moon and the actual one within certain narrow limits. By reducing the number of months containing 29 days, as compared with those containing 30 days, he counteracted the tendency of the month to lose on the moon's actual course, and prevented the gain of the natural new moon on that of the calendar from exceeding 26 hours. While the Metonic cycle, which embraced a period of 19 years, aggravated the vacillation incident to a fixed lunisolar reckoning, the elaborate calculation involved in it made it a mystery to all but the learned. These circumstances, however, did not prevent its adoption wherever the co-ordination of the lunation with the year was regarded as essential; and it is still in substance the calendar of India and China, and the foundation of the Paschal cycle observed by the Christian Churches¹.

Constant
 Lunisolar
 Calendars.

These vacillating years had one beneficial result. The husbandman, to whom they were useless as guides in his annual labours, fell back on the unchanging natural calendar of the starry heavens. The heliacal risings and settings of certain brilliant stars and constellations, and the gradual extension and contraction, both in length and altitude, of the arc described by the sun in the sky, came to be recognised and investigated as the only trustworthy indica-

¹ The 'Golden Numbers' of the ecclesiastical calendar indicate the years of Meton's cycle. See post, p. 371.

tions of the seasonal succession. Prolonged observation traced the sun's annual circuit among the stars, disclosed the planets nearest to the earth, proved the close connexion as to their rising and setting, of Mercury and Venus with the sun, and showed that all moved in the sun's apparent path among the constellations. All these discoveries pointed to the sun as the true and only proper regulator of the year; and in Egypt, one of the two primitive centres of astronomical science, this conclusion was irresistibly enforced by an annual event on which the whole scheme of life depended. The vacillating year owed its origin and prevalence elsewhere to the fact that in general nature provides only one fixed and familiar point—the new moon—by which any period larger than the day can be accurately defined. In Egypt, the annual rise and overflow of the Nile, following closely on the summer solstice and the heliacal rising of Sirius, established a constant solar year as the paramount unit of time; and the lunation became of minor importance. Here, as elsewhere, the length of the year was originally assumed as 360 days, and the month as 30 days. When the year was more accurately calculated at 365 days, the equable month of 30 days was retained as a fixed conventional period, the remaining 5 days being formed into a fixed conventional epact; and although at an early date it became known that the mean solar year exceeded the calendar year by a fourth part of a day, no corresponding correction was made in the civil reckoning of time. From Egypt the constant year of 365 days, with its constant months and epact, spread to Babylonia, Persia, and Armenia, and became the foundation of the Christian calendar through its adoption at Rome by Julius Cæsar. In the Julian year the fixed epact of 5 days was abolished, these days being distributed among the months; and the excess of the solar year over 365 days was for the first time recognised by making every fourth year a leap-year of 366 days. Constant years of the Egyptian and Julian type would be more properly described

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America.*

Book II. as solilunar than as lunisolar. They represent a system in which the solar period is the paramount unit, while the lunar element has not been wholly dropped; for the month is retained as a conventional division of the year, although no regard is had to the actual succession of lunations—and its average duration represents the length of the natural month slightly expanded.

Aboriginal America.

Mexican calendar not lunisolar.

The calendar of Islam alone violates the rule that civilised time-reckoning in the Old World is universally lunisolar. A lunisolar year, of the older type, was used by the Arabians before the Hejra, but was abolished by the Kurân. The substantial reason was probably its subsisting association with idolatry; the alleged reason was that a year of 12 months had been divinely ordained when the heavens and earth were created, and that man must not presume to amend the institutions of his Maker. Hence Moslems, though permitted to regard the 'measured orbit of the sun' as a mighty work of the Merciful One¹, are compelled to reckon by a lunar year of 354 or 355 days², successively receding from, and advancing towards, the annual sequence of the seasons, during a cycle of 33 years; this obligation, nevertheless, has never prevented them from borrowing the lunisolar calendars of their neighbours whenever necessary or convenient. In contrast to the lunisolar chronology of the Old World, and to the purely lunar calendar which forms the solitary exception to it, the fact stands prominently forth that in the only calendar found in the New World at the Conquest, that of Mexico, the moon was in no way recognised. This fundamental distinction is overlooked by those who regard the superficial resemblance traceable between the calendars of China and Mexico as an indication

¹ Kurân, Sûra 55.

² The year of 355 days occurs in the Mahomedan calendar 11 times in every 30 years, the intercalary day being added to the last month, thus making up, with a fraction over, the 8h. 48m. 6s. by which the mean lunar year exceeds 354 days.

of borrowed advancement. The Chinese year still remains as it was during the Han dynasty (B.C. 205—A.D. 225)—and had probably been during ages previously—a vacillating lunisolar one, consisting sometimes of 12, sometimes of 13 lunar months, each containing 29 or 30 days alternately¹. The Mexican year was a constant solar period of 365 days, counted, like all else in Mexico, by the Cempohualli or score of 20 units. Formerly it had been calculated at 360 days; a period which the Cempohualli measured exactly 18 times. The Nahuatlacâ, who reckoned a succession of 13 new moons, adopted the same number in reckoning their cycles of days and years. Thirteen years consisting of 360 days each could not have been recorded without proving that such a year lost largely on the seasons; nor was any difficult observation or abtruse reckoning required, when once the solstice had been observed, to fix the necessary rectification at 5 days. After the lapse of 4 years (of 360 days or 18 Cempohualli) the solstice plainly returned twenty days, or one Cempohualli, later than such a reckoning assumed; hence 5 days were added to the year, and a period of 4 years of 365 days was denominated the Teoxihuitl, or Year-of-the-God (the Sun). The Year of the Sun, like the days, the moons, and the calendar years, was reckoned by cycles of 13, each containing 52 years of 365 days; a period which fell short of the sun's true course by exactly 13 days, or one sequence of the noctidiurnal cycle. Thirteen days, accordingly, are said to have been added to each cycle of 52 years, the entire period thus constituted being equal to 52 years of 365 $\frac{1}{4}$ days, the mean duration of the Julian year. This statement we shall show to be a fabrication: the Mexican year, like that of Egypt, was a simple cycle of 365 days without correction. But there is nothing in the Old World resembling the Mexican Calendar in its method; it is

¹ A year of 13 months is introduced 22 times in the vulgar cycle of 60 years, at such intervals of 2 or 3 years as will bring the lunar reckoning most nearly into unison with the solar and seasonal one.

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America.*

absolutely unique. The reason of its peculiarity lies in the vicenary reckoning. The tributes of the peasantry and the servient pueblos fell due at periods of days numbered by multiples of 20. The lunation, being essentially fractional and incommensurable with the year, was not available for marking such periods; hence, although some relation between the revolutions of the sun and the moon had probably been once recognised, and the number 13, derived from the new moons in the year, entered in other ways into the reckoning of time, the lunation was rejected as a period of days, and the calendar assumed a purely solar aspect.

History of
chronology.

In order to explain the Mexican year more fully, the history of chronology in the New World must be briefly traced to its beginnings. The phenomena of time appear always to have been reduced to numbers before the more prominent phenomena of extension, and the reason is obvious. Time has but one dimension, while space has three; nature, moreover, in the case of time, forces upon man three distinct standards of measurement, instead of leaving him, as in the case of space, to choose a standard for himself. Of the three natural standards of time, the simplest and most easily recognised is the natural unit of human life—the succession of days, or rather of sequences of day and night. A reckoning of this succession, up to some stated numerical limit, is known in chronology as a noctidiurnal cycle; and such reckonings often subsist side by side with others of a more complicated description. Perpetual cycles of this kind, consisting of 3, 5, or some other small number of days, are used by certain African peoples whose needs require no better form of reckoning. Occasionally we find alternating sequences, each having a different number; the conception of chance, moreover, as connected with number sometimes enters into these simple chronologies, a sequence of 'lucky' days alternating regularly with a sequence of 'unlucky' ones. In a subse-

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quent stage, the noctidiurnal cycle appears to have been regulated by short uniform periods, founded on observation of the number of days comprised in the lunation. Of this form of continuous reckoning the nundinal cycle of 8 days, used in ancient Rome, and the familiar hebdomadal or 7-day cycle of the Jewish and Christian world, which can be traced eastwards as far as China, are obvious examples; both approximate, as closely as whole numbers can do, to the quarter-lunation, the one slightly exceeding, the other falling slightly short of it. The number of lunations in the year was employed in the same way. A vulgar cycle of 12 days, founded on this number, is still recognised in China, beside the 7-day noctidiurnal cycle; though for practical purposes it appears to be merged in the 60-day cycle of the same kind. The same principle is exemplified in the noctidiurnal cycle of Mexico, where the number of moons in the year was estimated as 13 instead of 12; this cycle consisted of 13-day periods, of which a Cempohualli, or 20, were reckoned as a larger unit. A third vulgar cycle, used in China, consisted of groups of 10 days; this also appears to have been founded on an improved estimate of the lunar phases, these being conceived as 3 of 10 days each, instead of 4 of 7 or 8 days each, representing the increase, culmination, and decrease of the moon—a division of the lunation commonly in use in ancient Greece: such a sequence represents the true length of the lunation in days far more correctly than the hebdomadal or nundinal cycle¹. Possibly, however, this 10-day cycle may represent a mere numerical count natural in denary arithmetic².

We thus find numbers based on the observation of the

¹ The lunation being $29\frac{1}{2}$ days nearly, the cycle of 3 groups of 10 days makes 30, the hebdomadal 28, the nundinal 32.

² The primitive Roman year of 300 days, known as the 'year of Romulus,' represents such a numerical count of 10 months of 30 days, to which 4 more days were afterwards added to make it commensurable with the nundinal reckoning ($8 \times 38 = 304$).

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Reckoning
by the suc-
cession of
moons.

moon entering into the most elementary of time-reckonings—the noctidiurnal cycle—before the lunation was itself made a substantive chronological unit: and this practice is proved to be common to the Old World and the New. Everything points to the succession of phases in a moon, and of moons in a seasonal year, as man's earliest guides in formulating his chronology. Savages often recognise the succession of moons without keeping any reckoning of days or years; the reason apparently being that, while the lunar phenomena constitute a natural record of time, the succession of day and night, closely associated with waking and sleep, activity and rest, warmth and cold, easily merges in and passes away with the general mass of personal impressions. Marked contrasts of the seasons, the foundations of a yearly reckoning, are far from universal. Spring would in the tropics be perpetual, but for the alternation of rainy and dry seasons; where the rainfall is equable, irregular, or wholly wanting, as in the Yuncapata of Peru, the year has practically no existence. Only when the poles are gradually approached and the tropics left behind do the seasonal phenomena make themselves distinctively felt; even where seasonal differences are most strongly marked, they recur at intervals too long to become obvious matters of numerical computation. The comparative shortness of the lunar periods makes them attractive and easy subjects of reckoning, and they are few enough to be reckoned in the most elementary arithmetic. The lunar phenomena are objective, universal, striking, and continuous. For the savage they embody some profound mystery; and this, taken in connexion with their apparent effect on the food-supply, early renders the moon an object of worship¹. They convey to the mind an impression not so obviously suggested by the phenomena of the sun—the impression of a succession within a succession; hence the lunation naturally suggests the computation of time by units as elements

¹ Vol. i. p. 547.

in a larger unit. The changes, moreover, presented by the sun are changes of place only; his figure remains constant, whatever the differences in his altitude and places of rising and setting, and in the amount of heat absorbed from his disk. From night to night the moon not only moves by regular change of position, like the sun, in her path through the heavens, but appears in each successive night to have changed her position relatively to the sun, her elevation above the horizon, and her shape; during some days she even disappears altogether, reappearing, as it were, out of nothing, as a slender and barely visible crescent of light. While her increase from this point is watched day by day, and associated as a cause with the growth and maturation of the various plants and animals on which man depends for subsistence, the future moons in their succession, each often bringing some item of the food-supply in due season, are anticipated with anxious attention; and this double influence of the moon on human fortunes, in the most momentous of matters, naturally suggests some numerical forecast of the lunation in terms of the day, and of the seasonal year in terms of the lunation, although the true number is in each case difficult to ascertain, and long remains undetermined. The reckoning of moons, when once formulated, readily combines with the succession of the seasons, and the seasonal nomenclature is readily taken into the series of their names. The indefinite cycle of the seasonal phenomena is thus rendered definite, and what was once a matter of vague memory becomes firmly imprinted on the mind by its association with number and numerical succession.

Another cause of an economical nature contributes to the observation of the moon among peoples occupied in any form of herdsman'ship. As young animals must if possible be brought into the world at a time favourable to their health and maintenance, the various periods of gestation must be calculated, and the time of breeding arranged

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America.

Birth-
cycles—
primitive
Mexican
moon-
reckoning.

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accordingly. It must have been early discovered that in the case of the principal domesticated animals these periods are measurable by the lunation; and to this fact the persistent endeavours of advanced peoples in the Old World, who were without exception herdsmen, to accommodate an approximately correct month to the solar year, are partly attributable. The human species, also, has its birth-cycle; and although Mexico possessed no domesticable animals, the human birth-cycle was observed with close attention. It consisted of consequences of the 13-day noctidiurnal cycle above mentioned: and each day in this cycle once bore a name borrowed, if our conclusions are right, from a very old seasonal enumeration of moons, at some previous time in use, either in Anahuac or in some district which the Nahuatlacâ had inhabited before the immigration. The names given to the days in this cycle seem to be seasonal names of moons, such as are used among most savage peoples; the succession indicated has a general correspondence with the successive seasonal phenomena as they occur on the plateau of Anahuac; and the birth-cycle itself was actually known in Mexico at the Conquest as 'the Moon-reckoning' (Metztlapohualli)¹. Possibly the succession of days in this cycle, restored to its original form as a succession of moons, represents the time-reckoning of the Otomi aborigines. When the Nahuatlacâ, or 'Mexican-speaking' peoples, immigrated into Anahuac in successive swarms, bringing with them the solar calendar, ascribed among them to the great solar god Quetzalcohuatl, the reckoning by moons was superseded; the names borne by them, nevertheless, appear to have survived through their being also attached to a sequence of days, both in the ordinary solar calendar and in the noctidiurnal birth-cycle. The primitive

¹ Metzli + tlapohualli. The birth-cycle may indeed have acquired this name from being in fact, though not in form, a reckoning of 9 moons wanting a few days. The other interpretation seems on the whole preferable.

moon-reckoning thus conjecturally restored consists of 13 moons, and the 13th, which would represent only a fraction of a lunation or 11 days, if the reckoning were adjusted with the solar year, bears the name 'Acatl' or Maize¹. It is extremely doubtful whether the Otomi, before the immigration of the Nahuatlacâ, estimated the solar year and observed the lunation so accurately as to be aware of the occasional occurrence of 13 moons in the year instead of 12, though they may have been cultivators of maize; possibly the 13th or Maize moon was added by the Nahuatlacâ, in whose hands maize-cultivation assumed a new importance throughout Anahuac.

Whether we are right or wrong in identifying the names of days occurring in the Mexican birth-cycle as names of an ancient seasonal sequence marked by moons, to which a Maize-moon was added in recognition of agriculture,

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Teotihuacan
moon-
reckoning.

¹ METZTLAPOHUALLI (ORIGINAL MOON-RECKONING)
OF MEXICO.

1. CIPACTLI (Manta-moon). Manta reappears on the surface of the sea after the rains. (Middle of October.)
2. EHECATL (Wind-moon). Recommencement of windy season after calms.
3. CALLI (House-moon). Houses and temples cleansed and repaired.
4. QUETZPALLI (Lizard-moon).
5. COHUATL (Snake-moon).
6. MIQUITZTLI (Corpse-moon). Unhealthy season: hot winds and drought.
7. MAZATL (Deer-moon).
8. TOCHTLI (Rabbit-moon).
9. ATL (Water-moon). Rainy season begins.
10. ITZCUINTLI (Dog-moon).
11. OZOMATLI (Monkey-moon).
12. MALINALLI (a medicinal plant).
- [13. ACATL (Maize-moon). Maize planted. Probably added later; compare post, p. 357, and p. 367, line 27.]

The rainy season of Mexico begins in June or July, lasting from 3 to 4 months. Hence it seems probable that the primitive seasonal year began in the middle of October, when the rains cease.

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 America.

other instances can be adduced in which this process has apparently taken place¹; and in elevated districts, where the labours of the cultivator continue during several months, names by which the successive stages of his labours are denoted are naturally found in the sequence of moons. Such is the case in the moon-reckoning of Peru, the only species of chronology, if our conclusions are well founded, known in the Inca dominion. The Peruvians had no true calendar. In the chief pueblos the four cardinal points in the sun's course were ascertained by means of the Intihuatana; and at Cuzco the phenomena of the solstice were familiarised by two groups of pillars placed conspicuously on heights to the east and westward, and marking the extreme points of the sun's rising and setting². With the facilities thus afforded for calculation it may well appear strange that a people skilful in arithmetic should have left no better estimate of the number of days in the year than the primitive approximation 360, understood to be distributed into 12 natural moons of 30 days each³. The Spanish antiquaries endeavoured to identify each of these moons with an ecclesiastical calendar month; with how little success is shown by the discrepancies in their several identifications of the moons with the months, discrepancies which may to some extent be accounted for by the want of uniformity in the Quichua names assigned to them⁴. The

¹ The time-reckoning of the Bakairi Caribs (Von den Steinen, *Bakairi-Sprache*, p. 30) illustrates the transition from a merely seasonal reckoning to one in which the period of harvest is indicated; 'Khopolateri' = hardest-rain (about January); 'Khopopogeto' = less rain (February); 'Khopohoketatile' = rain-ceases (March); 'Khuraitile' = It-(the weather) becomes-good (April); 'Sagheho' = wood-cutting (May and June); 'Ihuitabe' = end-of-the-dry-time (August); 'Khopoe-wile' = the-rain-is-coming (September and October); 'Anaziutule' = the-maize-ripens (December).

² Betanzos, *Suma y Narracion de los Incas*, p. 105.

³ *Id.* p. 134.

⁴ Garcilasso informs us that each month had in Quichua its distinctive name, but is silent as to what these names were.

reason, however, mainly lies in the fact that the Peruvians knew nothing of the calendar month. They reckoned by the succession of lunations; and they possessed no means of co-ordinating this reckoning numerically with the succession of years¹. It does not appear that they kept any continuous reckoning of time from year to year; it is at all events certain that no date in Peruvian history previous to the Spanish conquest can now be precisely ascertained. The year of the Aymara approached even less nearly to the character of a calendar than that of the Quichua-speaking tribes. We have discovered only a few seasonal names for the different parts of the Aymara year², not more than two of which are identified as moons. The Quichua names given in the table below are those most commonly occurring; but many others are recorded, some of which were doubtless local only³.

¹ Garcilasso de la Vega, Lib. II. chap. xxii: 'Contaron los meses por lunas . . . y no por dias.' . . . 'No sabiendo ajustar el un año con el otro.'

² 'Chinopacsi' = 'knot-moon' (about January): 'Mareacellihui' = breaking up of soil (February): 'Hupa-llamay' = Quinoa harvest (April): 'Casihuipacsi' = 'Moon of harvest feast' (June): 'Hupaphahuahui' = Quinoa sowing, somewhat later. The latter half of the year is distinguished as 'Autipaeha' = time of hunger, and 'Lapaca' or 'Satahui' = dry season.

³ MOON-RECKONING OF PERU.

Moons.

Approximate
Calendar Month.

- | | |
|---------------------------------------------------------------------------|------------|
| 1. HUCHUY PUCUY QUILLA. ('Small-growing moon.') | January. |
| 2. HATUN PUCUY QUILLA. ('Great-growing moon.') | February. |
| 3. PAUCAR PUCUY QUILLA. ('Flower-growing moon.') | March. |
| 4. AYRIHUA QUILLA. ('Twin-ears moon.') | April. |
| 5. AYMURAY QUILLA. ('Harvest-moon.') | May. |
| 6. AUCAY CUSQUI QUILLA. ('Breaking-soil moon.') | June. |
| 7. CHAHUA HUARQUI QUILLA. ('Irrigation moon.') | July. |
| 8. TARPUY QUILLA. ('Sowing moon.') | August. |
| 9. COOYA RAYMI QUILLA. ('Moon of the Moon-feast.') | September. |
| 10. UMA RAYMI QUILLA. (Moon of the Feast of the pueblo of Uma.) | October. |
| 11. AYAMARCA RAYMI QUILLA. (Moon of the Feast of the pueblo of Ayamarca.) | November. |

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 Aboriginal
 America.
 Time-
 reckoning
 of the Incas
 festivals.

The Peruvian reckoning of time, if the above conclusions are well founded, was somewhat more advanced than that of the Esquimaux, who observed the winter solstice by the shadows of prominent rocks, counting the fourth moon from its occurrence as the beginning of spring¹, but evinced a less accurate knowledge of the solar year than is found among some North American tribes, who are aware that it is longer by several days than the sum of twelve lunations². Such details as are known with reference to Peruvian ritual and civil customs assume the natural course of the moon as the standard of time. Each of the chief religious festivals, we are told, began on the new moon following a solstice or equinox³; and the prolonged ceremonies of the Ccapac Raymi, the most important among them, were distributed by reference to the lunar phases, its successive stages commencing with the 9th day, the full moon, and the 21st day,

12. CCAPAC RAYMI QUILLA. (Moon of the Great Feast
 of the Sun.) December.

In preparing this list the names given by Velasco, Ramos, Acosta, Betanzos, Oliva, Molina, and other authorities have been consulted and compared.

¹ Crantz, History of Greenland, Book III. chap. vi.

² Washington Matthews, Ethnography and Philology of the Hidatsa Indians, p. 71: 'As the results of my own observations, I should say that the Mandans and Minnetarees are generally aware that there are more than twelve lunations in a year, that they as yet know nothing of our manner of dividing the year, and that, although when speaking of "moons" they often connect them with natural phenomena, they have no formal names for the lunar periods. I think the same might be said of other tribes who are equally wild. The Hidatsa . . . speak of the seasons of "cold weather," or of "snow," of "warm weather," and of "death" or "decay," which we consider as agreeing with our seasons of winter, summer, and fall; but they do not regularly allot a certain number of moons to each of these seasons. Should you ask an interpreter who knew the European calendar what the "Indian names of the months" were, he would probably give you the names of a dozen of these periods, or natural seasons, as we might call them, corresponding in time to our months.'

³ Garcilasso de la Vega, Lib. VI. chap. xx, Lib. VII. chap. vi; Molina, ap. Markham, Rites and Laws of the Incas, pp. 16-52.

or last quarter. It would, however, be inconsistent with the general character of Peruvian observances, which depended rather upon the will of the ruling authorities for the time being than upon custom or prescription—and with the specially indeterminate nature of their chronology—to suppose that any rigid rule was maintained attaching each festival to the new moon following a solstice or equinox, rather than to that preceding it. If, as is probable, the festival was designed to mark the solstice or equinox as an important seasonal event, it would most naturally have begun on the new moon preceding it; in any case, the particular new moon to which each festival was attached was probably determined by authority beforehand, with reference to the circumstances of each occasion. It is consistent with this view that the festivals held at Uma and Ayamarea, in the moons preceding that in which the Ccapac Raymi of Cuzco took place¹, were identical in character with the Ccapac Raymi itself, being solar festivals commemorating the solstice; they may possibly have been antedated by the Ccapac Incas, to prevent them from interfering with the corresponding ceremonial in the dominant pueblo².

Our information regarding the civil customs of the Incas slightly enlarges our knowledge of their time-reckoning; it suggests a division of the lunation into 3 periods of 10 days, as in ancient Greece and China. Periods of 5 and 10 days, occasionally mentioned in connexion with the incidents of Peruvian history, result naturally from a denary reckoning; and nothing could be more natural, where such a reckoning is in use, than a customary distribution of the moon's course into three decades. An exemption from labour, in favour of the peasant and miner, on three days

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Aboriginal
America.

Civil
reckoning
in Peru.

¹ See p. 331, footnote 3.

² Before the Situa (the equinoctial festival) the Incas are stated to have assembled for the purpose of determining the ceremonies to be observed, which are expressly said to have varied from year to year (Molina, ubi sup., p. 21).

BOOK II.
*Aboriginal
 America.*

in each moon, attributed to the Apu-Ccapac-Inca Pachacutic, appears to be connected with such a division; it is suggested more strongly by the prescribed intervals of 9 days at which the people repaired to the principal pueblos for the purpose of holding market and receiving the commands of the Ccapac-Inca¹. The system of tributes, unlike that established in Mexico, appears to have had relation to the year only, and throws little light on the minor divisions of time. The Peruvian tributes largely consisted of the produce of the soil, represented by prescribed quantities, reckoned in loads, of maize, quinoa beans, and chuños; these were annually delivered at the Inca storehouses shortly after the ingathering of the several crops. The tributes of clothing and arms, provided for the equipment of the Inca warriors, would probably be required at some shorter interval; and in one place mention is made of reckonings stated to have been taken by the Inca officials at intervals of 4 months². The purpose of these reckonings is not stated; but such an interval may evidently indicate either a practice of dividing the year into three parts, analogous to the division of the lunation into periods of 10 days, or a reckoning of lunations, taken continuously without reference to the year, in groups of four, in accordance with a numerical tendency illustrated on a previous page³.

Alleged
 constant
 lunisolar
 calendar in
 Peru.

Nothing whatever in the extant accounts of Peruvian ritual or civil custom lends the least support to a widely-credited allegation that the Incas possessed a true calendar in which the days and months were numerically adjusted to the solar year; and this conception, which figures prominently in some highly-wrought pictures of the 'Inca Civilisation,' may be dismissed as groundless. What was the nature of this alleged calendar? To this question the more prudent panegyrists of the Children of the Sun make

¹ Garcilasso, Lib. VI. ch. xxxv.

² Cieza de Leon, Pte. 2, ed. De Espada, p. 43.

³ Page 311.

no specific answer. Others unhesitatingly reply, accepting the specific details given by the writer who first made the allegation, that it was, in fact, identical with the Julian calendar; in the Old World the last fruit of experiments and calculations lasting over a thousand years, made by accomplished arithmeticians, and shared in by all its most advanced peoples—in the New World, it seems, arrived at by some happy inspiration among an isolated people barely emerged from savagery! It is easy to trace this error to its source. It originated in answers given by the 'amautas' or 'wise men' of Cuzco, to the enquiries of a Spanish official, long after the Julian year had been introduced into Peru by the Spaniards; and it is possible that these representatives of the old Peruvian advancement, familiar with the nature and working of the European calendar, claimed it as an invention of their own countrymen¹, although the mistake is more probably due to the carelessness, or inconsiderate reasoning, of the enquirer himself. The statement was first promulgated in the well-known work of Acosta², who affirms, alleging as his authority the Corregidor Polo de Ondegardo, that the Peruvians had a constant year of 365 days, divided into 12 months, the 11 days by which such a year exceeded the sum of 12 lunations being in some unexplained manner distributed among them. Whether the leap-year was or was not recognised by the Inca chronologists is a point on which Acosta reserves his opinion. Ondegardo's allegation, setting aside the antecedent improbabilities involved in it, surely weighs as nothing against the explicit statement of Betanzos to the effect that the Peruvians believed the year to consist of 360 days³, and the evidence above collected showing the identity of the Peruvian

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¹ Similarly the Chinese have claimed the Metonic cycle, the mariner's compass, gunpowder, vaccination, and other items of advancement borrowed from Europe, as native inventions.

² Hist. Natural y Moral, lib. vi. chap. iii.

³ Page 330.

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*Aboriginal
 America.*

month with the course of the moon : but its most emphatic condemnation is the positive denial given to it by Garcilasso de la Vega, a writer of Inca descent, by no means hypercritical in dealing with alleged facts tending to exhibit his ancestors as civilised rulers. Garcilasso fortifies his denial by an argument of undoubted cogency. A certain writer, he says, who alleges that the Incas co-ordinated the solar year with the lunar one, is the victim of a deception. If they possessed a calendar thus adjusted, the solstices would necessarily be fixed in it as days already ascertained. What purpose, then, would be served by the solstitial pillars, and by the tedious observations of which these were the instruments¹?

Alleged
 calendar
 of the
 Araucans.

Another alleged South American calendar cited by Humboldt², and resting, so far as is known, only on the authority of a contemporary Italian compiler³, deserves as little credit as that attributed to the Incas. Molina, in his account of Chile, states that the aborigines had a constant year of 365 days, divided in some doubtful manner into 12 fixed months; a reckoning resembling that ascribed by Acosta to the Peruvians, though the suggestion of a leap-year is here wanting. From an expression used by Molina⁴, it is manifest that he had no precise account of the alleged calendar before him; and his statement appears to be an inaccurate representation of the fact that the Araucans, like

¹ Hist. General, lib. ii, chap. xxii: 'Aunque haya quien diga que ajustaban el año solar con el año lunar, le engañaron en la relación: porque si supieran ajustarlos, fixáran los solsticios en los días de los meses que son, y no tuvieran necesidad de hacer torres por mojoneras para mirarlos y ajustarlos por ellas con tanto trabajo y cuidado como cada día tenían, mirando el salir del sol y ponerse por derecho de las torres.' The allusion is evidently to Ondegardo, whose statement had been widely disseminated in the very popular work of Acosta.

² Vues des Cordillères, vol. ii, p. 370.

³ Saggio sulla Storia Civile del Chili, del Sig. Abate Giovanni Ignazio Molina (1787), lib. ii, cap. 6.

⁴ He 'does not remember' where the five supplementary days were intercalated ('i quali ora non mi sovviene dove gli intercalino').

the Esquimaux, observed the solstices by the shadows of rocks¹, reckoning time independently by a succession of 12 lunations having seasonal names—names which were afterwards applied, as in Peru, to the calendar months introduced by the Spaniards. It is admitted that these names originally denoted natural moons, and that the aborigines had once measured time by the lunar phenomena². By what means, and for what useful purpose, these savages investigated the sun's course numerically, and determined it at 365 days; why they abandoned the permanent and visible calendar of the lunations for an artificial system of conventional months; how these periods were recorded, and how the five superfluous days³ were disposed of, we are not informed; and we conclude that whatever in this reckoning surpasses the usual reckoning of savagery was wholly unknown to those who are credited with it. According to Molina, the Araucans, like the Chinese and Japanese, divided the nocturnal unit of twenty-four hours into twelve portions; a practice in which Humboldt detected an indication of borrowed advancement, though he considered that the alleged calendar itself might well be of indigenous origin. Nor does Humboldt cite the pretended calendar of Peru as a substantial proof of imported culture, though he represents it, with strange inaccuracy, as a fact vouched for by all writers contemporary with the conquest⁴.

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Aboriginal
America.

Humboldt's main evidence in favour of imported advancement is the calendar of Mexico; but he cites for the same

Alleged
calendar
of New
Granada

¹ The Araucans, according to Molina, observed both solstices, beginning the year with that of the summer (Dec. 22).

² 'Questi mesi si chiamano in generale *Cijen*, o lune, perche primitivamente dovettero regularli affatto per mezzo delle fasi della luna.'

³ Molina conjectures that these days were added to the last month of the alleged calendar year, which would thus have contained thirty-five days.

⁴ Op. cit., vol. i. p. 342. It is singular that so careful a reader of Garcilasso should overlook that writer's denial of the statement.

BOOK II.
*Aboriginal
 America.*

purpose an alleged calendar of a totally different kind, attributed to the Chibcha of New Granada, and first made known to the world by himself¹. Though both peoples used the same arithmetic, nothing could be more unlike the Mexican calendar than that ascribed to the Chibcha: the explanation being that the former represents a real development, the latter an imaginary application, of the vicenary reckoning. The Chibcha, who ranked below the Peruvians, and far below the Mexicans, in the useful arts, appear to have measured time by a succession of lunations, counted concurrently with an imperfectly-defined seasonal year. All traces of their advancement, such as it was, were rapidly effaced by the Spanish conquest. The Chibcha language itself, the last memorial of aboriginal life, had ceased to be spoken long before the end of the eighteenth century, when a village priest² undertook to rescue from oblivion whatever of Chibcha antiquity might still be recoverable; and his attention was especially directed to the ancient method of reckoning time. As the Julian calendar had then been established in New Granada about two centuries and a half, little knowledge of the aboriginal chronology could be expected to survive; yet the discoveries of the antiquary in this unpromising field were remarkably ample and complete. (1) The days in the lunations, he ascertained, were reckoned by three groups of ten; a parallel reckoning, however, must have been kept by ten

¹ *Op. cit.*, vol. ii. pp. 220-267.

² Don José Domingo Duquesne-de-la-Madrid, Cura of Gaclancipa, afterwards Canon of Sta. Fé de Bogotá. His manuscript 'Dissertacion sobre el Calendario de los Muyscas,' written in 1795, and dedicated to the botanist José Celestino de Mutis, was shown by the latter to Humboldt in 1801. The substance seems to be fairly given in Humboldt's work. The abstract of the alleged calendar given by Joaquin Acosta in his 'Compendio Historico del Descubrimiento y Colonisacion de la Nueva Granada' purports to be a literal extract from Duquesne's manuscript. An imperfect translation will be found in Bollaert's 'Antiquarian Researches in New Granada,' p. 42.

groups of three days, for market was held on every third day in the chief pueblos. (2) The moons were reckoned by groups of 20, each such group being regarded as a 'civil year'; 20 such years, comprising 400 moons, formed a 'great civil year.' (3) Concurrently with this lunar civil reckoning there was kept a religious reckoning of an imperfectly lunisolar character. Two lunar years, each consisting of 12 moons, or 354 days, were recorded, followed by a third year of 13 moons, or 384 days, forming in the whole a cycle of 37 moons. Twenty of these triennial lunisolar cycles, which were regarded as 'religious years,' constituted a 'great religious year,' consisting of 740 moons—a period roughly approximating to 60 solar years. The manuscript in which this singular chronology was described fell into Humboldt's hands at Santa Fé de Bogotá. He at once recognised in the alleged 'great religious year' the vulgar sixty-years cycle of Eastern Asia; and the entire system was paraded by him in detail, on his return to Europe, as a substantial proof that the culture of the American aborigines was borrowed from the Old World¹.

BOOK II.
Aboriginal
America.

Even were the Chibcha calendar, in all its alleged details, indisputably genuine, we see nothing in it from which a foreign origin could be fairly inferred; on the contrary, most of its features have an indigenous aspect. The extent to which the reckonings are carried, and the triennial intercalation, alike arouse suspicion; and taking all circumstances into account, there can be little doubt that the alleged system is in the main a fabrication. The three-days cycle may possibly be so far genuine as to represent the usual interval at which markets were once held in the pueblos

¹ Op. cit., vol. ii. p. 249: 'Cette prédilection pour les séries périodiques, et l'existence d'un cycle de soixante ans, qui est égal aux sept cent quarante lunas (moons) renfermés dans le cycle de vingt années des prêtres, paraissent déceler l'origine tartare des peuples du nouveau continent.'

BOOK II. of New Granada. For the reckoning of 20 moons as
 Aboriginal a period once actually employed there was authority in
 America. the well-known work of Piedrahita, with which Duquesne
 was familiar¹; and from this, as the Chibcha had the
 vicenary arithmetic, the use of a group of 20 such periods,
 making 400 moons, was a plausible deduction. Had the
 alleged lunisolar intercalation been an established practice
 in ancient times, it could scarcely have escaped the notice
 of Piedrahita; and it may well be that Duquesne, having
 convinced himself that so advanced a people must in some
 way have recognised the solar year, and finding the constant
 conventional month precluded by the express statements of
 an undoubted authority², had recourse to intercalation as
 the only possible alternative. It is hardly necessary to
 point out that the limited intercalation alleged could never
 have been maintained. Had the principle once come into
 use, it must quickly have been discovered that every two
 triennial intercalations require to be succeeded by a biennial
 one. The system of intercalation, moreover, is generally if
 not universally associated with the practice of giving to
 each successive moon some appropriate descriptive name³;

¹ Hist. General del Nuevo Reino, lib. ii. cap. 9, where the chiefs of Tunja and Bogotá are said to have made a truce for twenty moons.

² Piedrahita repeatedly refers to a reckoning by moons as the chronology of the Chibcha; op. cit., lib. ii. caps. 1 and 3.

³ On this point the observations of Mr. Riggs (Dacota Grammar, p. 165) will be read with interest: 'The names of the twelve moons recognized by the Dacota of the Minnesota valley are as follows: 1. Wi-tehi, the hard moon (about January); 2. Wichata-wi, the raccoon moon; 3. Ishtawichayazañ-wi, the sore-eye moon; 4. Magaokada-wi, the moon in which the geese lay eggs, or Watopapiwi, the moon in which the streams are again navigable; 5. Wozhupi-wi, the planting moon; 6. Wazhushtechasha-wi, the moon when the strawberries are red; 7. Chañpasapa-wi, the moon when the chokeberries are ripe, or Washuñpa-wi, the moon when the geese shed their feathers; 8. Wasutoñ-wi, the harvest moon; 9. Psiñlnaketu-wi, the moon when rice is laid up to dry; 10. Wi-wazhupi, the drying rice moon; 11. Takiyuha-wi, the deer-rutting moon; 12. Tahechapshuñ-wi, the moon when the deer shed their horns.' Mr. Riggs adds:

and it is remarkable that such names are wholly wanting in the alleged calendar. Finally, it is in the last degree improbable that the memory of a disused lunisolar cycle could have survived during two centuries and a half among ignorant villagers, who had been thus long habituated. through the services of the Church and intercourse with Spanish landowners and civil authorities, to the use of the Julian calendar. This objection appears to have occurred to Duquesne himself; and it became necessary to fortify the story of the calendar by some tangible evidence. A small pentagonal stone was produced, carved with nine uncouth symbols: and this was forthwith pronounced to be a 'calendar stone.' Manifestly the stone does not represent the calendar itself¹. Duquesne insists that the carvings explain the system of intercalation; a system, if it is correctly described by him, so simple as to require no clue to its interpretation whatever.

From what has preceded it appears that throughout America, with the exception of Mexico and the adjacent districts, in Central America and elsewhere, having an advancement based on or nearly resembling that of Mexico,

BOOK II.

Aboriginal
America.

Mexican
calendar.

'Five moons are usually counted to the winter, and five to the summer, leaving only one each to the spring and autumn; but this distinction is not closely adhered to. The Dacotas often have very warm debates, especially towards the close of the winter, about what moon it is. The raccoons do not always make their appearance at the same time every winter; and the causes which produce sore eyes are not developed precisely at the same time in each successive spring. All these variations make room for strong debates in a Dakota tent for or against Wichata-wi, or Ishtawichayazañ-wi. But the main reason for their frequent difference of opinion in regard to this matter, viz. that twelve lunations do not bring them to the point from which they commenced counting, never appears to have suggested itself. In order to make their moons correspond with the seasons, they are obliged to pass over one every few years.'

¹ It appears from Mr. Bollaert's work (pp. 52, 53) that other stones have been found more or less resembling that alleged by Duquesne as containing the clue to the calendar. They are probably amulets, having no reference to the reckoning of time.

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*Aboriginal
America.*

the reckoning of time rested on its natural basis, the succession of moons. Nowhere had any artificial modification been applied to this natural chronology; in Mexico and the districts above mentioned an arithmetical computation of the solar year by days had superseded it. The Mexican year, if our conclusions are well founded, was a simple cycle of 365 days perpetually repeated, without intercalation or correction of any kind, and was therefore identical in length with the calendar year of ancient Egypt, though differing from it in the method of subdivision. A cyclical year of this description loses nearly the fourth part of a day on the mean solar year; hence the reckoning founded on it loses one day in every four years, and its commencement must recede relatively to the seasons, at the same rate. Such a year, though long used in Egypt, and thence borrowed by some peoples of Western Asia, has never been employed, so far as is known, in Eastern Asia; and if the Mexican calendar year was in fact of this kind, the doctrine of imported advancement, so far as it rests on a comparison of time-reckonings, falls to the ground. It must be admitted that to describe the Mexican year as a perpetual cycle of 365 days without correction is to contradict the opinion now current, which credulously ascribes to the Mexican calendar an accuracy exceeding that of the Julian reckoning introduced by the Spaniards¹. Our view, nevertheless, is

¹ Statements to this effect have been so often repeated as to have become commonplaces; the inference, however, drawn by Humboldt from the alleged facts is usually rejected, and the accurate time-reckoning attributed to the Mexicans is considered to have been of indigenous origin. 'By the unaided results of native science,' says Sir D. Wilson, 'the dwellers on the Mexican plateau had effected an adjustment of civil to solar time so nearly correct that when the Spaniards landed on their coast, their own reckoning, according to the unreformed Julian calendar, was really eleven days in error, compared with that of the barbarian nation whose civilisation they so speedily effaced' (quoted in Winsor's 'Narrative and Critical History of America,' vol. i. p. 179).

that of the oldest authorities, who had the best means of information: no other is consistent with the undisputed nature of the calendar itself, or is supported by the monuments in which it is represented: and there are indications that the Mexican year, at the Conquest, had in fact shifted its place in natural time by receding relatively to the seasons, in the very way which the alleged correction was calculated to prevent. The imaginary correction which has been ascribed to the Mexican calendarists has appeared in three successive forms. The earliest, which attributed to the Mexicans the Julian method of a bissextile year, is mentioned as a contemporary conjecture by Sahagun; a conjecture not accepted as an ascertained fact by Sahagun himself, but represented as such by some who followed him, while others rightly disputed it as inconsistent with the essential character of the Mexican reckoning. More than a century later Siguenza-y-Gongora, recognising the impossibility of sustaining a simple bissextile correction of the Mexican year, held that a group of 13 days must have been intercalated at the end of every 52 years: this may be called, for brevity's sake, the secular correction. Lastly, the Mexican astronomer Leon-y-Gama, a contemporary of Humboldt, invented an amendment of the secular correction, maintaining that the intercalation made at the end of every 52 years was one of $12\frac{1}{2}$ days. All these alleged corrections, if we are right, are equally fictitious; and they appear to be alike founded on the double assumption that those who estimated the year at 365 days must necessarily have discovered the error involved in such a reckoning, and must necessarily have corrected it.

The earliest description of the Mexican calendar occurs in the work of Gomara, the chaplain of Cortes, who describes the Mexican year as a simple cycle of 365 days perpetually. Not only does Gomara say nothing of the alleged correction, but he explicitly states that the Mexican reckoning had become erroneous through its necessary divergence from

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America.

Alleged
bissextile
correction.

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the true course of the sun¹. Las Casas, who describes the year of 365 days with its divisions of 20 days and supplement of 5 days, and the birth-cycle of 260 days, is equally silent as to any correction². The evidence of Sahagun himself, to whose work the story of the bissextile correction is traceable, leads to the same conclusion; for by expressly describing the supposed correction as a conjecture, he excludes it from the category of ascertained facts³. Acosta, who devotes a whole chapter to a careful description of the calendar, knows nothing of any correction⁴. But the most emphatic condemnation of the statement is found in the work of Torquemada⁵, who was evidently familiar with the suggestion, and explicitly contradicts it. 'These people,' he remarks, after a full description of the Mexican year, 'did not understand the bissextile principle; nor is this wonderful, since it was unknown to Plato and Aristotle, and was discovered by Julius Caesar. Of the six hours,' he continues, 'by which the year exceeds 365 days, they

¹ Conquista de Mexico, ch. 211 (Del Año Mexicano): 'No podian dejar de andar errados con esta cuenta, que no llegaba a igualar con el curso puntual del sol.'

² Hist. Apologetica, ch. 121.

³ Hist. General, lib. ii. ch. 18 (ed. Bustamante, vol. i. p. 76: 'A los cinco dias restantes del año, que son los cuatro ultimos de Enero y el primero de Febrero, llamaban *nemontemi*, que quiere decir dias valdios, y tenianlos por aciagos y de mala fortuna. Hay conjetura, que cuando ahujeraban las orejas a los niños y niñas, que era de cuatro en cuatro años, echaban seis dias de *nemontemi*, y es lo mismo del bisiesto, que nosotros hacemos de cuatro en cuatro años.'

⁴ Hist. Natural y Moral, lib. vi. ch. 2.

⁵ Monarquía Indiana, lib. x. ch. 36: 'No alcanzaron estas gentes el visiesto: y no es maravilla, pues Aristoteles ni Platon lo supieron, hasta que Julio Cesar atino con el. . . Y porque las seis horas, que sobran à estos treientos y sesenta y cinco dias, no las conocieron, por esto no tenia fixeça el año, y no començaba con puntualidad, como el nuestro: y asi era en un dia ò otro, pero siempre casi a un tiempo. Y de aqui nace la diferencia que ha havido en algunos escritores, diciendo unos que començaba a fin de Enero, y otros que por Febrero, y otros que por Marzo.'

were ignorant ; hence the year had no fixity, and did not begin punctually, as our year does ; its commencement imperceptibly shifted from one day to another. And hence arises the discrepancy as to its commencement, in the accounts of different authors—some alleging that it began at the end of January, others in February or March.' It is needless to add that none of the authors above cited mention the intercalation alleged by Siguenza-y-Gongora ; conversely, those who accept the secular intercalation have necessarily rejected the bissextile correction. One reckless antiquary, however, reconciles the two systems, and alleges the bissextile correction to have been superseded by the secular intercalation ; he even identifies the specific historical incident which led to the substitution of the one for the other.

Although the alleged secular correction originated in the incompatibility of the bissextile correction with the nature of the Mexican calendar, the same objection which produced the substitution clearly applies, in another aspect, to the substituted arrangement itself. The period of 52 years represented the final coincidence of two separate cycles—a cycle of years, consisting of 52 groups of 365 days, each counted as 18 times 20 with 5 added, and a cycle of birth-periods, consisting of 73 groups of 260 days, each counted as 20 times 13 ; and in order that these cycles should duly coincide it was indispensable that each should pursue its course without disturbance. The secular correction, which assumes the arrest and temporary annihilation of the civil reckoning during 13 days, or one division of the birth-cycle, destroys the coordination no less effectually than the bissextile one ; for at the end of the next period of 52 years the cycle of birth-periods would manifestly terminate 13 days before the cycle of years. The objection can be met by supposing the birth-cycle itself to have been arrested, and one of its periods, for the practical purposes served by the cycle, to have been cancelled. Such a suggestion is

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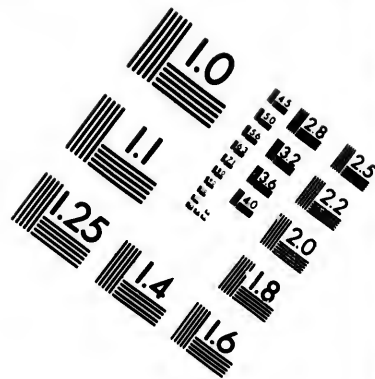
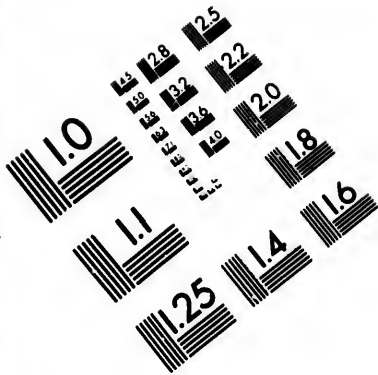
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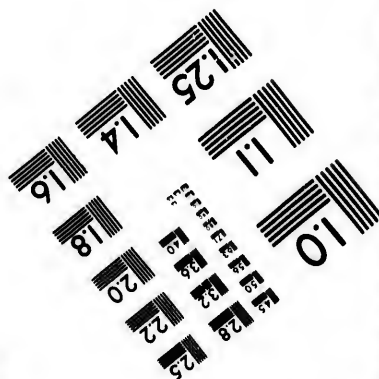
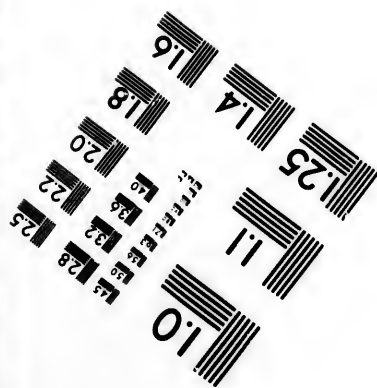
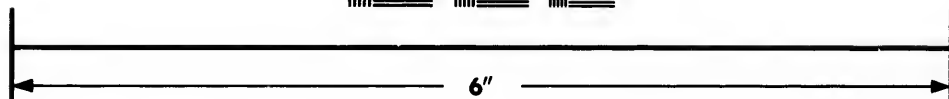
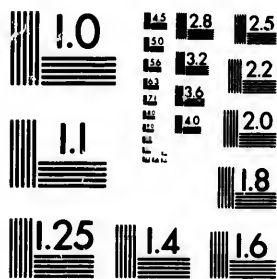
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inconsistent with the very nature of a birth-cycle, and involves an arbitrary shifting, every 52 years, of the destinies of the unborn population in order to keep the civil reckoning approximately true to the course of the sun. We shall presently adduce conclusive evidence that no period of 13 days was in fact interposed between one cycle of 52 years and the succeeding one. Such an expedient, moreover, would have been inconsistent with the theory on which the observance of the period was founded. The world, it was understood, had commenced, and would come to an end, with one of these 52-years periods; and as the expiration of each drew nigh, it was known that the end of all things might possibly be at hand. On the last day of the cycle every fire throughout the country was extinguished, and the officials of Huitzilopochtli repaired to an ancient teocalli in the mountains, two leagues from Mexico, where new fire was kindled at dawn on the first day of the new cycle. Carried to each house and teocalli in the land, it proved that a new period had begun, that the gods were still alive, and that man's covenant wi' n them had been renewed for another term; and this of necessity followed indivisibly on the old one, as the first dawn of the one followed the last darkness of the other. No trace, it must be added, of the alleged correction, in either form, is found in any of the numerous pinturas and sculptured monuments on which the calendar is represented or illustrated. The absence of all corroborative evidence in the monuments of Mexico seems to have been overlooked by those who have accepted the story of the corrections. In the case of the Central American monuments this absence has often been remarked, though the circumstance, strangely enough, has not been understood as casting any doubt on the genuineness of the corrections themselves. It seems to have been supposed that one or the other must necessarily have been made, and that some customary method existed of making it, apart from the calendar itself.

Probably the inventors of the alleged correction, in both its forms, were unable to conceive of a time-reckoning thus erroneous being continued for centuries without rectification; and the fact that peoples so civilised as the Egyptians, later Babylonians, and Persians kept such a reckoning age after age, deliberately preferring it, with a full knowledge of its imperfection, to a corrected reckoning less simple and less easily kept, was doubtless unknown to them. In Egypt the discrepancy between the true solar year and the ever-shifting year of the calendar was universally recognised: nor would anything have been easier than to bring the reckoning into temporary or permanent harmony with true solar time. It is well known that the maintenance of the uniform cyclical reckoning was here regarded as a point of supreme importance. The uncorrected year of 365 days, passing slowly through the whole course of the seasons, was held to be of divine institution; a solemn oath is said to have been exacted from each king, at his accession, not to disturb it by correction of any kind¹. Primitive advancement is conservative. It venerates, and abstains from altering, any institution closely connected with its progress, especially when supported by the sanction of religion; and this instinct was undoubtedly strong in Mexico, where the 'Nahua,' or Rule of Life, in all its forms, was held in great reverence. Torquemada refers the discrepancies in the various accounts of the commencement of the Mexican year to its cyclical nature. Different authorities place its commencement at periods of the year varying from the 9th day of January to the 10th of April, a range of variation which seems to point to a practice of commencing it with the summer solstice, from which it would have gradually receded. The discrepancies of date, on this supposition, are easily explained. The numerous pueblos of Anahuac were founded at different dates. The periods during which

¹ See the authorities quoted by Greswell, *Fasti Catholici*, vol. ii. pp. 388-392.

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*Aboriginal
America.*

*Cyclical
year in the
Old World.*

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the cyclical reckoning had at the Conquest been maintained must have differed accordingly; and the discrepancies in the periods of the solar year at which the calendar year was stated to commence may well be referred to these differences in the reckonings of different pueblos.

Secular
 festival of
 Mexico.

Together with the imaginary intercalation of 13 days at the end of each 52-years period a romantic and picturesque feature in the popular conception of old Mexican life disappears from the page of history. These 13 days are commonly understood to have been occupied in celebrations of a character singularly unlike that of Mexican ritual in general. During the intercalary period, we are told, 'the people, dressed in their gayest apparel, and crowned with garlands and chaplets of flowers, thronged in joyous procession, to offer up their oblations and thanksgivings in the temples. Dances and games were instituted, emblematical of the restoration of the world. It was the carnival of the Aztecs; or rather the national jubilee, the great secular festival, like that of the Romans, or ancient Etruscans, which few alive had witnessed before, or could expect to see again'.¹ For this pleasing picture those who have recourse to the ancient authorities must substitute one of a very different description. The observances were confined

¹ Prescott, Conquest of Mexico, book i. ch. 5. The old Mexican chroniclers, it is added in a note, 'warm into something like eloquence in their descriptions of the Aztec festival.' The old chroniclers mention only what took place on the last night of the old year and the first day of the new one. Clavigero himself, to whom Mr. Prescott apparently refers, is careful to give an account of what took place on these days not wholly inconsistent with the statements of the old chroniclers. The people, according to him, spent these days in preparing the new clothing and furniture which was used for the first time on the first day of the new year, when the intercalary period had elapsed. Duran, who gives minute accounts of the regular Mexican festivals, says nothing of the 'Jubilee' observances except that they resembled the Jubilee ceremonies of the Jews as prescribed by the law of Moses. Evidently he knew nothing about them.

to a single day—that on which the new year, and the new 52-years period, alike began. Small birds were sacrificed, and copal was burnt in the open air. Meat and drink were abstained from until noon, when the hearth fires were kindled, and the sweet cake called ‘tzohualli’ was eaten. These formalities being over, the real business of the secular festival began: four hundred captives were sacrificed and devoured. Nothing in these observances is of an extraordinary nature; even the extinguishment of the hearths, and their renewal by fire freshly produced, was common to other festivals. The cannibal feast being over, all went on as before, the course of life being as little interrupted by the secular festival as the reckoning of time¹.

A briefer notice of this modern myth would have sufficed, but for its adoption by an eminent philosopher who, in full reliance upon it, lends the weight of his authority, in the best known of his writings, to the doctrine of imported advancement². Laplace, through Humboldt’s intervention, heard of the correction in the ultimate form given to it by a contemporary Mexican writer, who reduced the alleged intercalation from 13 to 12½ days; and he concluded, with good reason, that the calculations involved in so accurate a reckoning could never have been independently made by the American aborigines. It must, he supposed, have been borrowed from the Old World; yet no people in the Old World had ever employed it, and the peculiar reckoning alleged to be rectified by it, as Laplace himself remarks, was unknown save in Mexico and some adjacent districts. The history of this imaginary correction is closely entwined with that of the secular intercalation on which it was

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Laplace
and the
alleged
correction.

¹ Gomara, *Conquista de Mexico*, ch. 244 (‘De una fiesta grandissima’); Torquemada, *Monarquia Indiana*, vol. ii. p. 294. It is clear from the story which follows, relating to an Indian who had supported the fire-sticks at the festival of 1507, the last of the kind, that the observances lasted only a single day—the first day of the new cycle.

² Laplace, *Exposition du Système du Monde*, liv. v. ch. 3.

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founded; and an examination of the latter, then recently promulgated in the popular work of Clavigero¹, would at once have suggested misgivings as to its authenticity. Clavigero states the secular correction with hesitation, expressly basing it on the sole authority of Sigüenza; and the suspicions of the reader are checked by the judgment he displays in rejecting a mythical account of its origin. The manuscripts of Sigüenza had fallen into the hands of Boturini, the least trustworthy of Mexican antiquaries. This writer accounted for the discrepancy between the bissextile and the secular correction by alleging the former to have been in use among the Toltecs, long before the Christian era, and the latter to have been substituted by the Mexicans, some centuries later: this explanation, together with an evidently fictitious incident assigned by Boturini as the cause of the change², Clavigero expressly disapproves. The secular correction of 13 days was itself credited on the strength of his cautious and critical acceptance of it; and in an age devoted to the investigation of astronomical problems it attracted no little attention. What chiefly gave it plausibility was the fact that the alleged correction appeared to spring naturally out of one of the two numerical reckonings co-ordinated by the 52-years cycle. This, moreover, lent the alleged reckoning a certain mathematical elegance;

¹ 'Storia Antica del Messico' (1780). Clavigero's immediate predecessor, in the succession of historians of the New World, was Robertson, whose many shortcomings this accomplished Mexican scholar unsparingly criticises. It is worth noticing that Robertson, following the authority of Acosta, correctly describes the Mexican year as a perpetual cycle of 365 days without intercalation; and he is the last writer who has done so (*Hist. of America*, book vii).

² Clavigero, lib. vi. sec. 26. Boturini's story is that under the older or bissextile reckoning the festivals of Huitzilopochtli and Tezcatlipoca once happened on the same day, and the observances due to the latter were consequently omitted. The deity, in his wrath, threatened an invasion by strangers, and the abolition of the Mexican religion. The secular intercalation was devised to prevent such occurrences in the future.

a circumstance which probably weighed with Clavigero himself in adopting it, though it might with more reason, having regard to the source from which it emanated, have suggested doubts as to its genuineness¹.

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The symmetry which marks the secular intercalation was ruthlessly shattered by the final amendment which brought the correction to the form accepted by Laplace. This amendment is due to the Mexican astronomer Antonio Leon-y-Gama; the same to whom the world is partly indebted for the memorable identification of the great idol in the National Museum of Mexico with the imaginary goddess 'Teoyaominqui'.² To mislead the antiquary may be a venial offence; to falsify the history of the sciences is to poison the fountain of philosophy at its source. Not content with doing his best to aid in foisting on the world a spurious divinity, this original but fatuous thinker foisted on it, by his unaided exertions, a spurious chronological system. The Mexican cycle consisted of fifty-two years; two such cycles were described as a 'hueyhueytiliztli,' or 'period of old age,' and represented the utmost possible length of human life. On this period of years it was natural for the Mexican wiseacre to ponder. The number of days to be intercalated at the end of the cycle of fifty-two years, according to Clavigero, being thirteen, in two such cycles there would be twenty-six. This, when compared with the true solar reckoning, was as nearly as possible one day too many; for, by an extraordinary coincidence, if the Mexicans had happened to intercalate twenty-five days instead of twenty-six, they would have been only about two minutes short of the truth, and would have determined the length of

Leon-y-Gama's
correction.

¹ Siguenza was professor of mathematics in the University of Mexico in the latter part of the seventeenth century. The secular intercalation evidently represents the solution of an easy arithmetical problem—Given the Mexican cycle, with its two co-ordinated day-reckonings, to devise a correction on the Julian principle which shall be consistent with it.

² Vol. i. p. 469.

BOOK II. *Aboriginal America.* the year with greater accuracy than the assembled Arabian astronomers, who, assisted by the latest results of Greek research, did their best to solve the problem by the direction of the Khalif Almamon in the ninth century. This consideration constituted a temptation which Gama could not resist. He convinced himself that there must be some mistake, and that the true Mexican cycle must have consisted of 104 years, in the course of which not twenty-six, but twenty-five days, were intercalated. He thereupon set himself to prove that this was in fact the case. His instructor, Velasquez Cardenas-y-Leon, having recently died, he was now the principal astronomer in Mexico, and there was none to contradict him.

Intercalation of $12\frac{1}{2}$ days.

To establish this improbable intercalation was no easy task. There was not a single Mexican pintura, nor a single calendar stone, in which this or any other correction of the cycle was depicted. The historical authorities, from Gomara to Clavigero, declared either that the year was an uncorrected period of 365 days, or that a bissextile correction was introduced, or that at the end of every fifty-two years thirteen days were intercalated before commencing a new cycle. His own fantastic theory required that the intercalation should be one of twelve days and a half; in other words it postulated an absurdity. To intercalate a fraction of a day, in any reckoning of years, is an impossibility: the very suggestion betrays ignorance of the nature, purpose, and history of chronology. Every calendar is necessarily a reckoning of whole days. The only possible forms for such a correction were an alternate intercalation of thirteen and twelve days at the end of each 52-years period, or an uniform intercalation of twenty-five days at the end of each 'huey-hueytiliztli' or period of 104 years. But Leon-y-Gama adopted neither. He alleged that at the termination of every cycle, having counted twelve intercalary days, the Mexicans counted half a day instead of a whole one, and commenced the days of the next cycle of fifty-two years at

this point of time¹. Thus in each successive cycle of fifty-two years the days were reckoned by a different method, one cycle counting its days from midnight to midnight, the next from noon to noon—a species of time-reckoning without precedent elsewhere, and palpably inconsistent with Mexican habits of life and thought. According to Humboldt, this mode of effecting the twenty-five days' intercalation was alleged by Leon-y-Gama himself² to rest on ancient historical authority. We find no trace of any such authority. This mode of rectification, incredible in itself, and from every point of view impossible in ancient Mexico, was the spontaneous creation of the astronomer's imagination.

Leon-y-Gama, we infer, was already meditating his imposture when the celebrated discovery of 'Teoyaominqui' and the great Calendar Stone, in the Plaza Mayor of Mexico, took place. This was his opportunity for foisting his fabrication on the world: and he did so by way of parenthesis. He published a description of the 'Two Stones,' in which he casually communicated to the reader the fact that the Mexicans possessed a *Ciclo Maximo*, or period of 104 years, composed of two minor cycles of fifty-two years, at the end of each of which they intercalated, not, as was commonly supposed, thirteen days, but twelve days and a half. Leon-y-Gama cites as his sole authority for this amazing statement an unpublished work of his own—his 'History of Mexican Chronology'—in which the truth of this fantastic system is abundantly demonstrated. We learn from Humboldt that the work remained unpublished long after the astronomer's death; and although he hesitates to accept the alleged rectification on its merits, he anticipates that when the work sees the light the substantial truth of the system will be vindicated³. This forecast was not realised. The work was never printed, and this idle fabrication remained uncorroborated. Echevarria-y-Veytia, a

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America.*Bissextile
correction
maintained.¹ *Descripcion de las Dos Piedras*, ed. 1792, p. 24.² *Op. cit.*, vol. ii. pp. 76, 77.³ *Op. cit.*, vol. ii. p. 77.

BOOK II. contemporary of Clavigero, knew nothing of the correction of Leon-y-Gama, and rejected that of Siguenza-y-Gongora, on which it was founded¹. He adhered, however, to the bissextile correction, and wasted many pages of a work by no means devoid of value and interest in proving to his own satisfaction that the Mexican calendar must necessarily have had its leap-years, like that of the Church; and this strange literary fiction reappeared, when his work was at length published, in its original form².

Laplace finds an insoluble problem.

But for the fact that Laplace, whose celebrated 'Exposition' was published soon after Leon-y-Gama's work, admits the fictitious *Ciclo Maximo*, with its intercalation of twenty-five days, as a fact, upon Leon-y-Gama's authority, this imaginative mathematician might have rested in peaceful obscurity. What is extraordinary is that Laplace should have so admitted it without any serious misgiving as to its authenticity and without any reference to other authorities. There is, indeed, a trace of hesitation in his handling of the subject. Everywhere, he remarks, some rude notions of astronomy have been among the first fruits of civilisation.

¹ *Historia Antigua de Mejico* (1836), vol. i.

² Mendieta, in his *Historia Eclesiastica Indiana* (lib. ii. cap. 6, attributes to Nezahualpiltzintli, Tlatohuani of Tezeuco, the discovery that the calendar year was too short, and that the cycle of festivals was receding ('Era en tanta manera vivo y entendido este cacique, que aun en el bisiesto quiso caer y atinar, pareciendole que se alongaban las fiestas, y no venian á un mismo tiempo en todos los años'), and hints that he nearly hit on the bissextile correction. The passage is copied by Torquemada (lib. vi. cap. 45), and was cited by Echevarria-y-Veytia for the purpose of contradicting Torquemada's own denial of the correction. Clearly it cannot be so understood. It was not difficult to discover the recession of the feasts. It was impossible to make the correction in the subsisting calendar, nor does Mendieta allege that it was in fact made. The passage, properly read, is a substantial piece of evidence against Echevarria-y-Veytia's view. To the explicit contradictions of the correction we may add one by Motolinia (*Tratado* i. cap. 5): 'Comenzaban su año en principio de Marzo; mas por no alcanzar bisiesto van variando su año por todos los meses.'

Had the advanced peoples of America produced nothing more than might come under this description, their chronology would have attracted no special notice. But a cycle of 104 years, in which twenty-five days were intercalated—this, he says, in admiration, is a determination of the year in advance of Hipparchus, and nearly equivalent to that formulated by the astronomers of Almamōn! And yet, Laplace proceeds, if the methods of the Mexican astronomers were borrowed from the Old World, how happens it that the Mexican division of time was utterly different from anything met with in Europe and Asia? These, he concludes, are problems which it appears impossible to solve¹. The solution, as the reader now knows, was an extremely simple one. He had been deceived by a clumsy imposture, itself the last of a series of conjectures and unfounded allegations, attributing to the Mexican calendar, in various degrees, rectifications which never were made, and were one and all of a kind only possible by the aid of methods of observation and systems of calculation wholly unknown to and beyond the reach of any tribe of the New World.

Stripped of the disguises in which careless or unscrupulous antiquaries have enveloped it, the Mexican calendar can be traced without difficulty to its beginnings. Preceded by the universal time-reckoning of savagery, a succession of moons bearing seasonal names, it grew out of that reckoning by a simple extension of the process of counting. The discovery that the seasonal year is longer than 12 moons—a fact known to some savage tribes², while others are on the verge of finding it out—directed attention to the number 13 as the true limit of the moon-reckoning; and this number, once familiarised to the mind as a measure of time, was repeated in cycles of days and of years. Another and a not less obvious aspect of the lunar phenomena leads

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America.*Develop-
ment of the
Mexican
calendar.

¹ 'Ce sont des questions qu'il paraît impossible de résoudre.' Exposition du Système du Monde, liv. v. ch. 3.

² See notes, pp. 302, 310.

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to the ascertainment of this number; and its permanent establishment as the basis of the time-reckoning is probably due to the coincidence of the two results. By this second method the number 13 is originally applicable to a series of days; nothing remains but to denote them by the names used in the sequence of moons. The number of nights on which the moon is visible, during each lunation, is about 26; and as she increases during one half of this period, and diminishes during the other half, she presents to observation 13 natural phases, regularly repeated in the reverse order. These visible appearances of the moon must necessarily have been counted in their natural order before the interval from conjunction to conjunction could be calculated; and the direct and reverse enumeration of them alike resulted in the number 13. From employing the 13 seasonal names of moons to denote the series of days thus enumerated it is an easy transition to a continuous reckoning by cycles of 13 days perpetually denoted in the same way; and a perpetual cycle thus established formed a true calendar. Accounts current at the conquest described the names composing the original cycle of 13 days as having been conferred alternately by three deities, of whom Quetzalcohuatl was one: and a tradition survived to the effect that the days, the periods of 13 days, and the moons, had all been counted, as the years still were counted, by cycles of thirteen². Long before the conquest the substantial basis of the civil and ritual reckoning had shifted from the

¹ This account of the origin of the cycle of 13 days in the 26 phases of the moon, and of its conversion into the perpetual cycle used at the conquest, is given by Veytia (op. cit., cap. 4), apparently on the authority of pinturas. The 13 phases of the moon's increase were called Mextozoliztli (the moon's waking), those of her decrease Mecochiliztli (the moon's sleep). 'Y en su nuevo reglamento (the perpetual cycle) continuaron la cuenta de los dias de 13 en 13.'

² Mendieta, op. cit., lib. ii. cap. 14, says of the primitive calendar: 'El libro del calendario contenia 13 planas, y en cada plana 13 signos, los cuales servian tambien para contar los dias, semanas, meses, y años.'

reckoning by 13 to a reckoning by 20, though the primitive reckoning survived in an ancillary form. Nowhere in America, so far as is known, was the numerical investigation of the moon's course carried so far as to measure it from conjunction to conjunction, and to determine the lunar months as 29 and 30 days alternately.

The number 13 is singularly ill adapted to become the basis of a reckoning employed for the ordinary purposes of life. It is incapable of division by any other number above unity; its multiples, except the tens, are not readily calculated in a vicenary arithmetic, and when calculated are too large to be generally useful. As time enters more and more into the scheme of thought and action, a reckoning founded on such a number must necessarily be supplemented by or exchanged for one of more serviceable kind; and the customary arithmetical scale itself is obviously the most convenient alternative. Hence in Mexico the period of 20 days, or *Cempohualli*, became the fundamental compound unit in the time-reckoning¹. The system of denoting each day by a name or sign, rather than by a number, was nevertheless retained as a matter of habit or convenience; seven new signs were therefore added to the original 13 of the *Metztlapohualli*². The reckoning thus constituted ran

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Civil
reckoning
by 20-day
periods.

¹ The Spanish writers usually describe the 20-day periods as 'meses' (months). It appears from Oviedo's account of the Nahuatlacá of Nicaragua that the term used was *Cempohualli*. (See footnote 1, p. 315.) The 13-day period is often called by the Spanish writers a 'week' (*edomada*).

² 20-DAY RECKONING (*CEMPOHUALLI*) OF MEXICO.
(Compare the list on page 329).

Day of the
Cempohualli. Sign.

1. CIPACTLI (Manta).
2. EHECATL (Wind).
3. CALLI (House).
4. QUETZPALLI (Lizard).
5. COHUATL (Snake).
6. MIQUITZTLI (Corpse; signified by a skull).

Book II. *Aboriginal America.* perpetually without reference to the year, like the European hebdomadal cycle; and this series of 20 days, each marked by its proper sign or name, formed the practical calendar of the people. Every Mexican bore through life, as a species of personal name, the sign of his birthday. All tributes and services, including the obituary service of the dead, were regulated by this cycle¹; contracts, and future

<i>Day of the Cempohualli.</i>	<i>Sign.</i>
7.	MAZATL (Deer).
8.	TOCHTLI (Rabbit).
9.	ATL (Water).
10.	ITZCUINTLI (Dog).
11.	OZOMATLI (Monkey).
12.	MALINALLI (A medicinal plant).
13.	ACATL (Maize-cane).
14.	OCELOTL (Ocelot).
15.	QUAUHTLI (Eagle).
16.	COZCAQUAUHTLI (Vulture).
17.	OLLIN (Solar motion; see footnote 3, p. 311).
18.	TECPATL (Stone knife, or arrow-head).
19.	QUIAHUITL (Rain).
20.	XOCHITL (Flower; rose).

¹ The usual periods for tributes and services were 40 and 80 days. For special purposes other periods had occasionally to be adopted. Thus the service of providing victual for the household of the Tlatohuani of Tezcuco throughout the year was distributed among six districts in the following proportions (Ixtililxochitl, *Hist. of Chichimecs*, vol. i. p. 239):—

	Days.
Tezcuco itself	70
Atenco	70
Tepepolco	70
Atzapochco	45
Quauhtlazinco	65
Ahuatepec	45
	365

Obituary services followed a decreasing scale. On the 20th day after the death, food and flowers were placed on the grave; this was repeated on the 80th day, and on each 80th day during the first year. During the next three years the obit was kept on

arrangements generally, were adapted to it. War, which the Nahuatlacâ universally regarded as the main business of life, proceeded regularly in accordance with it; thus, the warriors of Tezcuco, who were bound as a matter of duty to take the field once in every Cempohualli either against Tlaxcallan or Huexotzinco, invariably found the enemy awaiting them in the accustomed place on the prescribed day¹. Markets were held in the chief pueblos at intervals of 5 days marking equal parts of this cycle, a greater market or fair being sometimes held once in each Cempohualli, or every fourth ordinary market day². This division of the Cempohualli into four shorter periods of 5 days each seems to have been recognised by connecting each of these minor periods with the sign of its middle day; it is at least certain that when the Year of the Sun, consisting of 4 ordinary years, was represented in the calendar, each of these years was distinguished by the sign of the middle day in the 5-day periods, and each sequence received the series of names Calli, Tochtli, Acatl, and Tecpatl.

The calendar year of Mexico is essentially a multiple of the 20-day cycle; the conception underlying it is arithmetical rather than cosmical. There are indications suggesting that at a remote time the Nahuatlacâ observed a cycle of 10 Cempohualli or 200 days. Such a cycle was stated as constituting their 'year' by that branch of the people who were settled in Nicaragua³. In the religious year of Mexico itself a break was made at the end of the

the anniversary of the death only, and after the fourth year the observances ceased (Motolinia, *Trat. i. cap. 4*).

¹ Pomar, *Relación de Tezcuco*, p. 49: 'La guerra que hacian era á cada 20 dias, conforme á la cuenta de sus fiestas del año; de manera que una vez lo habian con los Tlaxcaltecas, y otra con los Huexotzincos: y ellos por la propia cuenta los aguardaban los propios dias en el campo y lugares de la pelea, sin errarse jamas.'

² Hence the name Cempohuallan, indicating that in the pueblos bearing it a fair or market was held once in each Cempohualli.

³ Oviedo, *Hist. of Nicaragua* (ed. Ternaux-Compans, p. 65).

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10th Cempohualli, the public sacrifices wholly ceasing during 5 days, exactly as at the end of the year. The 10th Cempohualli, like the 8th, ended with a festival of the Fire-god: and the observances of the first 10 Cempohualli appear to represent the original Mexican ritual, those of the last 8 being to a large extent a reproduction of them. Similar numerical groups occur in the chronologies of the Old World: the primitive Roman 'year,' or Year of Romulus, a cycle of 10 conventional months of 30 days, or 300 days, is a familiar instance. The 200-days cycle, if it once existed, had long given place to a cycle of 18 Cempohualli, of 360 days, originally supposed to be commensurate with the seasonal year. On this reckoning the system of festivals and sacrifices in use at the conquest was founded. Even when it had been extended to 365 days the religious year continued on its original footing as a period of 360 days; for on the supplementary 5 days all public ceremonies ceased, and the observances connected with them were of a voluntary and private nature. The transition from a year of 360 days to one of 365 was conveniently effected by the vicenary reckoning. The uniform recession of the former every 4 years by an entire Cempohualli, or period of 20 days, as compared with the seasonal phenomena, could not fail to arrest attention. The period of 4 years, with one Cempohualli added, evidently completed 4 circuits of the sun; hence it obtained the name of Teoxihuitl, or Year of the Sun. To correct the 360-day year by adding to it one of the 4 periods of 5 days into which the Cempohualli was customarily divided, was a natural consequence; it was equally natural to exclude these 5-day periods from the religious year, which retained its original constitution intact. The Year of the Sun, in Mexico, was marked by special sacrifices to the Fire-god, whose worship was always associated with the flight of time: in other pueblos, its observances were associated with Camaxtli or Quetzalcohuatl. For civil purposes the signs of the day-cycle ran con-

tinuously, without regard to the termination of each year of 365 days, throughout the 4-years period, the sign Cipactli recovering its place in every fourth year as the first day of the year: for ferial purposes, on the contrary, the cycle remained on its original footing, consisting of 18 periods of 20 days, the first of which, in every year, began on the first day of the year, whatever sign denominated that day in the civil calendar.

The Cempohualli of the ritual thus corresponded with those of the civil calendar only once in every 4 years. They were regarded less as cycles of 20 days than as solid periods of time, each distinguished from the rest by its appropriate festival or festivals; each bore a name borrowed either from the observances occurring in it, or from the season of the year¹. These names were merely

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Original
form of
the ferial
calendar.

¹ CEMPOHUALLI (20-DAY PERIODS) OF THE FERIAL YEAR.

[FIRST DIVISION.]

1. ATLACAHUALCO (ceasing of rain), Feast of the Tlaloqué.
2. TLACAXIPEHUALITZTLI (slaying of men), Feast of Xipe (vol. i. p. 587).
3. TOZOZONTLI (little vigil), *Feast of the Tlaloqué*.
4. HUEYTOZOTLI (great vigil). See vol. i. p. 465. Feast of Cihuacohuatl.
5. TOXCATL (dryness of corn). See vol. i. pp. 539-540. *Great feast of Huitzilopochtli and Tezcaltipoca*.
6. ETZQUALITZTLI (eating of porridge balls), *Feast of the Tlaloqué*.
7. TECUILHUITONTLI (little feast of chiefs), Feast of the goddess Huixtocihuatl. (See vol. i. p. 472).
8. HUEYTECUILHUITL (great feast of chiefs). See vol. i. p. 463, and p. 468. Feast of the goddess Xilonen.
9. TLAXOCHIMACO (offering of flowers) or MICCAILHUITONTLI (little feast for the dead), Feast of Huitzilopochtli.
10. XOCOHUETZI (ripeness of fruits) or HUEYMICCAILHUITL (great feast for the dead), *Feast of the Fire-god (Five days' interval, being the last 5 days of Xocohuetzi)*.

[SECOND DIVISION.]

11. OCHPANITZTLI (sweeping of temples), Feast of Teteoinnan, mother of the gods. (See vol. i. p. 516.)
12. TEOTLECO (coming of the gods). See vol. i. p. 537.
13. TEPEILHUITL (feast of mountains). See vol. i. p. 448. *Feast of the Tlaloqué*.
14. QUECHOLLI (coming of the flamingo), Feast of Mixcohuatl. (See vol. i. p. 517.)
15. PANQUETALITZTLI (raising of

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popular designations, having no sacred or official character; they varied in different parts of Anahuac, and more than one were sometimes current in the same pueblo. The ceremonies appear at first sight to be distributed throughout the cycle at haphazard; but on examining and comparing them, this chaos of names discloses a principle of order. There is evidently a break at the end of the 10th Cempohualli. The first ten periods form in themselves a complete ferial cycle, which includes observances in honour of all the principal Mexican gods: the eight remaining appear to represent the same cycle in an abbreviated form. Originally the ferial cycle appears to have consisted of 10 Cempohualli only, including 200 days, and revolving perpetually without regard to the seasons. Two revolutions of the cycle exceeded the estimated seasonal year of 360 days by 40 days, or 2 Cempohualli; hence by omitting two periods in every other sequence the original cycle would become one of 18 Cempohualli, divided into unequal moieties of 10 and 8 Cempohualli respectively. The advantages of converting a merely numerical cycle into one commensurate with the year are obvious; and a comparison of the ferial succession in the two parts of the calendar, as exhibited below, leaves little doubt in the mind that such a change actually took place. Each series of festivals ends with a feast of the Fire-god, followed by a blank interval of 5 days; the most important festivals included in the first division, those of the Tlaloquē or Rain-gods, and of Huitzilopochtli, the War-god, reappear in the second division in the same

the flag), *Great feast of Huitzilopochtli.*

16. ATEMOZTLI (falling of water),
Feast of the Tlaloquē.

17. TITITL (stretching of limbs),
Feast of the goddess Ilamateuctli.

18. IZCALLI (Behold the House!),
Feast of Teteoinnan, mother of the gods; Feast of the Fire-god (Five

days' interval, between Izcalli and Atlacahualco).

*** The discrepancy between the two intervals, in relation to the Cempohualli, may be thought an objection to our explanation of the ferial year: but the answer to such an objection will readily occur to the reader.

relative places ; other deities appearing in the first division are replaced in the second by analogous ones. The arrangement in the first division is in six cases out of ten by pairs. This is not repeated in the second division, most of the deities represented in which are known to have been borrowed by the Mexicans from neighbouring pueblos. On the grounds which analysis thus discloses, coupled with the fact that the Nahuatlacâ of Nicaragua employed at the conquest a cycle of 10 Cempohualli, it may fairly be concluded that this cycle represents the original ferial 'year' of Mexico.

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The most decisive among these indications is the feast of the Fire-god which concludes each division of the ferial year. The proper name of this deity was Xiuhtecuhtli, or Lord of the Year¹; a title which might perhaps be thought to connect him with the Sun. Xiuhtecuhtli, however, appears to have been distinct from the Sun ; he personified the element of fire in its application to the use of man. It was he who maintained the flame, and kept the spark alive in the smouldering ashes. Every day, in every house, portions of food and drink were thrown on the burning hearth to feed the Fire-god, whose image stood hard by. Fire is essentially perishable ; the ascending flame vanishes in air, and the material it consumes ever requires renewal. The vital principle, moreover, which animates it, is presumed to be enfeebled by use, and to require periodical renewal from the secret sources of nature. For some such reason, perhaps, the Fire-god was especially associated with the lapse of time ; at each important juncture in the time-reckoning, at the end of each year, of each period of 4 years, and of each period of 52 years, new fire was kindled from fire-sticks on the breast of a human victim, whose blood was sprinkled on the fresh flame to give it vital force and endurance. At the conquest the ceremony of kindling fire for the coming year was performed at the end of the 18th

The Fire-
god and
the Year.

¹ Xihuitl (year) + Tecuhtli.

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Cempohualli (Izcalli); but the principal feast of the Fire-god still kept its place at the end of the 10th (Xocohuetzi), with which the original ferial cycle had terminated. The feast was preceded by two important feasts for the dead, from which the 9th and 10th Cempohualli received what are evidently their older names; a circumstance which may be a mere coincidence, but may well indicate the propitiation of those who had passed away with the passing time, and were still living with the Sun and influencing human fortunes and interests, as an observance peculiarly appropriate to the end of the cycle. The excessive and cruel sacrifices which marked the Fire-god's feast in Xocohuetzi do not recur in that of Izcalli. In the latter, the victims were for the most part limited to small animals; only in the 4th year, marking the Year of the Sun, was the feast of the Fire-god celebrated with its full tale of human victims¹.

Periods of
 years in
 Mexico.

From considering the constituent parts of the year we pass on to the incorporation of the years themselves into numerical groups. The Mexican mode of reckoning these was simplicity itself; it rested solely on the number 13. Thirteen years, reckoned by the cardinal numbers, constituted a Xiuhtlalpilli or bundle; 13 Years of the Sun, comprising 52 ordinary years, formed a Tlalpilli of larger extent, called Nexiuhpilitztlī or 'completed binding of the years.' Here the Mexican reckoning of years came to an end; we cannot find that the combination of two Nexiuhpilitztlī, to form a 'period of old age,' ever served any chronological purpose. Mythical chronology alone proceeded a step further; it calculated a period of 13 Nexiuhpilitztlī, or 666 years, as the period during which Tezcatlipoca and Quetzalcohuatl successively strove, with indifferent success, to execute the functions of the Sun². The Maya pinturas

¹ Whether the inferences here drawn from an analysis of the ferial cycle are right or wrong, the division marked at least reduces to some kind of order, and will assist the reader in remembering, what otherwise appears a fortuitous medley of names and ceremonies.

² Hist. de los Mexicanos por sus Pinturas, cap. 4. (See vol. i. p. 558.)

and monuments are said to furnish a parallel reckoning founded on the vicenary scale. We are told of a cycle of 20 years, and of another of 13 times 20, or 260 years; an anomalous cycle of 24 years is also mentioned, by which the period of 20 years was at some time replaced¹. Whatever truth there may be in these inferences, it is certain that nothing of the kind occurs in the pinturas or monuments of Mexico itself, or in the writings of those who investigated its antiquities at the conquest; 13 years, and 13 Years of the Sun, are the only elements in Mexican chronology. In recording time the 13 Years of the Sun were not counted by their actual numbers; such a method would obviously have led to confusion. Each ordinary year was considered in a double aspect, as an entire member of the numerical series from 1 to 13, and as a fractional (fourth) part of the Year of the Sun; and for the purpose of identifying the years in the latter aspect they were denoted by signs borrowed from the four fractional parts of the Cempohualli of 20 days—Tochtli, Acatl, Tecpatl, and Calli². Hence every year had a double notation; (r) a number indicating its place in the arithmetical series of the Tlalpilli

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¹ Brinton, *Primer of Maya Hieroglyphics*, p. 28. The cycles of 20 and 13 x 20 probably refer not to the years but to the current day-reckonings.

² Thus, the series of years in the last completed cycle before the conquest was reckoned as follows:—

A. D.		A. D.		A. D.		A. D.	
1454.	1. Tochtli.	1467.	1. Acatl.	1480.	1. Tecpatl.	1493.	1. Calli.
1455.	2. Acatl.	1468.	2. Tecpatl.	1481.	2. Calli.	1494.	2. Tochtli.
1456.	3. Tecpatl.	1469.	3. Calli.	1482.	3. Tochtli.	1495.	3. Acatl.
1457.	4. Calli.	1470.	4. Tochtli.	1483.	4. Acatl.	1496.	4. Tecpatl.
1458.	5. Tochtli.	1471.	5. Acatl.	1484.	5. Tecpatl.	1497.	5. Calli.
1459.	6. Acatl.	1472.	6. Tecpatl.	1485.	6. Calli.	1498.	6. Tochtli.
1460.	7. Tecpatl.	1473.	7. Calli.	1486.	7. Tochtli.	1499.	7. Acatl.
1461.	8. Calli.	1474.	8. Tochtli.	1487.	8. Acatl.	1500.	8. Tecpatl.
1462.	9. Tochtli.	1475.	9. Acatl.	1488.	9. Tecpatl.	1501.	9. Calli.
1463.	10. Acatl.	1476.	10. Tecpatl.	1489.	10. Calli.	1502.	10. Tochtli.
1464.	11. Tecpatl.	1477.	11. Calli.	1490.	11. Tochtli.	1503.	11. Acatl.
1465.	12. Calli.	1478.	12. Tochtli.	1491.	12. Acatl.	1504.	12. Tecpatl.
1466.	13. Tochtli.	1479.	13. Acatl.	1492.	13. Tecpatl.	1505.	13. Calli.

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ee vol. i. p. 558.)

Book II. from 1 to 13, and (2) a sign-name, indicating its place in the
 Aboriginal Year of the Sun. Nothing was more natural than to use
 America. the sign-name and the number concurrently; and by so
 using them a compound notation came into use giving
 a different denomination to each year in the 52-years
 period. This compound notation, characteristic of the
 time-reckoning of Mexico and the adjacent districts, cannot
 be, as has often been assumed, an ingenious device of
 chronologists; it grew naturally out of the concurrent use
 of the two modes of indicating the year which are separately
 involved in it. Each 52-years period followed its predecessor
 without any further notation; and the ever-accumulating
 numerical burden involved in reckoning the years con-
 tinuously from a fixed era was therefore avoided.

Mexican
 birth-cycle.

The sequence of 20 days, reckoned on a different principle,
 served as a birth-cycle of 260 days, 73 of which coincided
 with the period of 52 years. Originally, it seems clear, this
 cycle was a cycle of 13 days, marked by the 13 names of
 moons; it always remained a cycle of this description,
 though the entire series of signs in the civil calendar was
 employed in it. The change consisted in counting the
 numerals from 1 to 13, in a parallel series with the 20
 names of days used in the civil reckoning, the sign in the
 latter series corresponding to the number 1 being considered
 to govern the 13-days group begun by it. The 20 signs of
 the day-reckoning thus became a series of 20 periods of 13
 days, each governed by one sign¹. The future fortune or

¹ By substituting the series of numbers 1 to 13 for the series 1 to 20
 in the perpetual day-reckoning, as exhibited at page 357, the reader
 will find that the twenty 13-day periods of the birth-cycle occur in
 the following order: 1. Cipactli; 2. Ocelotl; 3. Mazatl; 4. Xochitl;
 5. Acatl; 6. Miquitztl; 7. Quiahuitl; 8. Malinalli; 9. Cohuatl;
 10. Tecpatl; 11. Ozomatli; 12. Quetzpalli; 13. Ollin; 14. Itzeuintli;
 15. Calli; 16. Cozcaquauhtli; 17. Atl; 18. Ehecatl; 19. Quauhtli;
 20. Tochtli; the last-named bringing the 260 days birth-cycle to
 an end on the same day (Xochitl) as 13 sequences of the 20-day civil
 cycle. The signs, however, are usually enumerated in the order of
 the day-cycle (1. Cipactli; 2. Ehecatl; 3. Calli, &c.).

character of children was indicated by the dominant sign of the 13-day period in which the birth happened to take place. Of these signs some were of good omen, some of ill omen, and some were indifferent. The best were Cipactli, Calli, Quetzpalli, Mazatl, Itzcuintli, and Cozcaquauhtli; some authors add Quauhtli, Ozomatli, and Acatl¹. The Cipactli, a dreaded sea-monster well known on the tropical Pacific coast by the Spanish name manta, gave to those born during its ascendancy its strength, swiftness, and power of slaughter. The House indicated a benevolent disposition and eminence in the arts of social life. Those born under the Lizard would never lack, but would prosper without labour; those born under the Deer would be swift of foot, skilful hunters and great travellers; desirable qualities and fortunes were similarly prognosticated by the Dog and the Vulture. On the other hand, Wind, Snake, Corpse, Water, Malinalli, Knife, and Rain, in various ways and degrees, were of ill omen; the rest were considered indifferent. The same sign, it was understood, should if possible govern the destinies of married persons; and the birthdays of the parties were investigated accordingly before marriages were arranged. The union took place in some sign deemed favourable by experts in the cycle, in order to ensure, as far as possible, corresponding good fortune to the firstborn offspring. A separate series of ritual observances was attached to the birth-cycle. The sign Acatl was sacred to Quetzalcohuatl, to whom offerings were made on the first day; Malinalli and Miquitzli were similarly appropriated to Tezcatlipoca, Tecpatl to Huitzilopochtli, Itzcuintli to the Fire-god, and Ocelotl to the Sun. Probably these dedications are connected with the birth-cycle in its special application only; in some cases they indicate deities whose influence, if duly secured, might counteract the ill fortune portended by birth under an

¹ Sahagun, lib. ii. cap. 19. (As to the sign Quauhtli, see vol. i. pp. 470-471 note.)

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unfavourable sign¹. At three stated times in the period of 260 days sacrifices were made to propitiate the Cihua-pipiltin, women who had died in their first childbed, and dwelt with the dead warriors in the House of the Sun²; in the signs Mazatl, Quiahuitl, and Ozomatli these ill-starred ones descended to earth, wandering through the pueblos, and bringing deadly disease to mothers and children who crossed their path. A few ceremonies in civil life were attached to the 13-day cycle. War-chiefs were elected in the sign Izcuintli, war against some neighbouring pueblo being usually proclaimed at the same time. Criminals were executed in the sign Quiahuitl³. In some pueblos the markets were held every 13th day⁴: a circumstance which seems to relate back to times when the 13-day cycle was the only one known.

Chinese
 and
 Mexican
 calendars
 compared.

The reader is now in a position to judge for himself whether the Chinese and Mexican calendars, regarded in their substance, the method in which the days are coördinated with the longer natural units of time, or incorporated into artificial ones, have such a resemblance as to justify the inference that the one has been derived from the other, or indeed any resemblance whatever. The Chinese calendar is not merely lunisolar, but exhibits the lunisolar reckoning in its most advanced form; the Mexican takes no account whatever of the moon, and shows no trace of the most rudimentary attempt at coördination of the day with the lunation, or of the lunation with the year. In dividing the year into smaller periods it proceeds on a purely arith-

¹ This was evidently the case with the unlucky signs Malinalli and Miquitzli, assigned to Tezcatlipoca, who had greater power than any other god over human life and fortunes. (See vol. i. pp. 537, 538.) The unlucky sign Tecpatl (stone knife or arrow-head) portended death in war, or by sacrifice as a war-captive: hence the counter-acting god was the War-god Huitzilopochtli.

² See vol. i. p. 494, footnote 1.

³ Sahagun, lib. ii. cap. 19.

⁴ Motolinia, *Trat. I. cap. v.*

metical principle, by the vicenary system ; the arithmetic of China, so far as is known, has never been other than denary. The Chinese calendar presumes a knowledge of the year as a period of $365\frac{1}{4}$ days nearly ; and this figure is incorporated as a fundamental element in the reckoning. The Mexican year, if our conclusions are right, was an uncorrected cycle of 365 days perpetually. The Mexican reckoning is in substance based on the number 13 as its corner-stone. Neither this, nor the other numbers (4 and 20) employed in the Mexican calculation of time, enters into the Chinese calendar in any way ; conversely, no number used in the Chinese calculation of time enters into the Mexican calendar. The Chinese have at different times and for different purposes employed noctidiurnal cycles of 7, 10, 12, 28, and 60 days, and calculated periods of 12, 28, 60, 76, and 80 years ; all these numbers are foreign to the reckoning of Mexico. The Chinese have from early times possessed considerable knowledge of astronomy, and have applied it to an accurate division of the noctidiurnal period of 24 hours into 12 equal parts. The Mexicans were wholly ignorant of the rudiments of astronomy, and possessed no means whatever of dividing the day into equal parts. The use of the technical term 'cycle of years' in comparing the Mexican period of 52 years with the Chinese period of 60 years, or any period founded on a coördination of the motions of the moon with those of the sun, is in itself misleading. Nothing was coördinated in the Mexican cycle of 52 years but two reckonings of days—two concurrent noctidiurnal cycles, each founded on the arithmetical process of simple multiplication, though each approximated, as nearly as current knowledge and modes of reckoning permitted, to a natural period. Such an arrangement is manifestly not a 'cycle of years,' in the sense given to that term by chronologists.

This fundamental fallacy affects the whole argument of Humboldt. The supposed resemblances on which his

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alleged
resem-
blances.

contention for imported advancement is based are wholly derived from the external aspect of the two calendars as two 'cycles of years' compared with each other; they are, in fact, neither more nor less than that in each case the 'cycle of years' is computed by two series of names or symbols, combined in the way above indicated, and that in each case some of the names used are those of animals'. The Mexican compound system of denoting the successive years up to 52 has been shown to originate in the concurrent use of two separate reckonings of 13 years and four signs, which have naturally coalesced. No prudent ethnologist would venture to assign a specific origin to the very ancient Chinese notation of the 60-years cycle, which combines two sets of cyclic characters, known as the 10 Kan and the 12 Tchi, the coördination being carried only through the first half of the compound series which this combination produces. It is, however, understood that the 12 Tchi represent an ancient minor cycle of 12 years, and the 10 Kan an ancient cycle of 10 days; and although the 60-years cycle and its existing notation are alike of remote antiquity it may reasonably be inferred that both are based on an enlargement of the 12-years cycle, effected by combining some other cycle with it². Any combination of two cycles

¹ The concurrent use of a double series of names and numbers may be illustrated by the common practice of combining the day of the week and the day of the month. We take, for instance, to-day as 'Monday the first' of the month; to-morrow will be 'Tuesday the 2nd,' and the following day 'Wednesday the 3rd.' The following Monday will be 'Monday the 8th,' and so on. This double day-reckoning, which combines the invariable hebdomadal or 7-day cycle with the variable cycle of the calendar month, proceeds on precisely the same principle as the Mexican year-reckoning 1. Tochtli, 2. Acatl, 3. Tecpatl, which combines the ordinary series of 13 years with the series of 4 making up the Year of the Sun; two reckonings are in both cases combined with the same object—the more precise identification of the unit of time to be indicated.

² Souciet, Observations Mathématiques tirées des Anciens Livres Chinois (1732); Goubil, Traité de la Chronologie Chinoise, ed.

of different lengths necessarily produces a similar result ; and the ecclesiastical calendar of Christendom furnishes an illustration. Here the successive years of Meton's cycle, at the end of which the moon's aspects return to the same days of the month, are represented by a series of numbers from 1 to 19—the so-called Golden Numbers ; the return of the days of the months to the same days of the week, and of the sun's place to the same signs and degrees of the ecliptic, on the same days, is indicated by a solar cycle of 28 years, marked by 4 sequences of the 7 dominical letters denoting the days of the week. The co-ordination of these two cycles produces the Paschal Cycle of 532 years, at the expiration of which every element in the calendar regains the place it held 532 years previously¹ : and although the cycle of the dominical letter is counted in a backward succession, the two cycles of the Church calendar are combined on the same principle, and produce the same kind of result as those of the Mexican and Chinese calendars. Manifestly this principle is of general application ; and its employment in two distant places raises no presumption in favour of its having passed by transmission from one to the other. The argument from the names of animals, so trivial in itself as scarcely to demand serious notice, loses what importance it might otherwise possess when it is found that these names have no place in the technical Chinese notation, and are of

Silvestre de Sacy (1814). The ancient cycle of 60 years is adapted to the Metonic cycle in the enlarged and corrected form given to the latter by Callippus, who multiplied the 19 years by 4, and omitted one day in the total.

¹ As the fourfold sequence of the 7 dominical letters represents the cycle of leap year, the same Golden Number recurs to the same dominical letter at shorter intervals ; and in consequence of the disturbance of the cycle by the rule governing the bissextile correction, these intervals are irregular. Thus, the year 1881 is marked by the Golden Number 1 and the Sunday letter B. This particular combination will recur by successive periods of 57 years, 95 years, 152 years, 57 years, and 152 years ; i. e. in 1938, 2033, 2185, 2242, and 2394.

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merely vulgar use and probably recent origin. The 10 Kan and 12 Tehi are cyclical signs, absolutely distinct from the animal names which replace the Tehi in common parlance; and these names are used in connexion with other groups of objects as customary substitutes for the duodenary series of numerals¹.

'Throw-
and-Score'
games.

The conclusion arrived at in the case of combined time-reckonings—that such reckonings arise from a natural tendency to combination—is confirmed when the throwing and scoring games of the Old World are compared with those of the New. The fundamental principle of these games, whether the 'tab' of the Arabs, the 'tables' or backgammon of Europe, the 'pachisi' of India, or the 'patolli' of Mexico, be taken as a type, is one and the same; and it is simple and obvious enough to suggest itself naturally at an early grade of advancement. All essentially consist of a series of hazards cast by two contending players with light instruments of uniform shape and size, having two or more faces, and marked with a short sequence of numbers: these are thrown from the hand, the results being registered on a scoring apparatus or table. This, when used in common by both players, furnishes, in a natural manner, a fresh element of chance to the game. Each player has a fixed number of counters; these become 'men,' and the game is won by the player who first passes all his men over the scoring-board. Should a throw be made entitling either player to advance a man to a point already occupied by one of the adversary's men, such man is displaced or 'taken,' and must recommence the round of the board. Whether the game is played with slips of reed, cowries, beans, or dice, and whether the scoring apparatus

¹ Humboldt's industrious mystification might be exposed in all its bearings at much greater length. Its best refutation lies in the utterly different substance of the two reckonings he seeks to connect—a difference which the most ingenious sophistry cannot remove, or even diminish in the least degree.

consists of a row of stones placed on the ground, or a mat, cloth, or board, marked with squares or points, there is no difference in principle. 'An Icelander,' says the eminent ethnologist who advances the resemblance between Pachisi and Patolli as an argument for imported advancement, 'could easily play backgammon with a Japanese on an ancient Roman board¹.' An European might as easily play the same game against a Mexican with five beans and a Patolli mat². Have the two games, then, been necessarily, or even probably, derived from a single specific source? The answer should surely be a negative. Throwing and scoring are the essentials of all such games; and they have a natural tendency to assume the same form³. The development of the game by the Mexicans is the less surprising because this people possessed a true genius for inventing sports and pastimes. The Mexican game of Tlachтли, played in an enclosed court with a rubber ball between two opposite sides, each of two or three players, partook of the

¹ Prof. Tylor, *op. cit.* (see footnote 1, page 304) p. 7.

² The chances and points arising from games with two dice, and with five beans marked and scored as in the 'short' patolli game described by Duran (*Hist. de las Indias*, vol. ii. p. 234) nearly approximate to each other. With two dice there are 36 chances, and 294 points, giving an average chance on a single throw of a fraction more than 8. In 5-bean patolli, the 5 scoring as 10 on the principle of the 'short' game as described by Duran, there are 32 chances, 320 points, and the average chance on a single throw is 10. So closely do results, independently wrought out, approach each other.

³ Prof. Tylor lays some stress on the circumstance that both Pachisi and Patolli employ a scoring-board in the form of St. Andrew's cross. A scoring-board of this shape appears to be the most convenient one possible when the game is played between two persons squatting on the ground, each one easily commanding one arm of the cross with each hand. Nor does a scoring-board of this shape seem to have been necessary to the game. The typical patolli-player of the Mendoza Codex (folio 70) plays without a scoring-board. The game had many varieties, and the beans could obviously be used, like dice, for simple hazard, the mode of keeping score contributing nothing to the method of play.

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General
 argument
 for indi-
 genous ad-
 vance-
 ment.

nature of tennis and football. Can it be argued that this game originated in the Old World? Again, there is a certain resemblance between ball-games of the Old World played with a club or racquet, and the Iroquois game of Lacrosse. As might be expected, this has not escaped the keen eye of the amateur ethnologist, and has been adduced as evidence of ethnical connexion with Ireland and Phœnicia¹.

Even were the arguments above examined more convincing, the advocate of imported culture would still be confronted by a formidable difficulty. The higher forms of advancement have always been based on the artificial production of food; we see reason to believe that the conversion of natural food-supplies into an artificial basis of subsistence was an almost spontaneous process, those plants and animals having been selected in each district which were naturally best adapted for serving this purpose². If advancement was at some remote time imported from the Old World into the New, how happens it that at the Discovery all the domesticated animals, and nearly all the cultivated food-plants³, of the Old World were either wanting, or existed only in a wild state, in the New World? How happens it that the chief seats of American advancement were far removed from those tracts of the New World which an imported advancement would first have reached, and in which it would readily have taken permanent root⁴?

¹ Mr. Beers ('Lacrosse,' p. 3) describes a conversation with a fellow-traveller who suggested to him the 'resemblance between the national game of Canada and the Irish game of Coman or trundling. . . . Some time after, a communication appeared in a Port Hope paper, by a writer holding the identity of origin of the Indian and Irish races with the Phœnicians, and ingeniously attempting to show sufficient resemblance between Lacrosse and Coman to make a plausible argument for his theory.'

² Vol. i. pp. 313, 331, 343, 354-384.

³ Pulse was the only cultivated food-plant common to America and the Old World. (See vol. i. p. 337.)

⁴ British Columbia, Oregon, and California, where the animals and plants of the Old World would have at once thriven abundantly.

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How happens it that in each case these seats were in fact prepared for becoming the cradles of progress by some peculiar combination of indigenous aptitudes—Mexico having been thus qualified by its suitability for maize-growing and the presence of the pulque aloe, the ‘quichua’ or ‘temperate’ valleys of Peru by the equal facilities they afforded for breeding the llama and for the cultivation of maize and pepper¹? We have seen that every useful animal capable of domestication had been domesticated, and every indigenous plant capable of serving alimentary or sub-alimentary purposes, or the purpose, scarcely less important, though non-alimentary, of supporting nerve and brain by some stimulant property², had been reduced to cultivation by the American aborigines³. To suppose that a race capable of this feat—the more astonishing the more closely it is examined—was incapable of counting 365 days to the year, and of bringing the game of ‘throw and score’ to the shape in which it existed in Mexico, is surely repugnant to reason; nor is it credible that the introduction of either time-reckonings or pastimes, of any description, into the New World from the Old, should not have been preceded, or accompanied, or followed by the communication of those fundamental elements in all advancement, useful animals, and alimentary plants. Iron, it should be added, an ingredient of the first importance in the middle and higher advancement, has been known throughout Eastern Asia from remote times. No people of the Old World, it may be affirmed without hesitation, who possessed a calendar were destitute of iron implements. Yet no trace of iron implements, so far as we know, has ever been found in America, except among the Esquimaux, who obtained them from

There is nothing to suggest for a moment that California, in all its extent, was ever the seat of any peoples above the stage of savagery.

¹ See page 62.

² Cacao, the pulque aloe, tobacco, and coca (vol. i. pp. 399-431).

³ Vol. i. p. x.

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Possible
degenera-
tion.

It may perhaps be contended that as man degenerates more readily than he advances the culture of Mexico may well represent Asiatic advanced barbarism or civilisation in a state of retrogression or decay, mingled with and overborne by a persistent indigenous savagery. Plausible as the suggestion may seem, couched in the verbiage of abstraction, it collapses when pursued to the level plain of particulars. What element of advancement can be adduced, as to which such an allegation can be made with the least semblance of probability? We have enumerated every item of American advancement, and traced each to its root in savagery. In the history of none can we detect the least sign of decline or retrogression. Decline there undoubtedly was, in aboriginal America, as elsewhere; but it was a moral and physical decline, affecting man himself through his animal habits and passions, rather than the immortal arts created by the genius of his better nature. All the arts, as we trace them in the New World, exhibit the marks of progress. Want of space restricts us to a single illustration. We have shown the Mexican calendar to be beyond reasonable doubt indigenous, and incapable of having originated in the time-reckonings of Eastern Asia. Every fact we have adduced shows it to have been progressive, and to have been in a state of progress when the Spaniards became acquainted with it. The recession of the festivals had been discovered¹. The 52-years period, an expansion of the 13-years period, was itself beginning to be reckoned in groups of two; nor is the suggestion of larger multiples of it altogether wanting². Had the Mexican advancement continued unbroken, it is by no means impossible that the birth-cycle might have been abandoned as a check on the civil reckoning, the years enumerated in a continuous series, and a bissextile correction introduced,

¹ See note 2, p. 354.

² Page 365.

when observation had attained sufficient accuracy to suggest it. Nor was this process of improvement confined to the arts and sciences; we have shown that it extended to religious conceptions, though subject to the usual tendency to reaction, and that the Covenant of the Gods was already producing its natural fruit in a simplified theology, and in some limited development of a true ethical system, based on conscience and the needs of society¹.

Hitherto we have considered the New World in a mainly ethnological rather than historical aspect. Henceforth the latter point of view must predominate; and an ample field of investigation awaits us. We have to trace, so far as the material at our command enables us, the spread of our species, marking its distribution over one-third of the habitable earth from times indefinitely remote, watching different human swarms as they became isolated and consolidated in districts where nature invited permanent settlement, and following the rise, within these districts, of distinctive social institutions, the growth of military force, and the process of conquest by powerful pueblos which laid a foundation for the American empire of Spain. Although the course of history has everywhere two parts—the wanderings of peoples, and the fortunes of their settlements—both will not equally engage us, for the districts of permanent settlement are in America small compared with the whole area of the continent; the institutions which characterise the pueblo, and its historical growth, have yet narrower limits. The periods, again, within which advancement can be observed are but short; they form, in fact, a mere prelude to the history of the Spanish conquest. Both in the area covered, and the time occupied, savagery is more prominent than the moderately developed barbarism which succeeds it; hence the history of the New World, compared with that of the Old World, presents an aspect less varied and brilliant, though probably not less instructive. In

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¹ Vol. i. pp. 506-603.

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the latter, the social change due to reliance on artificially produced food-supplies has affected, during thousands of years, the great mass of the population, and savagery lingers only in fringes and corners, in outlying islands, or inaccessible mountains and forests¹. In the New World the artificial production of food, except roots, was probably of more recent origin; certainly it was sporadic in its distribution; it was insecure in its establishment, imperfect and unstable in its moral results. The last-named characteristics are common to both worlds. The history of the Old World furnishes instances of civilisations which have perished by internal decay, or been overwhelmed by barbarous assailants. That of the New World, brief as is the portion of it within our knowledge, and scanty as is that knowledge, proves that advancement in its lower stages was subject to similar conditions, and suggests that its maintenance was more and more precarious the nearer it stood to its origins. In its lowest stages as in its highest, human progress stands ever on its defence; even when most secure from external attack it stands most in danger of perishing by failure of its vitality, or by the effect of morbid elements engendered spontaneously in its artificial organisation. In the New World the causes that retard progress were actively at work: it may even be added that the most prominent features in the subsisting advancements of America at the conquest were hideously repulsive in character, and that the Conquest itself, however unjustifiable on grounds of abstract right, was for the peoples affected by it an undoubted blessing. This repulsiveness is more prominent in Mexico than in Peru, but it is present in both; and in each case there is good reason for concluding that it grew out of advancement itself, and to some extent grew with its growth. We follow with a sense of shame and horror man's advance

¹ 'Savagery' is used in the technical, not the popular, sense, being limited to peoples whose main reliance for food is on the table spread by nature.

through the middle and higher barbarism to the threshold of civilisation, looking back almost with regret to the period of savagery when human progress exhibited a comparatively mild and beneficent aspect. Advancement is power; like all power it is not merely liable but certain to be abused, wherever it may be vested, if no adequate check exists on those who wield it. The standing difficulty of civilisation, that there must be necessarily some seat of power, and that power wherever established is prone to corruption, arises at a very early stage in human progress. For this reason, perhaps, the study of pure savagery has been found more congenial to the philosophic mind than that of barbarism. The Esquimaux are more pleasing objects of contemplation than the Mexicans, whose bloodthirsty advancement irresistibly recalls that of Ashanti and Dahomey.

We have given, on an earlier page¹, some reasons for supposing that man inhabited the New World, probably in considerable numbers, in pre-glacial times; and it may be that even at this remote period he had traversed America to its southern extremity. For the species, at this stage of its history, the two worlds perhaps formed a single œcumenic area; this may even be supposed, having regard to man's capacity for securing subsistence, to have been not inadequately peopled in most of its parts. If the principle of pre-glacial immigration be conceded, this may have happened in the infancy of our species: for the space now occupied by Behring's Sea by no means represents, as at first might appear, the breadth of the bridge available for the transit of population from the main body of the habitable earth to the immense limb called the New World. To Behring's Sea must be added, for this purpose, a much larger space north of Behring's Strait, between 70 and 80 degrees north latitude, and extending through 125 degrees of longitude from Banks Land to Nordenskiöld Sea. We have remarked the shallowness of the ocean to the south of Behring's Strait²;

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of the
Miocene
Bridge.¹ Page 67.² Page 66.

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that of the Arctic Ocean to the northward of it is even more striking. In Behring's Sea the soundings sometimes touch 100 fathoms. The explorer must sail 400 geographical miles northward of the strait before 60 fathoms depth are found; from Point Barrow to Wrangell Land the chart shows only one sounding reaching 40 fathoms, the general depth being 20 or 30. The bottom of the ocean here forms an inclined plane having its upper margin along the shores of Siberia and America; this is now slowly rising and thrusting the ocean backward. There are clear indications that this region—one of the most restless portions of the earth's crust—has at different times been much above, and much below, its present level. When laid dry, and representing the 'Miocene Bridge' at its greatest breadth¹, it would approach within no great distance of the Pole itself, and be somewhat less broad than Africa at the equator, or the mean breadth of the United States between the Atlantic and the Pacific. While one side of the bridge would extend from Kamtchatka to British Columbia, the other would stretch from what is now the Samoyede Peninsula in Western Siberia towards Hudson's Bay.

Spread of
 man over
 the New
 World.

Assuming, as may safely be done, that the region of the Mexican Gulf and Caribbean Sea at the same or at some other not very distant time was dry land, no obstacle would have prevented the general spread of man over the New World in all its parts; and as the area of departure, if we are right, would have comprised almost all Northern Siberia as far as the frontier of Europe, it is manifest that the migrating tribes would naturally exhibit whatever variety of human types then existed in the Northern parts of the Old World. Two things are here worth notice; (1) in the circumstances indicated the relative geographical posi-

¹ The greatest breadth is defined by the commencement of the deep soundings. Beyond the area indicated these suddenly increase, and between Norway and Greenland a depth is found of 3,720 fathoms.

tion of tribes inhabiting Western and Eastern Siberia and migrating to the New World must there be reversed; (2) the most direct route from the Old World to the New would be that from Western Siberia. Upon the first consideration—that Western Siberian tribes, following the upper margin of the Miocene Bridge, would naturally occupy the Eastern shore of North America—we lay no stress¹; for we shall hereafter see reason for concluding that this shore was depopulated by the process of glaciation, and that those who inhabited it at the Discovery had migrated from the Pacific coast, by crossing the interior, in comparatively recent times. The second consideration is more pertinent to our purpose. A line drawn from the Samoyede peninsula in a north-easterly direction strikes the American continent in 1,860 geographical miles, and strikes it in the region of the Mackenzie River and the lakes to the eastward of it. Tribes wandering to the New World on this line, which is the most direct route, would therefore reach it eastward of the great barrier of the Rocky Mountains, which oppose a formidable obstacle to the exploration of the interior by immigrants who may have followed the Pacific shore. Nothing positive is known or can be inferred concerning the distribution of different human types in the Old World at the remote period under consideration; nothing, however, forbids us to suppose that tribes who thus reached the interior of the New World from Western Siberia might present the more vigorous characteristics, and perhaps the more mingled type, of the Western or

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¹ The contrary view is held by a distinguished Americanist whose opinions always deserve our respectful consideration. The robust tribes of Eastern North America, it is suggested, represent immigration from North-Western Asia and perhaps Northern Europe; the weaker tribes of the Pacific are derived from Eastern Asia. While admitting the possible influx of stronger peoples to Eastern North America in the earliest times we must adhere to the opinion that its occupants in historical times, the Algonquins and Iroquois, reached that region from the opposite side of the continent.

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Migration
 by the
 margin of
 the Pacific.

'Scythian' Turanian, so familiar in Europe in early times; while those who followed the Pacific shore might rather approximate to the weaker, though more purely bred, Turanian type of the East, represented by the modern Mongolian and Chinese.

While glaciation closed the middle and eastern parts of the Miocene Bridge during unnumbered centuries, the route from the Old World to the New by its Pacific margin probably remained always, or nearly always, open; and everything points to the conclusion that the existing distribution of peoples on the Pacific shore of America represents an influx and concentration of population along this margin. We are at no loss to guess what form of the food-quest tempted man to explore and settle on it. In all terrestrial change the sea, and the sea alone, remains constant as a source of subsistence. The extinction, moreover, of animals and vegetation by the effect of cold necessarily drove man from the denuded interior of Arctic America to the comparatively temperate Pacific shore; and during the long ages that followed, until the rigour of the glacial period had abated, and man was enabled to spread anew over the continental area, the Pacific shore was the only part of northernmost America where human life could possibly survive. Here, however, nature was favourable to man's maintenance, and even to his advancement. The fish, shell-fish, and marine mammals with which this shore eminently abounds provided an inexhaustible food-supply; the nature of the quest, by stimulating his inventive powers, contributed to his mental development; the seasonal character of the supply taught him providence, and the art of preserving and storing his means of subsistence; the peaceful nature of the pursuit effaced or lessened the ferocity which marks those who live by the capture and slaughter of land animals; the localised food-basis checked the instinct of roaming, and bound him more than any other mode of subsistence, until agriculture was established, to a single well-

known district. Fishing and agriculture are easily combined; but the materials for the latter, in all its kinds, were here wanting. Civilised immigrants from Asia would naturally strike the New World in British Columbia or Oregon; and the doctrine of imported advancement finds its most decisive refutation in the fact that from the most remote until recent times agriculture was here absolutely unknown.

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America,

The early history of man in America appears to turn on one great fact—prolonged glaciation. This affected, in the first place, the northern margin, to an extent well known to geologists; and, in the second place, the great mountain range which rises like a wall, parallel to the Pacific shore, to an extent not ascertained, though probably in its entire length¹. Assuming that man entered the New World in pre-glacial times, glaciation must, during long ages, have driven him, together with the animals on which he subsisted, from the greater part of the northern continent. South America, east of the Andes and montaña—which were probably overspread by ice—and some portion of southern North America, together with the north-west coast, could alone have harboured him. As the ice receded in North America there may have been some movement on the part of the pre-glacial settlers in a northerly direction; but the reoccupation of the once glaciated area was probably delayed until the Rocky Mountains were sufficiently clear of ice to allow them to be crossed from the Pacific side. In the many fluctuations of the glacial period the general route from Northern Siberia by way of the Mackenzie River may also have been reopened and again closed; other streams

Outline of
man's occu-
pation of
America.

¹ Mr. Belt ('Naturalist in Nicaragua,' p. 356) says of the end of the glacial period: 'Ice that had been piled up mountains high at the poles and along the chain of the Andes, all through tropical America, melted away and ran down to the ocean beds. . . . All our experience shows that the ice was more developed on some meridians than others; probably nowhere in the whole world did it lie so thick as along the American continents, and everywhere it must have been greater over the land than over the sea.'

BOOK II. of immigrants might thus have spread over the general
 Aboriginal America. area of the continent, largely occupying the northern half,
 but possibly pushing their way into South America also. Here, as the ice-covering gradually vanished from the mountain side, the more robust tribes would seek the higher levels of the montaña, and thus make their way to the valleys of the plateau. Ethnologists recognise in the Old World a palaeo-ethnic and a neo-ethnic period, in the latter of which the human race appears to have been physically better developed than in the former. There are indications of a similar ethnical succession in America: the interval separating the two periods probably corresponds to that dividing pre-glacial from post-glacial times.

Small Race
 of the New
 World.

Hence it seems probable that the races of diminutive stature which occur here and there in America, and are evidently the remains of inhabitants who have been dispossessed by the existing natives, represent the first or palaeo-ethnic men who first wandered from the Old World to the New. The traditions of Mexico, Ecuador, and Peru, like those of the Old World, represent a race of giants as having preceded the existing human species. The oldest human remains, on the contrary, prove the earliest men to have been comparatively small and feeble. In every direction in the Old World we have traces of small races; races extinct in Europe, where they are represented by the Stone Age men of Switzerland¹, but still recognisable in the Veddah of Ceylon, and the dwarfs of the Central African forest. The same thing occurs in America; and evidence is accumulating which tends to show that the continent was overrun in the earliest times by a small race of distinct physical character from the robust Indians of the present day. Three skulls found in the Trenton gravel are described as of small size and oval shape; they are of a distinct type, and in the opinion of an eminent ethnologist belong to

¹ Réclus, *Revue des Deux Mondes*, Feb. 1862.

a stock now destroyed, or lost by mixture with others during the many thousand years which have passed since man first dwelt in the Delaware valley¹. The aborigines encountered by the Northmen were of small stature²: ancient interments further southward indicate that such a race was widely diffused in the interior of North America³. In South America, where an archaic population might be expected to survive longest, such indications are met with in all directions. According to the traditions of the inhabitants of the Chinchá valley in Peru, their ancestors at their immigration found it peopled by a dwarf race, whose bones were still exhibited at the Conquest⁴. Further southward such a race survives to this day in the timid Changos, of the Tarapaca pampa on the Pacific, described as 'never exceeding five feet in height, fishing in boats of inflated sealskins, and sleeping pellmell in sealskin huts on heaps of seaweed'. The Comechingones of the Argentine plain⁵, who have long vanished before the powerful race of the pampas, were equally diminutive; probably they were the descendants of the small dolichocephalic people whom recent explorations prove to have once inhabited Argentina and Patagonia⁷. The memory of these dwarfs long sur-

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¹ Prof. Putnam, quoted by Fiske, *Discovery of America*, vol. i. p. 15. The skulls are in the Peabody Museum at Cambridge, Mass.

² Vol. i. p. 82.

³ Remains found in an ancient cemetery near Sparta, Tennessee, explored by Dr. Fiske about 1825, indicated that the country had been formerly 'inhabited by a race of pigmies' (*Smithsonian Report*, 1871, p. 368). Mr. Lyon's explorations in Kentucky indicated that the primitive inhabitants were 'generally under size—not so large as the men of this age' (*Id.* p. 495).

⁴ Cieza de Leon, *Cronica del Peru*, c. 74.

⁵ Markham, *Peru*, p. 53. They are quaintly described in Pretty's narrative of Cavendish's *First Voyage* (1587).

⁶ Mentioned by Ereilla, *Araucana*, Canto 27. They existed in historical times (Guzman, *Historia Argentina*, in the *Coleccion de Obras y Documentos de De Angelis*, vol. i. pp. 13, 35, 69, 121).

⁷ See the account of the researches of Señors Ameghino and Moreno in Nadaillac, *Prehistoric America*, ch. ii.

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The Esqui-
 maux.

vived their disappearance ; and so recently as 1757 one was reported to have been captured by the Chirihuanos in the Gran Chaco¹.

Ethnologists have identified the small 'Cave Men' of the Old World—the progenitors, probably, of the archaic race which subsisted, in a more advanced condition, by the lakes of Switzerland—with the Esquimaux, or 'Innuits²,' the northernmost people of America, who are now shown, by a comparison of their habits and legends throughout the immense line of coast frequented by them, to have covered it by migration from the shores of Alaska³. The immense range of time during which this people is thus assumed to have maintained its physical character and habits without change throws reasonable doubt on this conclusion ; and the difficulty of accepting it is enhanced by the fact that the Esquimaux appear always to have been a maritime people. We may, however, without doing violence to any known ethnological facts, regard the Esquimaux as true aborigines of the northern zones—a small race which has preserved itself by a strenuously formed and hereditarily transmitted faculty of gaining a sure subsistence in the least hospitable of climates, and by the perennial absence of competing populations. This race retained its ancient habit of life when the disappearance of the ice-fields, the subsidence of the land, and the opening of the straits combined to provide for it a limitless field of exploration. The Esquimaux have rarely sought, and are probably not qualified, to spread over broad terrestrial areas⁴. Their destiny has been to

¹ Guevara, *Hist. del Paraguay*, § 3. According to the legends they lived in holes under ground : and such holes have been found, covered with the shell of the great armadillo, and containing human remains.

² 'Innuits' (Esquimaux) = 'men.' 'Esquimaux' (Algonquin) is usually thus explained : 'aek' = raw : 'aekipo' = 'he-eats-raw-flesh.' The true etymology is 'askik' = seal, 'askikamo' = 'he-eats-the-seal.' (See note, p. 390.)

³ Rink, *The Esquimaux Tribes*, p. 4.

⁴ The 'Nynatak' or 'inland' of the Esquimaux averages about

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follow the icebound Arctic coast, ever pursuing their peculiar mode of life, perfected on the shore of Alaska, their original seat; to trace, in its whole length, the channel separating the American continent from the scattered islands and peninsulas lying between it and the Pole, and to explore these northernmost lands, scarcely accessible to the skilled sailors of civilisation, though long familiar, in every part, to themselves; to coast around Western and Eastern Greenland; to discover Hudson's Bay, to circumnavigate the vast peninsula of Labrador to the mouth of the St. Lawrence, and to pursue the food-quest on the shores of Newfoundland, and possibly of Nova Scotia and New England. No people, whether of the Old World or the New, can show a more astonishing record; and it consists with the progress made by this remarkable people in language and the arts of life. Of all American languages a dispassionate criticism must pronounce the Esquimaux, wanting as it is in the power of analysis, to be the most perfect in its kind; nor is it destitute of literary cultivation. Both poetry and prose are represented; and this ingenious people have accumulated a large and interesting body of standard fiction, much of which is understood to be at least a thousand years old¹. Of all American peoples these have made the most of the least favourable conditions of life. In a region where winter is all but perpetual, where no tree flourishes, and driftwood alone supplies a more tractable material for all useful purposes than the bones of the Arctic mammals on which they prey, the Esquimaux clothe themselves from head to

30 miles wide, though they sometimes penetrate further in quest of the reindeer and other animals. Their permanent winter villages are usually on the coast. (Seventh Annual Report of Bureau of Ethnology, p. 72.)

¹ Rink, *Tales and Traditions of the Esquimaux*, p. 84. The evidence adduced for the statement is not convincing; but we do not doubt that the composition of fictitious narratives of some kind is even older. The Esquimaux tales show an intense power of imagination, and contrast favourably with those of more advanced peoples.

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foot in garments of well-prepared skin, sewn with deer sinews, build admirable boats of two separate types, for transport and fishing respectively, construct sledges drawn by trained dogs in harness, excavate subterraneous houses vaulted with stones, and heat them by train-oil lamps. They are industrious, and carry on a brisk trade with all comers. Gentle, good-natured, and averse from strife, they are not lacking in courage; they attack the polar bear singlehanded, and capture not merely the seal and walrus, but the whale. They pursue the reindeer as game; their maritime habits, and adverse physical conditions, prevented them from domesticating this useful animal, as do the Tehukchi dwelling on their Asiatic border.

The Esqui-
 maux an
 American
 people.

Ethnologists have sometimes amused themselves with the idle discussion whether the Esquimaux should rank as an Asiatic or an American people. The former opinion is maintained on such grounds as a supposed want of physical resemblance to other American tribes; the cruel hostility with which they are treated by their Athapascan and Algonquin neighbours; the high cultivation of their language, which has been truly said to approach in this respect the best developed Turanian languages of Asia: their advanced Shamanism, standing midway between that of Siberia and the less elaborate 'medicine' systems of North America; and the fact that under the name of Namollo a branch of the people has from remote times possessed a considerable part of the Siberian coast. The Namollo are held by such authorities as maintain the opinion in question to represent the original stock of which the American Esquimaux are a branch. The controversy is one of words rather than facts, and if our conclusions are well founded may be dismissed as wholly purposeless¹. If

¹ The exclusion of the Esquimaux from the American group originated with the French missionaries (Charlevoix), who concluded (1) that they were not Americans, and (2) that they were Europeans, because they were manifestly akin to the Greenlanders,

the physical character and general habits of life now represented in the Esquimaux people have been transmitted from times when America and Asia were continuous, the Asiatic and American branches of the stock may once have formed a single group, geographically as well as ethnologically, and may have been subsequently divided by the formation of the strait, while sufficient communication was nevertheless maintained to prevent differentiation in language. Even setting aside this view of the question, the evidence for classing them as an American rather than an Asiatic people appears decisive. Immigrants from Asia, arriving in comparatively recent times, would have understood and introduced into America, in suitable districts, the domestication of the reindeer. Rink, whose investigations command our confidence, is convinced that the habits of life among the Alaska Esquimaux represent the primitive form of the advancement, and that this district was the earliest seat, of the Esquimaux people; that they spread over the enormous area of Arctic America, and made their way to Siberia, from Alaska as a centre; and their superior advancement relatively to their unfavourable surroundings is partly explainable by the compulsive force of nature, partly by an isolation which has protected them from attack by more warlike stocks—except when they have ventured to quit their natural vantage-ground, the narrow margin of the Arctic waters—and partly by the immense period during which they have occupied the same tracts and pursued the same mode of subsistence. Their advancement, improved by European contact, is evidently destined to endure for ages to come, though it may possibly be confined within somewhat narrower limits¹, as an unique example of archaic American

who must have emigrated from Europe. Robertson gave it currency (*Hist. of America*, Book IV), and Humboldt accepted it.

The Esquimaux have apparently been dispossessed in historical times of part of the Atlantic shore (see vol. i. p. 82); the same thing has probably taken place on the Pacific and in Siberia. They once

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Book II. life, possessing universal interest as preserving characteristics
Aboriginal belonging to remoter times than those of any other race of
America. the northern hemisphere¹.

Athapascan, Algonquin, and Iroquois tribes. Exploration of the interior.

Drawing most of their subsistence, and in very many localities their whole subsistence, from the sea, the Esquimaux were and are necessarily confined to the coast; and the same conditions probably produced a similar result in the case of the tribes immediately adjoining them to the southward. As the temperate zone is approached the soil becomes more and more kindly; but conditions not always concurrent must combine before man is likely to quit the plentiful food-basis of the ocean for the uncertainties of a wandering inland life. There must be some promise of a better fortune, some development of physical character and power of endurance, and some spirit of adventure; and it may well be supposed that in the long line of coast between Alaska and California these conditions would be united only at somewhat rare intervals. Most of the peoples of the Pacific coast, if we may judge from the ethnographic map, have been seated during many centuries in the districts now occupied by them; the ocean, and the products of a comparatively narrow littoral belt, have sufficed to support them; in some cases they may be considered to share with the tribes of the Brazilian forest the character of low tribes,

inhabited Prince Patrick Island, Melville Island, and other lands in the extreme north now completely deserted.

¹ The vigour of the Esquimaux is largely due to their battenning on the flesh of the common seal (*Phoca vitulina*), which is to them what beef and mutton are to Europeans. It is described as a rank, rich, heat-producing food; disagreeable, at first, to the European taste, and uninviting to the eye, being almost black from excess of venous blood. Its peculiar flavour is in due time appreciated, and its tenderness, juiciness, and highly stimulating effect when digested, completely reconcile the palate to it. The fur-seal has less alimentary value, being chiefly blubber. The Algonquin Indians, living on game and fish, revolt from the idea of eating seal's flesh; hence the contemptuous name 'Askikamo' (see note, p. 386), beyond reasonable doubt the true form of 'Esquimaux.'

who have remained during untold ages content with the secure possession of districts not favourable to further advancement. Had we reason to suppose that the coast tribes generally were of this character, we should ascribe the post-glacial exploration of the North American interior to new swarms of immigrants from Asia; and the possibility of this is enhanced when we remember that the Pacific coast-line, both before and after the cooling of the ocean by the irruption of an Arctic current through Behring's Strait, afforded direct communication between Asia and America. Without wholly rejecting this suggestion, we conclude that the principal impetus to exploration came not from Asia, but spontaneously arose among the more adventurous tribes of the coast, as the interior gradually lost its icy vesture and again became covered with vegetation and stocked with animals. By this time, probably, the first waves of population, driven onwards by cold and scarcity of game, had passed far beyond the southernmost margin of the ice-field, settled on the lower Mississippi, in the Apalachian mountains, on the shores of the Mexican Gulf and Caribbean Sea, and spread over the vast tropical forest of South America. Northern and Middle North America now offered a practical field of emigration to such of the coast peoples as were prepared by their habits of life for entering upon it. Fishing peoples, as they advance, readily become explorers; having learned navigation on rivers and inland lakes, they attempt, in due course of time, the ocean itself—a process to be presently illustrated, in a more advanced stage, by the Caribs of the Orinoco, who became the leading maritime people of America. From the coast as a base, the more adventurous tribes explored the land by ascending rivers, reaching the lakes which fed them, and there establishing themselves on the double basis of fishing and hunting¹.

¹ The process, as is well known to those familiar with the Pacific tribes, is still going on, some among them having advanced into the interior in recent times. The weaker peoples would abandon the

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America.*

Thus, if we are right, were formed the habits of life characterising the great stocks which shared between them the greater part of the North American continent—the Athapascans, the Algonquins, and the Iroquois; peoples above all others robust and adventurous, and possessing for the historian an interest far exceeding that of the numerous minor stocks which have from remote times lined the Pacific coast from Alaska to the Californian peninsula, one group, presently mentioned, being excepted. The range of migration exhibited by these peoples is amazing. The Athapascans are conspicuous for diffusion from north to south: they extend from Northern Alaska and Hudson's Bay, though with considerable interruptions, to the Northern States of modern Mexico, and in various parts of Washington, Oregon, and California have fought their way again, through the midst of alien stocks, to the Pacific shore. The Algonquins exceed all the American aborigines in their range over the breadth of the continent. They extend from Montana and Alberta in the west to the Atlantic shore, which they once possessed from Newfoundland as far southward as Cape Hatteras; they thus held the greater part of the Canadian Dominion, and of the United States east of the Mississippi. The Iroquois are distinguished rather for the judgment with which they selected the choicest tracts of the interior, the resolution with which they dispossessed other occupants, and the tenacity with which they kept their country against the invader, than for the extent of their distribution. Probably migrating in comparatively small bodies, and following generally in the wake of Algonquin tribes, the Iroquois seem to have been guided, in their eastward advance across the continent, by the lakes and streams of Middle Canada. Like the Nahuatlacâ of Mexico, with whom their language and ethnologic character suggest a remote affinity, they probably attempt and return to the coast; the successful ones would push on farther and farther.

emigrated from some part of British Columbia. Tradition reported them to have reached their seats from the region north of the St. Lawrence River, where they had once lived in subjection to the (Algonquin) Adirondacks. Surrounded, as they were, by the more numerous and not less powerful Algonquin tribes, to whom they appear to have formerly been in subjection, they early united in a confederacy, which preserved their nation intact long after the arrival of Europeans; a confederacy which held the choicest parts of North America, the regions of Lakes Erie and Ontario, and the present State of New York.

The history of these peoples, apart from what is based on inference, is scarcely traceable earlier than the date when they became known to Europeans; and the name of the group standing first in order—a place due to it both on geographical and ethnological grounds—suggests that some connected account of their discovery may assist in conveying a clear idea of their distribution. Of the four great stocks, the Athapascan, the Algonquin, the Iroquois, and the Dacotan—among which the North American interior was distributed—the first-named was the last to be discovered; the last-named, probably the last in order of migration from the coast, had long previously become known, under the familiar name of the 'Sioux.' Early voyagers to Newfoundland must have met with Indians of the Algonquin group shortly after the Discovery. Cartier's expedition, in 1534, revealed the Iroquois as an inland people, dwelling side by side with the Algonquins; Champlain's colony (1608) made both familiar to Europeans, and quickly led to the discovery of the Dacota or Sioux. In 1634, the western parts of Lake Huron being then imperfectly known, Michigan and Superior barely heard of and wholly unexplored, Champlain dispatched Nicolet to prosecute discovery in the lake region. This enterprising traveller discovered Sault de Ste. Marie and the Strait of Mackinaw; traversing the latter, and following the N.W. shore of Lake Michigan, he reached the

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southern end of Green Bay¹. Here a surprise awaited him. He had reached a tribe with whom his knowledge of Algonquin and Iroquois availed him nothing; they were the Winnepégoek, the easternmost outliers of the Dacota, destined forty years later to guide Joliet and Marquette down the Wisconsin River to the Mississippi. The interior of the continent, it thus appeared, was divided, not between two Indian stocks, but among three; and during nearly 140 years this threefold partition, which recalled to Frenchmen Caesar's ethnological summary of ancient Gaul, was accepted as a complete enumeration of the native tribes and languages of New France.

Discovery
 of the Far
 North-
 West.

The great struggle between England and France was ended, and Canada ceded to the British Crown, before this tripartite distribution was superseded, and the fourth great stock of the interior, hitherto unknown, was announced by an explorer in the service of the Hudson's Bay Company. This corporation, chartered in 1670 for the purpose of securing to Englishmen a more liberal share in the growing North American fur trade at its sources in the centre of the continent, rearward of the traders of New France and New England², had been content during two centuries with exploiting the Algonquin hunting tribes on the south and south-west of the great inland sea whose coasts had been granted to it as a perpetual monopoly. Reports of a rich copper mine in the north-west suggested exploration in this direction; and in 1769 the intrepid Samuel Hearne undertook his memorable journey which led to the augmentation

¹ Properly 'Grande Baie'; originally 'Baie des Puants' (the Winnepégoek).

² The first-named among the undertakers is 'our dear and entirely beloved cousin, Prince Rupert, Count Palatine of the Rhine'; and all lands within the entrance of Hudson's Straits not already actually possessed &c., are to be 'reckoned and reputed as one of our plantations or colonies in America, called Rupert's Land.' The New England colonists were parliamentarians: the Hudson's Bay undertakers, royalists.

of the map of America by the vast region lying north-west of a line drawn from the middle of Hudson's Bay to the coast of Oregon, or about one-fourth part of the North American continent north of the present Mexican frontier. No substantial addition had then been made to the map for 300 years; the real configuration of the continent was unknown; contemporary maps still displayed the imaginary 'Strait of Anian' in the latitude of Michigan¹; from this point the coast was understood to trend north-east, and the Pacific Ocean to lie only two or three hundred miles west of Hudson's Bay. Hearne took the first step in correcting these misconceptions. Twice baffled by the treachery of his Indian guides, he again renewed his effort in 1770, reached the Coppermine River, and followed it to its termination in the Arctic Ocean. Returning by another route, he chose a lake—the nearest to the Algonquin boundary, among the network of inland waters extending north-west from New York State to the mouth of the Mackenzie River—as the site for a trading station in the newly discovered tract. The Indians called it Arathapescow (= place of grass or reeds²); here Fort Chippewyan was founded, and the name, in abbreviated forms, was applied to the group of languages and peoples occupying the interior of the vast tract thus for the first time entered upon. To trace the American shore north-westwards from Oregon to Behring's Strait was the last exploit of Cook (1778); Joseph Frobisher, Pond, and Mackenzie continued the work of inland exploration; in 1793 the last-named traveller reached the Arctic Ocean by the mouth of the great river which bears his name.

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¹ See the map in Burke's 'European Settlements in America' (1758).

² Other explanations are given, and this must be considered doubtful. There is no doubt as to the true form of the name. Georg Forster's map (Kleinere Schriften, vol. ii) has 'Arathapescow See,' and 'Arathapescow Indianer' on the southern shore. Arrow-smith's chart (new edition) has 'Arabaska'; the officials of the Company adopted the form 'Athabasca.'

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 America.
 Athapas-
 can tribes.

The group of tribes thus added to American ethnography is often compendiously set down as the lowest in advancement on the Northern continent. The inhospitable soil of the great Athapascan area suggests no expectations of any high degree of progress: but those who best know the Athapascans pronounce them to be made up of groups exhibiting many shades of culture, even the lowest of which would not justify so sweeping a condemnation. While some tribes are less fixed in locality than others, many have permanent villages, and the highlanders tend to separate as groups from the lowlanders. Many, perhaps most, train dogs to the sledge, and have a smaller breed used in hunting. Hunting and fishing have even here a tendency to differentiation, the hunters being expert in chasing the deer and the Rocky Mountain sheep, and trapping the fox and sable. Some river tribes are good boat-builders, and many are expert in making wooden ware; occasionally they are described as bold and enterprising, great traders, and extremely intelligent¹. The tribes of the extreme north-west usually describe themselves by names consisting of the particles '-tinneh' or '-kutchin' (= men, people), preceded by some descriptive element; hence they have sometimes been described by the general name Tinneh, or Kenay. To the historian they are especially interesting from their connexion with the Nahuatlacá, by whose northern border we infer them to have dwelt when both inhabited the shore of British Columbia, and on whose northern border they are still found in the neighbourhood of Chihuahua. The reader may perhaps find a difficulty in accepting our theory of the emigration of the Nahuatlacá from the latitudes where we suppose them to have been originally seated. It is certain that the Apache tribes of Mexico belong to the Athapascan stock, still seated far to

¹ See Mr. Dall's *Alaska and its Resources*, and the same writer's articles in the *U.S. Government Contributions to North American Ethnology*, vol. i.

the northward of those latitudes; and they constitute the great mass of the stock. Disproportionate as is the area of the Northern Athapascans to that occupied by their Southern kinsmen on the Rio Grande, the population of the latter is disproportionate to that of the former in the reverse ratio. Three-fourths of the Athapascan people are now found in Arizona, New Mexico, Colorado, and the Indian Territory on the Red River; if we imagine the remaining fraction in the north to die out or be absorbed in other stocks, the parallel with the Nahuatlacâ becomes complete. Like the Nahuatlacâ, they appear to have confined their migrations to the Pacific side of the continent; we find no traces of them to the eastward of their present limit, the western coast of Hudson's Bay. Some authorities hold that they once extended to the Atlantic; and the Beothuk, the pre-Algonquin aborigines of Newfoundland, have been regarded as a remnant of the stock in this immense extension¹. An examination of their language proves the suggestion untenable; it is as little related to the Tinneh as to the Algonquin, and the Beothuk must be a remnant of some other stock which once contested with the Algonquins the possession of Eastern North America.

More interesting to the historian than the northern Athapascans are those branches of the race which have pushed far to the south, and who harry the civilised settlers of the United States and Mexico, as their ancestors did the nascent advancement of the Nahuatlacâ perhaps a thousand years since. The reader will be at no loss for parallels in the Old World to the relation thus established, which has been shown, on the first page of our volume, to be as old as advancement itself. For the predatory savage, the comfortable pueblo, with its reserves of food and its well-nourished women and children, is an irresistible temptation; a tract where these permanent magazines exist in considerable numbers is the happiest of hunting-grounds. The tillers of

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A *original*
A *erico*.

Southern
Atha-
pascans.

¹ Dawson, Fossil Men, p. 49.

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the soil have for him the kind of interest which game has for the advanced sportsman ; he preserves them, as it were, for periodical battues, leaving them most of the year as a close time. This is no fanciful comparison ; it is the key to Mexican history. The Nahuatlacâ themselves were at first, perhaps, mere raiders on the aboriginal maize-growers of the Mexican district ; down to the latest times they universally affected the title of Chichimecâ, or 'hunters' (blood-suckers), and held the tiller of the soil in undisguised contempt. Having become a settled people, they were beset in their turn by the predatory hunters who followed them. Of these there were, in recent times, two groups : (1) the southern Athapasean, divided into many tribes passing under the general style of 'Apaches,' and (2) the Shoshonêan. Oregon tribes who had crossed the mountains in the rear of the southward-migrating Athapascans, and spread through Utah, Colorado, New Mexico, and Texas to the Mexican Gulf. Both groups from remote times treated the advanced district of Mexico as a simple raiding-ground. The Comanches (Shoshonê), now removed to a distant reservation, had in their calendar a 'Mexico' moon (about September), so named for the same reason as their 'Buffalo' moon, 'Young Bear' moon, and 'Corn' moon ; at this season, so recently as half a century ago, they regularly crossed the border into Chihuahua and Durango States in three different divisions, of from 200 to 500 warriors in each, for the purpose of carrying off horses and mules, and especially of capturing boys and girls, ruthlessly massacring the unarmed peasantry, and leaving ruin behind them ; each year their incursions extended farther and farther into the interior¹. These

¹ Ruxton, *Adventures in Mexico* (1846), p. 100 : 'This warfare—if warfare it can be called, where the aggression and bloodshed are on one side only, and passive endurance on the other—has existed from immemorial time ; and the wonder is that the country has not long since been abandoned by the persecuted inhabitants. . . . Every year their incursions extend farther and farther into the interior, as the frontier haciendas become depopulated by their ravages, and

Thracians of the New World are perfectly described in the words of Herodotus : 'to be idle is most honourable, to till the earth, most contemptible; war and plunder alone are worth living for!'. The Apaches are less formidable in war than were the Comanches; cowardly and treacherous, they seldom attack unless from an ambushade. They are described as ever at war with the Comanches, the Mexicans, and among themselves²; the name itself, in their own language, means 'rebels,' and they take pride in it. What gives both peoples their chief historical interest is that they probably represent, though in a degraded form, the general habits of the Nahuatlacâ, when that people first reached the Mexican district. Possibly some of the later immigrants into Anahuac, after the dispersion of the Toltecs, may have belonged to one of these stocks; an hypothesis of this kind, we have reason to think, best explains the relation of the Aztecâ, who founded Mexico, to the other peoples of the Mexican Valley.

The Algonquins, like the Athapascans, have thrown off branches far to the southward of their main area; the Cheyenne and Arapaho tribes, found in Colorado about Denver City, less than 200 miles from the frontier of New Mexico, are undoubtedly of this stock. The presence of

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The Algon-
quins.

the villages deserted and laid waste. For days together, in the Bolson de Mapimi, I traversed a country completely deserted on this account, passing through ruined villages untrdden for years by the foot of man.'

¹ Terpsichore, c. 6.

² The only means of punishing these savages is to hire some other tribe to attack them. Mr. Ruxton (p. 151) thus describes a reprisal then recently exacted. Opposite the principal entrance to the Cathedral of Chihuahua he beheld hanging the scalps of one hundred and seventy Apaches, 'who had lately been most treacherously and inhumanly butchered by the Indian hunters in the pay of the State. The scalps of men, women, and children were brought into the town in procession, and hung as trophies in this conspicuous situation.' The precinct of a Christian church thus assumed the aspect of a Tzompanco in aboriginal Mexico!

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outlying branches of both the northernmost American inland peoples in the immediate rear of the Nahuatlaca should remove all doubt as to the probability of the latter people having also originated in the far north. The Algonquin race, moreover, once extended far to southward of its present limits on the Atlantic shore: the Shawnee of central Tennessee fought their way down the Savannah River, and established themselves in South Carolina, about Charleston, whence they were dislodged and driven northward early in the eighteenth century. In other respects this interesting people throws no light on the distribution of the population at the Conquest, though it is of the first importance in the early period of the Anglo-American colonisation. 'Indian' or 'Redskin' primarily suggests the Algonquin; King Powhattan and Princess Pocohontas, Emperor Massasowet and King Philip, were Algonquins. Most of the 'Indian words' which have entered our language are borrowed from New England or Virginian tribes belonging to this stock¹; nor will it ever be forgotten that an Algonquin language was the medium by which the whole of Holy Scripture was first thrown open to an American people, in the first Bible printed on the American continent, in any language, American or European. Some holophrase of which 'Algonquin'² became the current French form

¹ Mocassin (makisin), Moose (monz), Skunk (shikak), Squaw (iskwa), Opossum (opasson), Raccoon (aratkone), Tomahawk (tomehagan), Wampum (wompi), Wigwam (mikiwam), Sachem and Mugwump (both = chief).

² The alternative form 'Algoméquin' is usually given as the true aboriginal name. It is certainly not an Indian word. The ending -quin is obviously French (as in coquin, mesquin, bouquin, &c.; compare 'Iro-quois,' as explained at p. 167); the l is intrusive. 'Akang' is = beyond; probably the Indians described themselves to those who popularised the term by some such holophrase as 'akangaindayang' (exclusive plural) = 'our-dwelling-is-beyond,' i.e. beyond the St. Lawrence, or perhaps beyond the Iroquois territory, to the northward. Unable to retain this word the French would naturally take the first element, which contains the commonest

was doubtless used by the Indians of this stock inhabiting the left bank of the St. Lawrence to distinguish themselves from the Iroquois; and these Indians probably included representatives of several branches of the stock. The various Algonquin peoples, like other aborigines, usually described themselves as 'Men,' either simply or with some laudatory addition. When the northern groups came to play an important part in history in connexion with the French and English settlements, the conception of the typical American savage, originally based on the Carib and the Tupi, passed to the Algonquin, and ultimately shifted to the more vigorous and characteristic Iroquois. This language is the chief indigenous one of the United States, which are still studded with its harmonious place-names; upon these the ear pleurably lingers, as contrasted with the hybrid monstrosities which largely disfigure the map of North America.

The three widely distributed peoples above enumerated roughly represent three distinct grades of advancement. The Athapascans, though not devoid of elements of culture, are true savages. A large proportion of the Algonquin tribes cultivated maize as a supplementary resource; hunting and fishing, however, were always the main stay of life. In the case of the Iroquois the balance had become level, or had actually turned from the natural to the artificial; the produce of the chase had become for them a secondary, though still a necessary, means of subsistence¹. Maize was their staple food, and they raised it in enormous quantities². Not only were their villages permanently fixed, but the tract occupied by them, roughly corresponding to the present State of New York, was artificially parcelled among the sounds in the language, and call them the 'Akan-quins' = people who say 'akang.'

¹ Lewis Morgan, *League of the Iroquois*, p. 199.

² Mr. Morgan (*op. cit.*, p. 198) says that they had cultivated the corn from the remotest times. Probably they learned its cultivation from the Algonquin tribes. They could not have brought it with them from the far west.

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Five Nations in such a way as to suggest modern methods of laying out newly occupied districts; it was divided into five portions by boundaries drawn from north to south. Crossing these boundaries, a permanent trail ran from east to west through the principal villages, nearly corresponding with the railroad from Albany to Buffalo. It is characteristic of the Iroquois occupation of this district that they had abandoned the practice of stockading their villages: dwelling in comparative security, this had become unnecessary¹. More nearly in this respect than the more advanced peoples of Mexico and Peru, the Iroquois approximated to the character of a true territorial State; and their position relatively to the Algonquin peoples, by whom they were surrounded on every side, imposed on them the necessity of watching the movements, and ascertaining the forces and resources, of dangerous neighbours while maintaining their own mutual alliance, and relations with friendly and neutral Algonquin tribes. Some of the latter were their tributaries: the Mohawks were general receivers of the tribute on behalf of the confederacy². In these circumstances the Iroquois became even more expert politicians than the Mexicans³. Their confederacy, extending east and west in the line above described, was known among them as the 'Long House,' each of the Five Nations being considered as a family within it. Besides the general council of the Long House, each nation had its own; the business of these

¹ The Senecas, Cayugas, and Onondagas lived in unstockaded villages as early as 1640 (Morgan, *op. cit.*, p. 315). The Oneidas and Mohawks, exposed to attack by the French and Dutch, continued the practice of stockading when the rest had abandoned it (p. 314).

² Morgan, p. 95.

³ 'The French and English,' says a writer by no means given to exaggeration (Hugh Murray, *Historical Account of Discoveries, &c.*, in *North America*, vol. i. p. 408), 'who went to treat with them, found them as well acquainted with the interest of their own tribes, and of all those for more than a thousand miles round, as the best instructed European cabinet.'

assemblies was in fact conducted on the representative principle. While many of the chiefs were fluent and copious speakers, the multifarious business of a council forbade the practice of general debates; hence, although every warrior was entitled to be present, each family named a deputy who alone was entitled to be heard. The policy of the Five Nations, so long as they had no other neighbours than their fellow-Indians, was eminently successful. They became expert in the use of firearms, and were valuable allies to the English in the struggle for supremacy with France. The independence of the United States was the signal for their fall; and although a considerable remnant survives on reserves in Canada, the Five Nations have ceased to exist in the district made historical by their occupation of it.

For our present purpose the Iroquois are chiefly interesting from the point of view of their advancement, although their true place in the scale of progress, and the fact of their advancement being substantially progressive, has been strangely denied. We briefly recall what appears to be the earliest alleged incident in their long and interesting history. Their traditions alleged them to have come originally from the north of the St. Lawrence, near Montreal, where they had lived in subjection to Algonquins¹. As in Mexico, a particular incident was assigned as the occasion of a change doubtless only slowly effected, and due to many concurrent causes². An Iroquois tribe, it was said, devoted to agriculture, lived among the Algonquins near Trois Rivières, on the terms of supplying the latter with a stipulated proportion of their crops, the Algonquins in return providing them with game, and protecting them against enemies. In winter, when agriculture ceased, the Iroquois attended the Algonquins to the chase, but only for the purpose of carrying home and skinning the game, curing the flesh, and dressing the skins—duties usually devolving on the women of hunter tribes. Six young Iroquois, who followed as

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America.*

Revolt of
the Iro-
quois from
the Algon-
quins.

¹ Morgan, *op. cit.*, p. 5.

² See p. 36.

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 America.

many Algonquins as attendants, disregarded the rule which forbade them to engage in the chase itself; after a prolonged period of ill success on the part of their masters, they requested leave to try their own luck on the hunting path. This was contemptuously refused: the Iroquois, nevertheless, disregarded the refusal, and disappeared, returning to camp in due time laden with game. Fatigued with the chase, they slept soundly; and the Algonquins, fired partly by jealousy, partly by anger at the breach of order, massacred them in their sleep. Unable to obtain satisfaction for the murder, which was upheld as a lawful execution, the Iroquois nation bound themselves by an oath to exact a bloody revenge. Having first provoked a distant people to war, and trained themselves in this preliminary contest, they fell on the Algonquins, and a fierce struggle ensued, which was raging furiously when Champlain entered the country in 1608¹. One people of Iroquois extraction, the Hurons, adhered to the Algonquins; the rest made common cause, and this incident led to their independence. Although the general aspect of the story is mythical, we cannot doubt that it truly represents the relations under which the Iroquois of Canada once lived among the Algonquins—relations which at a later period, from causes more or less accurately represented by the legend, were exchanged for independence, and ultimately for a supremacy which lasted long after the arrival of the European.

Iroquois
 an ad-
 vancing
 people.

So far were the Iroquois removed from savagery that they ought to be considered as a decidedly progressive people. Like the Aztecâ, they had been in servitude, and had rebelled. Once independent, they formed and maintained an irresistible alliance, reduced war and policy to a system, and spread an original domination over a considerable territory. The Five Nations, when at their best, boasted 15,000 warriors

¹ Charlevoix, *Hist. de la Nouvelle France*, vol. iii. letter 12. See another account in De La Potherie, *Hist. de l'Amérique Septentrionale*, vol. i. p. 288.

ready to take the field. Yet they maintained their organisation, if we may believe themselves, wholly in the interests of peace¹. They had so far quitted the natural basis of subsistence as sometimes to have maize enough for two years stored in advance²; this cannot be said of any immediately neighbouring group. It is therefore with amazement that we find a distinguished American historian ranking them as typical savages, utterly incapable of progress³; it is no less surprising to find this view adopted and reinforced by a learned ethnologist, who not only denies them the credit of taking a single step in the direction of civilisation, ranking them with 'the neolithic savage of Europe's Stone Age,' but assumes them to have physically degenerated, and accounts for it by supposing them to represent a mixture of the 'Red Indian' and the Esquimaux⁴. Yet, according to the same authority, the fighting power of these 'infantile barbarians' . . . 'seems to have been dreaded throughout the whole region from the Atlantic to the Mississippi'; and the 'acute reasoning and persuasive eloquence' displayed in their council-house was comparable

¹ Morgan, p. 92. We believe the allegation to be true. 'The Iroquois,' says our authority, 'declared that the object of the confederacy was peace; to break up the practice of perpetual warfare.' Here these people stand on a higher plane than the Mexicans, who maintained periodical war with their neighbours, ostensibly as a religious duty, but in reality as a means of providing food at their cannibal repasts.

² Relations Inédites, vol. i. p. 183.

³ Parkman, Jesuits in North America, p. 43. Probably this passage does not represent this accomplished writer's mature judgment.

⁴ Sir D. Wilson, Transactions of Royal Society of Canada, Sect. II, 1884, p. 57. The suggestion of mixed blood—a singularly unfortunate one—seems to be due to the late Prof. Huxley. History and ethnology alike contradict it. The Esquimaux are the 'peculiar people' of the New World, cut off, by habits and pursuits, from all others. Their 'Red Indian' neighbours, Athapasean and Algonquin alike, have ever held them in profound hatred and contempt, and massacred them like vermin on every opportunity. No 'Red Indian,' of either sex, would associate conjugally with an Esquimaux.

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to that of Athens and Rome! To have occupied Lower Canada, to have parcelled into cantons the State of New York, and given name to Quebec, Montreal, Toronto, Ontario, Ohio, and Niagara, sufficiently vindicates this great people—great not merely by comparison with other American groups, but measured by the common standard of human nature—from these idle aspersions; it secures them a definite place, and no despicable one, in the world's history¹. The old missionary in the forest sometimes

¹ We have already remarked (p. 259) that the name CANADA itself is a common general noun, meaning 'village,' founded on a noun of the 1st person (*kanáta* = 'I dwell' or 'my-dwelling'). The accent falls on the middle syllable. To describe it as 'the native name of a district bounded by Saguenay on the east, and Hochelaga on the west, and of which Stadacona, on the site of the present Quebec, was the capital' (Dawson, *Fossil Men*, p. 25), is altogether erroneous. We may cite Teyoninhokarawen's (Mohawk) Gospel of St. John (London, 1805), ch. ii, v. 1 and 11 (*tsikanádayen no Cana ne Galileetseragon* = in the village of Cana of Galilee); ch. iv, v. 5 (*tsi nonwe kanádaye Samariatsseragon*, &c. = to a certain village of Samaria called Sychar); v. 28 (*eghsaweghde tsi kanádayen* = went her way into the village). The names above mentioned are thus explained:

1. QUEBEC = WABITIKWEIANG, or, as some Algonquins pronounce it, KIPATIKWEIANG = 'at-the-narrowing-of-the-river' (Cuog).

2. MONTREAL. Cartier has the familiar HOCHELAGA. Père Cuog suggests OSERAKE = 'trail-of-the-beaver.' There can surely be little doubt that the true name is OTSTENRAKTA = 'by-the-side-of-the-mountain'—'mountain,' the essential part of this holophrase, having been purposely retained in the French name.

3. TORONTO = 'there-is-a-tree-in-the-water' (Cuog).

4. ONTARIO = ONIATARÍO = 'beautiful-lake' (Cuog). The suffixed particle *-iio* means 'good' in general. It doubtless refers to the excellence of the shore as a place of food-provision.

5. OHIO = OHIONHÍO, or rather, KAHIONHÍO = 'beautiful-river.' (The last observation applies to this word also.)

6. NIAGARA = ONEÁGARA (Mohawk); ONEÁKAPS ('Tuscarora'); ONEÁHGA (Onondaga); NEÁHGA (Seneca); ONEÁHGALE (Oneida). This ancient and much-worn relic defies etymology; it is, however, understood to contain the same element as 'iorákahré' = 'she-makes-a-roaring-noise.' There is no personification; the fem. prefix indicates

judged more correctly than the modern antiquary in his museum. Lafitau compares the Algonquins with the Pelasgians, the Iroquois with the Hellenes¹. Extravagant as this analogy is, it suggests something far less wide of the truth than the degrading comparison of the Iroquois, above cited, with the 'neolithic savage' of Europe.

According to their traditions, the Iroquois had once inhabited the Atlantic shore. This implies that they had been a fishing tribe; an inference confirmed by the fact that the Quebec Iroquois, when first seen by Cartier, were engaged in their annual mackerel fishery in the Bay of St. Lawrence. Apparently they still pursued, as a supplementary resource, and at a great distance from home, what had once been the main stay of life. These yearly journeys down and up the river kept alive the tradition that the Iroquois had once been seated by the Atlantic; nor do we see reason to doubt it. Nothing could be more natural than for a people who had originally been fishers on the Pacific to recur to sea-fishing on reaching the Atlantic, and to settle by the richly-stocked waters of Newfoundland; it was equally natural to profit by the experience of a neighbouring people, to seek the interior once more, to hunt the deer and moose, and to seat themselves in the midst of the maize-growing Algonquins. Another indication of

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America.

Iroquois
once a
maritime
people.

impersonality (she = it). The word is accented as above: 'Niagara' (Goldsmith, and others) is an excusable poetic freedom.

¹ Mœurs des Sauvages, liv. i. ch. 9. They were not deficient in logical capacity. A curious instance is cited at p. 157. We may add the following; they reasoned that baptism, being the passport to heaven, would probably shorten their lives on earth. Père de Lamberville (Relation des Années 1672-1673, ch. 1) says of a young woman, 'La peur qu'elle avait que le baptême ne la fit monter au ciel plus tôt qu'elle n'eût souhaité lui donnait de l'aversion pour ce sacrement. C'est une erreur, qui continue encore dans l'esprit de plusieurs Iroquois, que le baptême abrège la vie; ce n'est pas un léger obstacle à leur conversion.' The Iroquois missions thrive in spite of the traffic in ardent spirits, which too often ruined those among the Algonquins (Relations Inédites, vol. i. p. 184).

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 ———
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their having once dwelt by the sea is afforded by the well-known fact that they made annual journeys southward from the lakes, across the Ohio, for the purpose of making salt at the Kentucky licks¹. We have seen it stated in text-books that the Iroquois reached their settlement from the Old World by crossing the Atlantic, and then ascending the St. Lawrence; this, it is needless to say, is a grotesque perversion of a tradition in itself perfectly credible and probably true to the letter². An authority above cited assigns the league of the Five Nations to the earlier half of the fifteenth century, though they are supposed to have dispossessed a southern stock in the Ohio valley 600 years earlier, or 'about the time when the Saxon Heptarchy was established in England'³: such conclusions recall those Greek chronologists who investigated the date of the Trojan war, especially the sapient antiquary who proved that the fall of the city preceded Alexander's invasion of Asia by precisely 1,000 years⁴.

Compelled, as we are, on grounds already stated, to reject

¹ Homer in a well-known passage (*Odyssey*, Book xi. ver. 122 ascribes by implication the eating of salt, in primitive times, to maritime peoples only.

² 'Iroquois,' as we have shown, is modern French; but the editor of the Seventh Annual Report of the Bureau of Ethnology admits conjectures (p. 77) assuming an Indian origin. They called themselves collectively ONQWEONWE = 'real-men'; the Algonquins called them NATOWEK (snakes); this is the special name of a large edible snake once common about Michilimackinaw. The name appears to have been used in a eulogistic sense. The Hurons, who were allies of the Algonquins, were called 'niinanatowek' = 'our-snakes,' i. e. our good friends; the Five Nations, on the other hand, were 'matchinatowek' = 'bad-snakes.' The word is also associated with the name 'Sioux.' The Chippeways called a river near Detroit, running into Lake St. Clair on the west, 'Natówesipi' = 'snake-river'; the Dakota tribe hereabouts was hence called Natowesieux = 'snake-river-people,' the -eux, like -quin in 'Algonquin' and -ois in 'Iroquois,' being a common French ending. 'Natowe-' being dropped, the word became 'Sioux.'

³ Sir D. Wilson, *op. cit.*, p. 59.

⁴ Duris of Samos (*Clem. Alex.*, *Strom. lib. 1.*)

the suggestion that the Iroquois had intermingled with the Esquimaux, we must, on the other hand, admit that they had freely absorbed elements from other stocks. In historical times they are known to have taken in families and small tribes belonging to the Algonquins and Sioux. Probably they had assimilated remnants of other tribes, now extinct, who once wandered, like the Beothuk of Newfoundland, over the North American interior; in any case they were by no means a purely bred people. This, indeed, may be said generally of all the greater stocks of the Northern Continent. They seem to have freely intermingled, except with the Esquimaux; and a supposed 'antagonism between well-defined dolichocephalic and brachycephalic races'¹ is probably as devoid of foundation in fact as the celebrated feud of the Pygmies and Cranes. If, as we are led to conclude, many other peoples who had immigrated from the Pacific coast into the North American interior have either died out, or been exterminated or absorbed by the stronger stocks, Athapascan, Algonquin, and Iroquois, which have survived, these aggressive peoples must represent, in their wide distribution on the map, a state of ethnical geography of no very long standing; it was, indeed, undergoing alteration in historical times wherever the stocks were in contact. Primarily all our ethno-geographic divisions are linguistic ones. Language, nevertheless, is rarely a sure index of race; research is ever revealing new proofs of this maxim. Race itself, which at first presents something of the obstinacy of a primitive element, tends at length to dissolve in the crucible of analysis. What is race? Nothing, we are told, but an average of the physical and moral characteristics presented by a given group of kindred human beings at a given moment of time. It varies with changed surroundings; old races are passing away, new ones being formed². In the last resort we trace only shifting groups

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*Aboriginal
America.*Mixture of
stocks in
North
America.¹ Wilson, *op. cit.*, p. 71.² Mantegazza, *Archiv per l'Antropologia*, vol. vi. pp. 45-46.

Book II. of human beings, ever varying, however slowly, in the
 Aboriginal characteristics suggested to the mind by this useful abstrac-
 America. tion; and in the New World especially, where population
 was sparse, and habits of migration prevailed, rather than
 permanent settlement, we must especially beware of using
 'race' or 'stock' in the sense of a physiological standard, of
 any kind, predetermined by nature.

Advance-
 ment of the
 Algon-
 quins.

Although we are unable to draw any trenchant line
 between the Algonquins and the Iroquois either as to their
 physical characteristics or their advancement, the former
 people relied more than the latter on natural sources of sub-
 sistence. According to Charlevoix, they built better boats;
 presumably they were better boatmen¹. Their villages were
 smaller and more scattered; yet in some instances they
 can scarcely have been exceeded by those of the Iroquois.
 Kaskaskia, the principal village of the Illinois², varied in
 size and population at different times. Père Allouez, on
 his second visit (1677), counted the long houses contained
 in it at 351; and as every long house contained five or six
 hearths, each sometimes shared by more than one family,
 its total population at this date may be estimated at
 about 10,000 souls³. Other villages were found, equally
 or almost equally large; the average size, however, in the
 region between the Mississippi and Lake Michigan, the best
 populated in the Algonquin area, was estimated at from 60
 to 80 long houses. It accords with what has preceded, and
 especially with the legend accounting for the perennial feud
 of the Algonquins and Iroquois, that the former, if not
 absolutely the better hunters, were better acquainted with

¹ *o. cit.*, tom. iii. letter 12.

² Not on the site of the present town of Kaskaskia, but, according
 to Carquette's map, at some point on the right bank of the Illinois
 river before it takes the southward turn.

³ Allouez says that he found it considerably augmented since his
 visit in the previous year. In 1674 it had been estimated at 300 long
 houses and 8,000 souls (Dablon). Henuépin in 1679 estimated it at
 between 400 and 500 houses.

the natural food-resources of the country; it is, at least, difficult to suppose a fuller knowledge of the useful plants and animals afforded by one of the richest tracts of the North American interior—the present States of Illinois and Wisconsin—than had been attained by the Illinois Indians. Allouez tasted 14 species of roots, dug by them out of the prairie; they showed or described to him 42 different wild fruits, 25 species of fish, 22 of animals captured by hunting, and 40 of feathered game. Domestic advancement among the Algonquins and Iroquois seems to have attained nearly the same level. Both were passionately addicted to gaming; their favourite form of hazard consisted in casting upward five plum-stones, differently marked or coloured, catching them on a mat or dish. This imperfectly developed Patolli was known to the Canadian Algonquins as ‘pakesan’; a fact which should interest ethnologists who regard games of this kind as derived from the Hindu ‘pachisi’.

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America.

Unexpectedly, perhaps, for the reader, we are at this stage of our ethno-geographical survey transported perforce into the domain of history. The principal historical people of the New World, the Nahuatlacá², are traceable by ethnological resemblances to a district on the Pacific coast in the

The Na-
huatlacá.

¹ It needs hardly be added that we regard this as an accidental coincidence. What renders it more curious is that the name relates to the stone, not as a natural substance, but as an instrument of gaming. The player is ‘pakese’; the stone ‘pakesan,’ pl. ‘pakesanek’; the game itself, ‘pakesan’ (Cuog, *Lex. de la Langue Algonquine*). As to the game among the Iroquois, see De la Potherie, *op. cit.*, tom. iii. pp. 22-24.

² For the etymology see p. 139. note 3. ‘Nahuatl,’ freely used by many Americanists as the proper name of the people and their language, appears not to be a Mexican word, although M. Siméon calls his Mexican dictionary ‘*Lexique de la Langue Nahuatl.*’ To use such a word as an adjective is a solecism which could only have originated with some person possessing a limited knowledge of the language. We admit that it is found in Gomara, a writer to whom this description applies, and in other writers to whom the description does not apply. But no amount of usage could possibly make it Mexican. It is unknown to Sahagun.

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*Aboriginal
 America.*

neighbourhood of that assumed by us to have been the original seat of the two peoples last named; there are, indeed, certain indications which suggest an original connexion, at some remote time, between the three stocks¹. If our conclusions are well founded, they were connected in a much nearer degree with a congeries of small groups which are still seated on the Pacific coast in British Columbia, from whose neighbourhood they had emigrated many centuries before the Conquest. At this date their northern limit seems to have been near the northern boundary of Arizona and New Mexico. The stock has since shifted still further in the same direction; and its modern representatives now only touch, in a single district and for a short distance, the right-hand bank of the Rio Grande. While the Esquimaux spread northward around the coasts, the Athapascans northward and southward in the interior, the Algonquins, and subsequently the Iroquois, eastward towards the Atlantic, the Nahuatlacâ spread, by a range of migration not inferior to any of these, directly southwards. In this direction their migration evidently preceded that of the Athapascans; their original seat in British Columbia probably lay to the southward of the original home of the last-named people. Nothing forbids us to suppose that the two stocks followed closely on each other; a relation still perpetuated in the fact that the Apaches to this day harass the northern borders of modern Mexico, as their ancestors did the settlements of the Nahuatlacâ at the Conquest². Advancing between the well-populated coast on the right hand and the Rocky Mountains and interior wastes on the left, the Nahuatlacâ were probably

¹ Von der Gabelentz (p. 173) maintains the fundamental unity of the Algonquin and Mexican languages. The grounds, however, of this conclusion are of the slightest kind.

² See the narratives of the Coronado expedition (1540-1542), in which they figure as 'Querechos' and 'Teyas.' Mr. Bandelier rightly identifies them with the Apaches. Another writer idly suggests that they 'may have been Comanches.' Why not (Algonquin) Cheyennes or Arapahoes?

the first among the great migrating stocks of the North-West to come in contact with tribes possessed of the maize plant, the foundation of their own higher advancement; and we venture to infer that the tidings of this great staple of life, and of the fertile and hospitable tracts in which it grew, accelerated their movements and drew the bulk of the stock, at some comparatively early period, into the district comprised between the southern boundaries of Utah and Colorado on the north and the mountains encircling the valley of Mexico on the south. In northern Mexico they became acquainted with the pulque aloe, which was probably cultivated by them for the first time on an extensive scale, though the aborigines had doubtless learned to propagate it artificially. This most desirable plant manifestly exercised on them an attraction not less than that of the great American cereal itself; Anahuac, with its corn, pulque, and honey, was the 'Promised Land' of America¹. Between the original seat of the Nahuatlacá and their new district of settlement a considerable space intervened, to be in time filled by more intruders from among the coast tribes—the Shoshonès, the Salish, the Sahaptin, and possibly the Dacota, who in later times crossed the mountains to the eastward, and spread over the Mississippi valley. The ethnological relations of the Nahuatlacá, though thus cut off from their country of origin, are too marked to be mistaken. They are clearly akin to tribes still found in British Columbia, especially to the Tsimshian and the group called the Nootka-Columbian, which includes the Wakash, the Ahts, the Haidah, and the Quaquiutl.

Those who have followed our general discussion on language will easily test the reality of the connexion between Mexican, the existing representative of the original Nahuatlacá, and the languages of the tribes mentioned. We do not find any substantial argument on such physical resemblances as may be still discoverable between any

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America.

Ethno-
graphic
affinities of
the Nahuatlacá.

¹ Compare vol. i. p. 405, and pp. 414-416.

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*Aboriginal
America.*

Mexican tribe and the Indians of British Columbia. The intermingling of other stocks, both aboriginal and more recently arrived, with the primitive Nahuatlacâ, must reduce the value of any such comparison to almost nothing; recourse must be mainly had to the permanent arts and habits of life and thought, and in the first place to religious conceptions. The original religion of the Nahuatlacâ is well known; it was the worship of Quetzalcohuatl, the Man of the Sun, who had assumed the shape of a bird, descended with outspread wings, and resumed human shape, for the purpose of instructing mankind in the arts of life¹. He is emphatically a man, who devotes himself to the service of his human brethren: he is also recognised as an ancestor. It is characteristic of him that he is a builder, who erects a house in a chosen locality, whence he travels, visiting other tribes; ultimately he disappears, though his return, in due time, is confidently expected. He is not to be confused with the Sun himself: this dread being, always the prime object of veneration, has a worship of his own, connected with the service of the distinguished dead, who dwell in or with him, and continue to influence human fortunes. This remarkable group of conceptions constituted the chief part of the Nahuatlacan theology: recent researches among the Indians of British Columbia prove abundantly that it still flourishes among them unaltered. The Thlingit recognise Quetzalcohuatl under the name of 'Yetl'; the Quaquiutl as 'Kanikilak'; the coast Salish as 'Kumsnöötl,' 'Quäaqa,' or 'Släalekam.' Usually, as in Mexico, the Man of the Sun is recognised and worshipped apart from the Sun himself. The Quaquiutl, however, distinguish two generations in this mythical theology. 'Sentlaë,' the Sun himself, descends as a bird, assumes human shape, builds his house in Yikâmen, and visits several other tribes, before settling among the Quaquiutl, and taking a woman of that tribe to wife. Kanikilak, the Quetzalcohuatl of this tribe.

¹ Vol. i. pp. 588-596.

is of human incarnation, a son of the god, rather than a god in his own person; he continues the work of his father, carrying the arts of life over all the world¹.

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*Aboriginal
America.*

Among these tribes an ample alimentary basis has resulted in the development of many forms of wealth. The name of the Quaquiutl illustrates their abundant provision of food; it means 'Smoke-of-the-World,' and is intended to convey the impression that their hospitality is such that the smoke of the fires at which their food is roasted fills the universe, and that the fires themselves are kept burning perpetually². Property is accumulated in the form of food, slaves, and blankets, and is lent on usury. The higher and lower classes are sharply distinguished, and the chiefs possess great authority. Large houses, sea-going boats, said to be capable of carrying a hundred men, clothing, furniture, weapons, and implements, all attest an advancement which has lasted for centuries, and has crossed the boundary between sufficiency and luxury. Dancing, poetry, and even a species of drama, have been developed; but what most demands our attention is the sculptor's art. These tribes carve admirably in wood, horn, walrus ivory, and a black argillaceous stone: nor do they limit themselves to the imitation of natural objects. They excel in the fanciful and grotesque: in placing the human figure in strange postures, intermingling it with devices partly original, partly borrowed from animal and vegetable forms; they have acquired that distinctive and somewhat conventional manner commonly described by the term 'style.' What is most striking is that this style approximates so nearly to the characteristic style of Mexican sculpture that those who visit the British Columbian coast, immediately after travelling in Mexico, at once recognise perforce the resemblance between the two. Nor is it possible to doubt the substantial identity

Arts of Life
on the
N.W. coast.

¹ British Association, Fifth Report of the Committee on the N. W. Tribes of the Dominion of Canada, 1889, pp. 29-51.

² F. Boas, Bulletin of American Geographical Society, 1896, No. 3.

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 Aboriginal
 America.

of the idol forms of Mexico, so familiar to the student of the pinturas, with those still found in the Haidah lodges. One traveller draws from facts of this kind the opposite inference to that deduced by ourselves; he argues that the Haidah Indians must have emigrated to their present seat from Mexico or Central America¹.

Antiquity
 of advance-
 ment on the
 N.W. coast.

The advancement of the Quaquiutl and Haidah, it may be argued, is possibly of recent origin; it is, at any rate, difficult to suppose that it has maintained itself in substantially the same form so long that the ancient and long-extinct advancement of the Toltecs can be considered an offshoot from it. Such arguments, when examined, carry no conviction. All circumstances indicate the advancement of these tribes as re-mounting to the remotest antiquity; an antiquity scarcely, perhaps, inferior to that of the Esquimaux themselves, and preserved, like the latter, by its local isolation. A recent investigator, whose judgment may be trusted, finds the closest physical resemblances between the North-coast Indians and the races of Eastern Asia, yet with certain variations announcing that prolonged isolation which their peculiar advancement abundantly evinces². What this resemblance suggests to us, as in the case of the Esquimaux, is not so much relationship by migration since the separa-

¹ Mareband, Voyages, tom. ii. p. 282.

² Boas, loc. cit. (Bulletin of American Geographical Society, vol. xxviii. p. 229): 'The visitor is first of all struck with the remarkable similarity of the natives of the North Pacific coast with the races of Eastern Asia. Even after a long acquaintance with the people individuals are found whom one might almost mistake for Asiatics. . . . Taken as a whole, however, the face of the Indian is much heavier built: his hair is not as coarse as that of Chinamen or Japanese. Young persons have the Chinese eye often just as strongly developed as the Chinese themselves. We may say that the people, particularly those of the northern parts of the territory, occupy a position intermediate between the Indians of the plains and the East Asiatic races. . . . The hair is very frequently slightly wavy and brownish, the complexion very light. There are even a few tribes among whom red hair and almost white complexions occur.'

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tion of the two continents, as relationship by the local continuity which preceded the separation. The more closely we investigate this advancement of the North-West coast, the more firmly are we assured that it has subsisted, with little or no change, from indefinitely remote times. If, as we are led to conclude, it represents the original culture from which that of the Nahuatlacā was an offshoot, it must be the oldest in the New World; nor can we forbear, though with hesitation, from recurring to the suggestion made in a previous place¹, that it possibly represents a state of culture common to both shores of the Pacific when they were still continuous, having an American rather than an Asiatic character, and faint traces of which are still discernible in certain parts of Eastern Asia. Can it be that the mysterious phoenix, whose legend in remote times over-spread the Old World from the far East—this celestial visitor, appearing at rare intervals, sometimes as a winged quadruped, sometimes as an eagle incredibly swift, and of gorgeous plumage, its five colours symbolizing the cardinal virtues, full of benevolence to man, and the herald of a golden age², is no other than the Kanikilak-Quetzalcohuatl of North America? It would be easy to support this suggestion were such speculations relevant to our purpose, and to add others of similar scope³; we must, however, turn from the subject, as one concerning the Orientalist rather than the Americanist, and resume our investigation of the Nahuatlacā migrations.

¹ Page 300.

² Kaempfer, *Histoire du Japon*, liv. i. ch. 10.

³ Several cereal grasses akin to maize are still found in Eastern Asia (Ascherson, *loc. cit.*, vol. i. p. 322). Were such grasses once common, in some former period and under other climatic conditions, to the whole Pacific shore? Are the lucky and unlucky sequences of days, reckoned by the Japanese, remotely connected with the lucky and unlucky periods of the Mexican nocturnal cycle? Such points will readily suggest themselves to readers disposed to pursue the subject: and any substantial results which might follow such investigations are as likely to indicate an importation of elements of advancement from America to Asia as vice versâ.

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*Aboriginal
 America.*
 Valleys of
 the Rocky
 Mountains.

It is easy to identify the peculiar form of the food-quest which led the Nahuatlacá, as well as the tribes who followed in their wake, to cross the coast range and roam southward along the valleys and plains of the great mountain range of North America. This district was then the haunt not only of the mountain goat and the big-horn sheep, but of the buffalo; and at the time when these migrations took place these noble game animals, unrivalled on the continent save by the Canadian moose and wapiti deer, doubtless existed in numbers and covered an area of which the corresponding facts in historical times afford no measure¹. Yet even in historical times the area roamed over by these animals overlapped the area of maize-cultivation²; and it may be reasonably concluded that the uses of maize became known to the Nahuatlacá while yet in the hunter stage—as they undoubtedly did, in other parts of North America, to the Algonquins and Iroquois—that they adopted it successively as a supplementary and a predominant means of support, multiplied in the district still indicated by numerous ruined

¹ Game becomes more abundant as the sierra is followed southwards. 'Chihuahua,' says Mr. Ruxton (*op. cit.*, p. 155), 'is a paradise for sportsmen. In the mountains are found two species of bear—the common black or American bear, and the grizzly bear of the Rocky Mountains: the last are the most numerous, and are abundant in the sierras in the neighbourhood of Chihuahua. The carnero cimarrón—the big-horn or Rocky Mountain sheep—is also common on the Cordillera. Elk, black-tailed deer, *cola-prieta* (a large species of the fallow deer), the common red deer of America, and antelope, abound on all the plains and sierras. Of smaller game peccaries (*javali*, also called *cojamate*), hares, and rabbits, are everywhere numerous; and beavers are still found in the Gila, the Pecos, the Del Norte, and their tributary streams. Of birds the *faisan* (*paisano*), a species of pheasant—the quail, or rather a bird between a quail and a partridge—are abundant; while every variety of snipe and plover is found on the plains, not forgetting the *gruya*, of the crane kind, whose meat is excellent.' From the last-named bird this district may have derived the name of AZTLAN = 'place-of-cranes.' (See post, p. 509.)

² See as to the buffalo, Castañeda's narrative of Coronado's expedition.

pueblos in Colorado, Arizona, New Mexico, and in the northern States of the Mexican Republic, where languages allied to the Nahuatlatoilli of historical times are still extensively spoken, and ultimately found their chief seat in and around the more attractive valley of Mexico itself. Throughout the district traversed by the Nahuatlacá in their migrations nature affords an alimentary resource well adapted to lead man to the use and cultivation of maize. This is the familiar mizquitl (mezquit) or Mexican acacia; a thorny shrub sometimes 10 or 12 feet high, of unpleasing appearance, the seeds of which, contained in a small pod, resemble those of the laburnum, and are still used by the Apaches to make a species of bread, described as sweet and pleasant in flavour¹. Travellers complain of the monotonous effect of these trees, the only ones, save an occasional willow shading a spring, found for hundreds of miles together². For natives the mizquitl is an important source of food; in the case of the Nahuatlacá, as well as other immigrants who followed them to Anahuac, it doubtless assisted in preparing the great change from the wandering life of the hunter to the settled habits of the cultivator. In Mexico the mizquitl was always pointed to as having furnished bread to the Chichimecs while the cultivation of maize was as yet scarcely known³.

Before discussing the migrations of the Nahuatlacá some notion must be conveyed of the relatively aboriginal groups among whom they settled. A glance at the ethnographical map shows that the southern portion of the attractive

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America.

Aborigines
of the
Mexican
district.

¹ Hernandez (Rer. Med. Nov. Hisp. Thesaurus, lib. iii. cap. 24) says that it took its name from its seeds (siliquis edulibus longisque, et dulcis pergratique saporis, refertis semine, unde sortita est nomen, hinc et inde dependentibus). 'Izqui' = many; 'mizquitl' = tree-of-many-seeds.

² Ruxton, op. cit., p. 156.

³ Clavigero, lib. i. sec. 9. It exudes a thick gum (germanum gummi Arabicum, ejus hic ingens est copia, says Hernandez), and affords various medicinal preparations.

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 America.

district in which they established themselves was occupied, having probably been so occupied during many centuries, by a congeries of peoples distinct from each other in physical character and language, and probably representing, even thus early, very varied grades of advancement¹. This divided and varied character begins, roughly speaking, at a line drawn from the mouth of the Rio Grande in a south-westerly direction to the city of Guadalajara in Xalisco; its area extends from sea to sea, includes the southern portions, with nearly half the area, of the Mexican Republic, and runs continuously to Panama, comprising all the territory now shared among the various republics of Central America. All groups speaking languages other than Mexican which are found beyond the isthmus of Tehuantepec may safely be regarded as aboriginal relatively to the Nahuatlacá, who threw out colonies scattered over this varied district in its whole extent. Among these peoples, one group stands prominently forth—the Maya of Yucatan, with the other tribes belonging to the same stock in the Sierra of Chiapas and Guatemala. Within the territory of the Maya are found the largest and most remarkable ruined buildings of the American aborigines—buildings of an advanced architectural type, profusely decorated with sculpture to which nothing else in the New World can be for a moment compared. Some among the Mexican pinturas, moreover, exhibit a style of art closely agreeing with that found in the Maya

¹ For America north of Mexico the admirable map annexed to the Seventh Annual Report of the Bureau of Ethnology, the result of many years' investigation, is now available. For the Mexican district the reader should refer to the 'Carta Etnografica' by Sen. Manuel Orozco-y-Berra, annexed to his 'Geografia de las Lenguas etc. de Mexico,' Mexico, 1864. For Guatemala, Honduras, and San Salvador the map given in Dr. Carl Sapper's 'Das Nördliche Mittel-Amerika' (Brunswick, Vieweg, 1897) supplies a long-felt want. As the map first mentioned shows the whole of Mexico, and parts of Guatemala and Honduras, in blank outline, the reader who possesses it can easily transfer to it the divisional outlines and colouring of the other maps.

sculptures, and contain symbols evidently belonging to the same pictographic system. These facts lend to the Maya an interest and importance attaching to no other among the numerous peoples of the Mexican district who were aboriginal relatively to the Nahuatlacâ; an opinion has even been widely entertained that the Maya possessed an indigenous culture, independent of, though parallel to, that of the Nahuatlacâ, to which the latter was substantially indebted for some of its principal features. We are compelled to regard this view as erroneous. The Maya monuments and pinturas, if our conclusions are well founded, are due to the Toltecs, a branch of the Nahuatlacâ who are regarded by general consent as the founders of the higher advancement in this region. Induced, by causes which are somewhat obscure, to quit Tollan and seek new settlements far from the Mexican valley, the Toltecs are known to have spread, long before the Discovery, into Yucatan and Central America, where the Conquistadores learned that they had founded pueblos which were still peopled by their descendants. The character of the Maya advancement shows that everything embraced in it, beyond the rudiments of maize-cultivation and some peculiar theological traditions, was borrowed from the Nahuatlacâ; and for our own purpose the history of the Maya thus merges in the general history of the latter stock.

To the northward of Tehuantepec the historical ethnography of the district is less easily unravelled. Before reaching the main body of the Maya people in Yucatan the Nahuatlacâ must have encountered an outlying branch of the Maya stock, which had long been settled on the Mexican Gulf about Tampico. This district, from its abundant yield of the 'huaxin' (a species of tamarind), had acquired the name Huaxtlan; hence its Maya-speaking people were called by the Mexicans Huaxtecâ. Emigrants, doubtless, from the main body of the Maya stock to the south of Tehuantepec, the Huaxtecâ had been long enough settled

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*Aboriginal
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at the mouth of the principal river discharging into the Mexican gulf to entitle them to rank as aboriginal relatively to the Nahuatlacà. At the Conquest they were found in a state of independence. The wide spread dominion claimed for Tlaxcallan, which had then long been a thing of the past, is said to have included them; they certainly were not subject to either of the three Lako pueblos. Besides the Huastecà two other aboriginal peoples, the Totonacs and the Chontals, occupied districts of considerable extent, breaking the line of Nahuatlacau occupation, on the torrid shores of the Mexican Gulf; the former to the northward of Vera Cruz, the latter about the mouth of the Talco river. The Mixtecà and Zapotecà, whose districts adjoined each other on the Pacific shore, to the southward of Mexico, and the Tarascà of Mechoacan, held more considerable areas, long left untouched by the Nahuatlacau immigration; the Otomi, who still inhabit the plateau of Guanajuato and Queretaro, were at that time spread more widely, occupying a region extending far south of their present boundary, and including, beyond reasonable doubt, the entire valley of Mexico. The peoples above enumerated probably represent to some extent immigrations not long antecedent to that of the Nahuatlacà. In the case of the Huastecà this can hardly be doubtful: the Totonac and Chontal languages, which are understood to be allied to others spoken to the south-eastward of the Yucatan peninsula, possibly also indicate a movement of migration from south to north by the shore of the Mexican Gulf. The Tarascà claimed to be immigrants from the north, and even to come from the same stock as the Nahuatlacà: a claim rendered more than doubtful by their language, and by what is known of their ethnical character and institutions. Immigrants relatively to the smaller groups mentioned below, those above enumerated may be taken to have been for the most part aboriginal relatively to the Nahuatlacà, though some of these non-Mexican-speaking groups may possibly have settled in Ana-

time at the same time, or soon afterwards. Intermixed with them there are still found in the Mexican district, especially in the recesses of the sierra, a considerable number of minor groups, who probably represent the remains of a still older population¹.

In verifying the above sketch of the probable post-glacial distribution of the North American Indians by the ethnographic map the reader will be signally assisted by remembering Latham's law—that the greater the extent over which a language is spoken, with little or no dialectic variation, the more recent is the extension of the people by whom such language is employed². The smaller areas which thickly stud the coast of British Columbia and the Pacific United States evidently represent a more ancient distribution of inhabitants than the enormous tracts which divide the interior; and as the latter extend without break to the Atlantic, on which side, northward of Florida, nothing is found corresponding to the minutely-divided shore of the Pacific, it is reasonably clear that they can only have been populated by migration from the Pacific side, where man at once tended to increase beyond the limits of easy subsistence, and was drawn to the interior by the very nature of his mode of subsistence. It might be suggested that newly arriving tribes from North-Eastern Asia in different ways accelerated this natural process, either by pressing on the tribes occupying the Pacific shore, or by at once breaking through the coast line and throwing themselves upon the American interior. While the possibility of continued migration from Asia in post-glacial times is undeniable, we cannot attribute any substantial weight to the suggestion. Geography, ethnology, and language unite with actual tradition in pointing to the conclusion that the Pacific coast was the base from which the post-

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Aboriginal
America.

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¹ The Popolocan, Mixe, Chinantec, Zoque, Mazatec, Cuicatec, Chocho, &c. The Mazahua are allied to the Otomi.

² See p. 293.

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 America.

glacial settlement of the interior, in all its parts, took place; and this explanation probably applies equally to a few smaller inland areas, such as those of the Caddo and Kioway Indians in North Dakota, Wyoming, Nebraska, and Texas. In the South-East and on the shore of the Mexican Gulf some remnants of the earliest population might be expected to survive; but the Indians of the Apalachian district had at the Discovery attained no mean degree of advancement, and its dominant tribes appear to have largely consisted of Carib immigrants. For the principal surviving remains of the pre-glacial American stocks we must apparently look elsewhere than in the North American continent—in the mountains of Central America, the forests of Brazil, and the recesses of the Andes.

South
 America
 in glacial
 times.

Owing to (1) the general situation of South America with reference to the equator, and (2) its peculiar configuration, a much larger area was here available for human occupation, in glacial times, than in North America. (1) The greater part of North America, and a still greater proportion of its low lands, lies northward of the thirtieth degree of north latitude. South America lies directly under the equator: a peculiarity belonging to no other continent or large island save Africa, Sumatra, and Borneo. The equator crosses it in about its mean breadth, leaving to the northward a tract covering 10 degrees of latitude, and including Colombia, Venezuela, the Guianas, and part of Brazil. If the breadth of an equatorial zone be assumed, for the purpose of comparison, at 60 degrees, or one third of the hemisphere from pole to pole, it is found that North America lies substantially without this zone, while South America lies substantially within it; North America is almost as far northward of the equator as Europe, South America only less equatorial in aspect than Africa. (2) North America rapidly contracts as the equator is approached from the North Pole: South America rapidly expands as the equator is approached from the South Pole. From these united peculiarities,

under glacial conditions, the inference above deduced naturally follows; and the general effect of these causes, and of others presently mentioned, is enhanced, though their consequences must be somewhat different, if glaciation is supposed to have taken place not concurrently, but at different epochs, in the two hemispheres. If the contrary hypothesis of concurrent glaciation, as presented on an earlier page of this volume¹, be adopted, the ice must in that case have been piled along the great mountain range forming the Pacific wall of the Americas, in its whole extent². In North America this elongated and elevated mass merged in a vast ice-field of lower level covering the greater part of the continental area. The corresponding glaciated area of low level in South America must in any case have been comparatively small. Allowing for its dimensions corresponding in latitude with those of the northern ice-field, it would scarcely have extended northward of the mouth of the Plate River: allowing for it much greater dimensions—as much as 10 more degrees of latitude—the greater part of South America would even so remain clear of ice. Whether glaciation was or was not concurrent in both continents, most of the archaic population must have once been collected within this interior unglaciated area.

The contrast produced by this disparity of area in the habitable tracts of North and South America in glacial times is heightened by an equally striking contrast in their distribution relatively to the glaciated areas. In South America the Andes closely approach the coast, and the process of disglaciation must have been far advanced before its elevated littoral valleys were uncovered. In North America, even supposing glaciation to have affected the coast region of Oregon and British Columbia, this region must have been more or less clear of ice at a comparatively early date. Hence, as disglaciation advanced, two distinct areas, of unequal extent, would have been affected by it—

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 America.

Post-
 glacial
 Migration
 in South
 America.

¹ Page 72.

² See footnote, page 383.

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*Aboriginal
America.*

a North-Western one and a South-Eastern one; and these were separated by the still ice-bound mountain range. In South America the area free from ice was much larger, and lay directly under the equator; it would have formed a single tract, partly bounded by the immense chain of the Andes, and partly broken up by the interior and coast ranges of Brazil. The principle of post-glacial movement—the ascent of rivers to their glacial sources, and the gradual occupation of the slowly disglaciated districts—was identical in both continents. But the sum of movements affecting the disglaciated areas was in South America small, compared with the widely ranging migrations of North America. The field for such movements consisted of the Andes and montaña, and the plains of Argentina and Patagonia; westward of the Andes migration was checked by the Pacific; south of the latitude of Buenos Ayres it could not be followed by advancement, for food could not be artificially produced; and only a sparse population could subsist. Hence advancement by migrating peoples was limited to the plateaux and valleys of the Andes, where physical conditions directly favoured it. The degree of progress attained, nevertheless, in these circumstances was lower than that reached by the migrating peoples of North America; a result to some extent caused by the fact that the habits of life and thought, formed by a more prolonged occupation of the forested lower levels of the interior, were less flexible and more firmly rooted, and that the areas suitable for advancement were of comparatively small extent, isolated from each other, difficult of discovery, and of access when discovered, and therefore much less liable to be overrun by competing swarms of different stocks. To circumstances of this kind, rather than to any original inferiority in mental capacity, may be attributed the fact that the Peruvians of the Sierra, though good warriors, and living under an ably organised government, were pronounced by the Spanish missionaries to be of grosser intellect than the Mexicans,

who held a district long open to invasion by successive groups of immigrants, each of which probably borrowed some elements of material and mental advancement from its neighbours.

Another physical difference observable between the two Americas led to important consequences. The equatorial situation of South America, coupled with other geographical conditions above mentioned, subjects its northern tracts to an ampler rainfall; and the great river systems which return to the Atlantic the dense moisture ever flung against the Andes by the winds of the equatorial belt fostered a more general acquaintance with river-navigation. The tribes who navigated the two greatest South American fluvial systems, those of the Amazon and Plate Rivers, navigated the ocean, if at all, only to a trifling extent¹; for the sea outside the mouths of these rivers is devoid of islands, such as in the case of the Orinoco directly induced its navigators to explore the Caribbean Sea and Mexican Gulf. Lacking any such direct inducement to maritime enterprise, the dwellers on the Amazon and Plate Rivers followed the upper tributaries of these streams to those points where canoe navigation ceases to be practicable, ascended the deep gorges which pierce the mighty rampart of the Andes, and spread over the beautiful and fertile valleys of the Peruvian sierra. The Caribs of the Orinoco, on the other hand, passed by the easiest of transitions to the navigation of the Ocean. This river enters the sea within sight of Trinidad, from which point a continuous chain of islands conducted these adventurous explorers to the greater Antilles, and thence to Florida and Yucatan. In the vast area intervening between the settled districts of the Andes on the West and the Atlantic coast on the East, there is little to detain the historical enquirer; it nevertheless contains so large a proportion of the Southern continent, includes so many aboriginal peoples, and represents habits of life probably belonging

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America.

Navigation
in South
America.

¹ See post, p. 430.

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*Aboriginal
America.*'North'
and
'South' in
South
America.

to so remote a past, that it cannot be passed over in silence.

The familiar distinction of North and South, so important in North American history, may be usefully applied to South America also : such a division, in fact, is traced by the hand of nature in the configuration of the Southern continent. The great bight of the Pacific shore which has its apex at Taena and Arica, about halfway between Panama and Cape Horn, follows the outline of an obtuse angle into which nature has here bent the gigantic chain of the Andes. This angle is buttressed from the interior by an enormous counterfort of lower mountain country, extending several hundred miles to the eastward, forming the main part of the highlands of Bolivia, and separating the tributaries of the Amazon River from those of the Plate River. Northern South America, including in this division the great Bolivian counterfort itself, together with Peru, most of Brazil, and all that lies to the north of them, lies within the tropical boundary. Chile, Argentina, Uruguay, and most of Paraguay, lie without it ; and the demarcation line thus traced will be found serviceable as an aid in ethnography and history alike. A single illustration must here suffice. The Aymara, who established themselves in the valley of Titi-caca, whence they spread northward and westward, ascended the mountains, pursuing the subsequently domesticated huana-co, from the south side of the Bolivian counterfort, that is, from the basin of the Plate River. The maize-growing immigrants who previously reached northern Peru from the basin of the Amazon River ascended from the north side of the counterfort. In the mountain valleys of middle Peru they came in contact with the Aymara ; and this conjunction of a Southern with a Northern people produced that combined advancement, based on llama-herding and maize-cultivation, which characterised the Inca dominion.

The distribution of the North American tribes is complex and of difficult interpretation ; but on turning to the South

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American interior the soul of the ethnographer may well sink within him. Pursuing our classification by languages, we find more than 250 linguistic stocks enumerated in Brazil alone; and as this country comprises nearly half the entire area of South America, to estimate the total number of South American languages at 400 cannot be an excessive computation. The task of investigating the Brazilian languages methodically has scarcely been attempted, and it is doubtful whether they admit of any regular classification. Some are slightly more advanced in type than others; all save a few approximate to the lowest American standard. Here and there the language of an expanding stock shows marks of advancement, and overspreads a larger area; and in this way the total number of languages has diminished, and is probably still diminishing. Among these expanding stocks the most prominent is the Tupi-Guarani¹. Originally seated, it seems probable, under the tropic, by the head waters of the Paraguay river, where they practised maize-cultivation at an early period, this vigorous people spread westwards in the neighbourhood of Chuquisaca and Cochabamba, northwards to the Amazon River and eastwards to the Atlantic, covering a space as large as the Algonquin area in North America, and everywhere overcoming by their superior military organisation the resistance of the lower tribes among which they intruded. The beginning of their migrations dates back to a period long anterior to the Discovery. Geographically they are now distinguished as the

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Tribes of
the South
American
interior—
the Tupi-
Guarani.

¹ 'Tupi' is explained as = 'place,' being either a proper name denoting the original seat of this people, or a variant of 'taba' = pueblo. They call themselves 'Tupinambá'; 'Mba' is by some explained as 'warrior,' 'na' being euphonic. Von Martius thinks the word should be 'Tupianáma' ('anáma' = allied by kinship). 'Guarani,' prop. 'Guarinihara' = 'warrior' (guarini = war: Guarani is sometimes erroneously traced to the Sp. 'guerra,' = war). The Tupi-Guarani language has long been the 'lingua geral' or 'universal language' of Brazil. There is a short grammar in English by Cavalcanti ('The Brazilian Language,' Rio Janeiro, 1883).

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America.*

South Tupi or true Guarani, found in Paraguay and the Argentine province of Corrientes, who once held the tract eastward of the Parana and Uruguay Rivers, in the Brazilian provinces of Parana and Rio Grande do Sul, and the present Republic of Uruguay, but have been driven from most of these districts by colonisation; the East Tupi, inhabiting the coast between the island of Santa Catarina and the mouth of the Amazon River; the North Tupi, who survive as a remnant in the Province of Pará, and on both shores of the Amazon River, and are traceable through Eastern Guiana; the Central Tupi, between the Tocantins and Madeira Rivers; and the West Tupi in the Republic of Bolivia. The Tupi, even their lowest branch, the Central Tupi—are excellent agriculturists. They cultivate manioc, maize, beans, bananas, the cará (*Dioscorea*) root, and cotton. They are admirable navigators. Formerly they wrought large dug-out canoes carrying 50 or 60 men, in which they put out to sea from the Amazon River, and explored the shore of Guiana. Such boats are no longer made; but their smaller river boats are well constructed, and the navigation of many small tributaries of the Amazon River is chiefly carried on by Tupi sailors and pilots.

Minor
South
American
groups.

It will be gathered from what precedes that the Tupi represent the highest grade of advancement attained by the Indians of the South American interior. A few other Brazilian groups represent less advanced stages of local extension and material progress¹. A large proportion of

¹ Von Martius recognises seven such groups: (1) the Gês or Crañs, (2) the Goyatacás, (3) the Crens or Guercens, (4) the Guck or Coco, (5) the Parexis, (6) the Guayeurús or Lengoaís, and (7) the Aruac, perhaps identical with the Arawaks of Guiana and the Antilles. The Gês (probably = 'fathers') or Crañs (probably = 'sons'), called by the East Tupi 'Tapuyas' or 'western' folk, dwelt at the Conquest in the fluvial basin of the Tocantins. They now form the bulk of the non-Tupi Indians of the province of Goyaz, and spread into Mato Grosso, S. Paulo, and Maranhão. They are well-formed and agile, clever fishermen and navigators, and largely live on the fruits of

the great Brazilian interior is still sparsely occupied by dwindling stocks in the lowest stage of human existence. The Bolivian highlands and their slopes are chiefly peopled by Aymara and Quichua Indians, long since civilised by the missionary. The hot moist region at the foot of the mountains is still the seat of tribes of lower type—the Tacanas, on the western bank of the Upper Beni River, now for the most part Christianised; the Yuracares, and Mosetenas, some of whom are still in the wild state; and the Maropas, who remain wholly savage. In the plains of Bolivia the lower race seems to merge into the Pampas Indians of Argentina, here represented by the Moxos and Chiquitos; while the Guarayos, Chirihuanos, and Sirionos are regarded by ethnographers as branches of the Tupi-Guarani. In Argentina the aborigines are distinguished as Southern and Northern, besides the tribes of the Andes, among whom the Quichua language is largely spoken. The Northern group, which includes the aborigines of Paraguay, is made up of Guarani, with a few tribes such as the Mataceos and Abipones, distinguishable from them not only by language, but by a somewhat lower grade of advancement, and by a certain physical inferiority. The Southern includes the Pampas Indians, known among themselves as 'Auca,' and the Puelche and Tehuelche of Patagonia. Closely allied to the latter group are the Araucans of Chile, a robust people mostly inhabiting the forest, although at the Spanish Conquest a certain degree of advancement based on agriculture existed in the northern valleys. Tradi-

forest trees. Attempts to civilise them have usually failed. The Goyatacá tribes, who were encountered on the coast, scattered among the Tupi, had a more limited range. Among the 'Cren' group, the Botocudes and Coroados are the best known stocks; the Guatos are assigned to this group. The 'Guck' group, which includes the Kiriri, is said to 'traverse the human ocean' of the Brazilian tribes from west to east, 'like a gulf stream' (Wappäus, in Stein and Hürschelmann's 'Geographie,' vol. i. p. 1388, to which work the reader is referred for the best short account of all these groups).

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tion reported those dwelling north of the river Maule to have once been tributary to the Ccapac-Incas of Cuzco, who were themselves, perhaps, descended from a tribe of the same stock. The Fuegians, whom some ethnologists ludicrously describe as a 'southern branch of the Esquimaux,' are probably of the Araucan race, and have doubtless been driven to the inhospitable shore which they now inhabit by the pressure of more powerful neighbours.

The Caribs.

In a situation geographically intermediate between the two great advanced peoples of the Northern and Southern continents—the Nahuatlacà in Mexico and the Quichua-Aymara in Peru—were the Caribs; a South American people who were in communication by sea with the Northern continent. They are often considered to be merely the northernmost offshoot of the Tupi-Guarani, an opinion which no rational ethnologist will dismiss as wholly improbable. They possessed something of the restless energy which distinguished the latter stock, although their wanderings took place by sea instead of by land; and it seems not impossible that they were the carriers of advancement between the two Americas. No American stock was more familiar with the cultivation of maize, which bears to this day the name given to it in one of the Carib dialects; and their situation and maritime pursuits remove all difficulty in accounting for the general diffusion of maize-cultivation in North and South America. We have shown reason for thinking maize to have been indigenous in Paraguay, and probably in other parts of the South American interior within a comparatively short distance of the great mountain range. From Paraguay the Tupi-Guarani carried maize with them in their prolonged migrations across the interior of Brazil to the Atlantic coast. Possibly it may have been indigenous on the northern shores of South America. It may, however, have been brought from Central America or Mexico, where it was undoubtedly indigenous, by the Caribs; and it is certain that this people spread the cultivation of both maize and manioc over the

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West Indian islands. Recent investigations indicate that this maritime movement by no means ended here. Traces of the Caribs are found on many shores of the Caribbean Sea and Mexican Gulf. The Indians of Florida, at the Discovery, seem to have been of Carib origin¹; and our comparative examination of languages suggests that this people even ascended the Mississippi, struck into the centre of the North American continent, and were perhaps the original founders of the long since vanished culture of the Mound-builders.

The Caribs, if the view above taken be well founded, should rank among the great adventurous stocks of the New World: and the interest attaching to them is absolutely unique. They are the only American people who became true maritime explorers; the only one which colonised, on a large scale, by sea voyages; the only one which can be certainly affirmed to have bridged, in historical times, the gulf separating the Northern from the Southern continent. In actual extent their movement exceeds the terrestrial migrations of the Athapascans, Algonquins, and Iroquois, equals those of the Nahuatlacá, and is only surpassed by the marvellous peregrinations of the Esquimaux. Unlike any of these peoples, it seems probable that they habitually traversed their lines of navigation both ways, forth and back, in their full extent, and carried on by them a true maritime trade. Originally seated in the interior of Venezuela and the Guianas, the Orinoco, with its tributaries, and the other easily navigated rivers of that well-watered region were their first school of seamanship. From the mouth of the Orinoco it was easy, when the difficulties presented by the Boca del Drago had been surmounted, to explore the Antilles, and to found colonies in the fertile valleys of these attractive isles; and physical conditions irresistibly led them to coast the shore of the continent to the westward. The equatorial current, which follows this

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Caribs
a link
between
North and
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¹ Powell, Seventh Annual Report, p. 123: ante, pp. 285, 286.

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*Aboriginal
America.*

shore at a distance of 30 miles with a velocity of two miles an hour, easily conducted them to the Mosquito coast of Nicaragua, and hence to Honduras and Yucatan; the north-east trade wind, moreover, would have assisted the voyage, even had the principle of the sail been as yet unknown to them¹. The return voyage was no less easy. A swift counter-current, 30 miles wide, runs south and east along the Mosquito, Costa Rica, and Panama coasts, as far as Porto Bello in Colombia. As this point is reached, the current narrows and its force abates; it continues, nevertheless, in a less marked form, setting eastward along the shores of Colombia and Venezuela as far as Guiana. On the secure basis of these parallel but contrary currents the Carib seamen may easily have extended their voyages, until they comprised the two great inland sea-basins separating North and South America, in every part². If—as language seems to show, and antecedent probability suggests—they

¹ The navigating Indians of both the Orinoco and the Amazon river are said to have used sails. Statements to this effect have sometimes been doubted; but, as it seems, with no sufficient reason. The principle of the sail is simple and obvious; cotton, which was cultivated, spun, and woven into cloth in both districts, afforded an extremely suitable material.

² Colonel G. E. Church, 'Costa Rica' (The Geographical Journal, vol. x. No. 1, July, 1897, pp. 80-84). Costa Rica, says the writer, 'was once the debatable ground between the powerful Mexican immigrant and the warlike Caribs.' . . . But 'the Carib, being of the lowlands, would naturally never settle among the mountains; were I engaged in ethnological research I should never look for traces of him at any point 1000 feet above the sea.' . . . 'No doubt the topography of the country caused extensive segmentation of tribes; and I have observed, especially in the Amazon valley, that when this takes place they begin rapidly to differentiate their language, which ultimately almost drops its original type. The ethnology of the New World has been greatly confounded and entangled by the habit, in which ancient and modern explorers have indulged, of designating as 'tribes' what are merely *gentes* that have a constant tendency to disintegrate.' . . . 'Wherever Mexican or Colombian Indian entered the Atlantic lowland belt, he probably met the Carib; and it is easy to believe that the latter left them little peace.'

ascended the Mississippi, they may possibly have carried thither the maize and other alimentary plants of Mexico and South America, besides tobacco and cotton. All these they largely cultivated, both in their own country and in the Antilles; and nothing forbids the conjecture that the high agricultural advancement once found on the banks of the Great Water and its tributaries was due, in its whole extent, to a colonisation which the Caribs began. It is possible that maize and its accompanying plants found their way into the district, as through a secondary channel, by way of the southern fork of the Platte River, which rises adversely from the same ridge as the Rio del Norte of New Mexico. The balance, nevertheless, of probability appears to be in favour of the Mississippi as the principal route by which the communication took place; the number and extent, moreover, of the ancient pueblos which once existed on the banks of this river and its tributaries strongly suggest a system of regular commerce, such as the Caribs are known to have carried on with the tribes of Mexico. In the latter district, as will presently be shown, the Caribs appear to have purchased the surplus tributes rendered by the servient to the dominant pueblos, and transported them in large canoes to be disposed of in the districts lying to the southward¹.

The Caribs, then, might easily have spread the elements of culture throughout a vast tract comprising the interior of the Northern continent and the northern part of the Southern one. How far did this district extend in South America? Did it comprise New Granada, and even Peru? The former question may confidently be answered in the affirmative; not only are Tunja and Bogota quickly and directly reached from the Caribbean Sea by the Magdalena River, but a second access is provided by the Meta, a navigable tributary of the Orinoco, the original seat of the Carib stock. The settlements of the Chibcha therefore lay within the scope of the

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Carib
circle of
communi-
cation.

¹ See post, page 521.

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Carib voyages and their natural connexions. To the southward of New Granada the insuperable mountain barrier of Los Pastos probably kept the districts of Quito and Peru from their knowledge¹. Yet formidable as was this barrier, the district of the Inca domination was here so close to the area through which the Carib communication extended that some imperfect sense of its contiguity cannot have been wholly wanting; and an easier channel of possible intercourse is suggested when we trace the Carib explorations to their contact with the Pacific at Panama. With the great South Sea they might well have become acquainted through their communications with Mexico; it is certain that they had a knowledge of it further southward. In Costa Rica, Chiriqui, and Panama the Caribs have left undoubted traces of their presence—perhaps of a conquest and settlement by them of extensive areas in those provinces; and the Cueva language, spoken by the Chocoama Indians, who inhabited the Pacific coast of the isthmus, is described as having an infusion of Carib elements². Here the Spaniards gained the intelligence which led them to the shores of Peru; and it may be fairly concluded that had the geographical knowledge possessed by or within the reach of different sections of the Carib race been gathered into one mass, it would have comprised, in some sense and to some extent, the entire area of social progress in the New World, from Canada in the North to the borders of Chile in the South. In these circumstances no surprise should be felt at encountering in any part of this area any element connected with the arts of life, whether plant, metal, stone, or pottery, though obviously foreign to the district where it may be found. Through the Carib voyages all such elements might have been transported, by an easy circulation, from any part to any other, however remote; practical skill in the useful arts might obviously have been spread from people to people in the same

¹ Vol. i. p. 290.

² Codazzi, quoted by Colonel Church, *op. cit.*, p. 81.

way. The maritime activity of the Caribs may perhaps furnish the solution of other difficulties in American ethnology. The remarkable culture found in the Yuncapata of Peru was independent of, and in some respects superior to, that founded by the Incas in the Sierra; and a distinct tradition survived at the Conquest that the builders of certain pueblos had come by sea¹. Were they Caribs from Panama? We do not answer this question in the affirmative; but no prudent ethnologist would decisively answer it in the negative.

While the advancing peoples of the New World may to the extent above indicated be considered as possessing the means of intercommunication, there appears to have been very little permanent and continuous intercourse and interaction between one people and another; and different branches of the same stock seem often to have lapsed easily into a permanent state of mutual isolation. The natural area of consciousness and activity is not the linguistic, but the tribal one; and permanent settlement tends to confine them within the still narrower circle of the pueblo. Nothing enlarged the last-named limit save war, with its ultimate relations of dominance and servience: and until the stage had been reached in which these relations arise the actual area of man's experience tended not to expand, but to contract, in proportion to his advancement. Only the dominion of man over man causes the sequence of facts and events to assume, in the usual sense of words, an 'historical' aspect. During the countless years which have elapsed since the people of one Indian village first submitted to the chiefs of another, countless sequences of this kind must have happened, each memorable in its day, but each destined only to sink irretrievably in the swift current of time, even as in the tropical areas of Central and South America the perishable evidences of man's presence have rapidly disappeared before the effacing fingers of nature². The history

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Narrow
limits of
historical
knowledge.

¹ See post, page 556.

² 'It is almost, if not quite, impossible to find the bones or skull

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America.*

of such pueblos as had at the Conquest escaped the wreck of years, and happened to be in a dominant position, has alone survived. We know little or nothing of many others once of equal or greater importance—the seats, perhaps, of extensive dominion when Mexico was a marsh barely emerging from the slowly diminishing waters of its lake, and Cuzco a hamlet of thatched huts on the bank of the Almodena: of the pueblos by the lake of Titicaca, whence the ancestors of the Inca went forth as colonists: of those in Middle Peru, probably the seats of a powerful and widely ruling alliance when the Inca were limited to a narrow district not extending beyond a few miles from Cuzco: or of the coast pueblos of Peru, in their flourishing time far exceeding those of the sierra in wealth and population. Of the vast mass of historical events which have happened in the New World between the first entry of man and the Spanish discovery a mere fraction is now known; nor can we suppose this fraction to be the most momentous or interesting part. We remain ignorant how, when, and under whose leadership the more adventurous tribes of the North Pacific coast quitted the shores to which glaciation had driven them, and pushed into the interior, guided by stream and mountain ridge; in

of an aboriginal in the ancient burial-places of any part of Costa Rica. In fact, a race may have existed there in very recent times, and yet all traces of it have disappeared. Nor can one marvel at this as he watches nature disposing of the *débris* of her tropical workshop; for once death seizes man, brute, tree, or plant, she sets her forces into action with frightful vigour to decompose the object into its natural gases. The encoffined bones of a man, buried in the ground, may last at the most three to four years; a fallen tree is reduced to powder by millions of insects, aided by sun, rain, and chemical action. Were nature less active in the annihilation of whatever falls in the race, death would smother her efforts, and life would cease to take the lead. . . . It may be that in Central America, during the last hundred thousand years, many races of men have gone down in the struggle against these tireless tropical forces, which, in turn, we challenge, but now, equipped with all the appliances of recent civilisation' (Colonel Church, *op. cit.*, p. 84).

what order of time these tribes followed each other; how they displaced, or overlapped and absorbed, each other; how surviving groups were themselves cloven into segments; how one group¹, having a common language and habits, moved eastward, pursuing the deer and moose, from the region of Vancouver's Island to Winnipeg, and thence, ever multiplying and spreading, to Lakes Superior and Michigan, sending out from these inland seas as centres offshoots which at length covered most of Canada, and of the eastern half of the United States, with the vastest aggregate of human beings related by affinity, and organised in similar tribes, that the New World has known; how another group², whether treading closely on their footsteps, or tempted long afterwards by their success, followed them to the heart of their choicest territory, wrested it from them, and settled as a compact hostile confederacy in their very midst; how another and less adventurous stock³, also following their trail, turned northward instead of eastward, settled near the Great Bear Lake and Great Slave Lake, and on the Mackenzie and Yukon rivers, roamed over the northern interior parts of British Columbia and Alaska, turned southward, and followed the stocks next mentioned through the plains and valleys of the Rocky Mountains towards Mexico; how groups, perhaps the most resolute and certainly the most fortunate of all⁴, pursuing the buffalo, big-horn sheep, and mountain goat, kept this southward route through Idaho, Utah, Colorado, and New Mexico, and thus reached the land of maize; how another stock from the Oregon coast⁵ struck eastwards into the same region, and followed the buffalo in his migration to the east of the mountains, increased and multiplied with their game in the vast prairie region of Wyoming, Kansas, and Nebraska, crossed the Mississippi, and trod underfoot the remnants of the advancement of the Mound-builders. We know even less of the migrations by

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¹ The Algonquin.

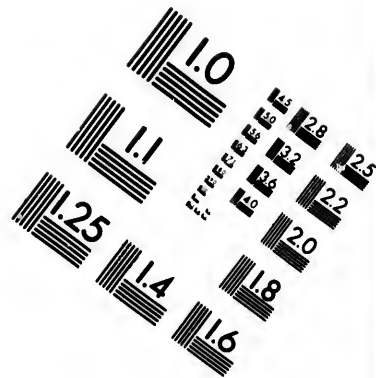
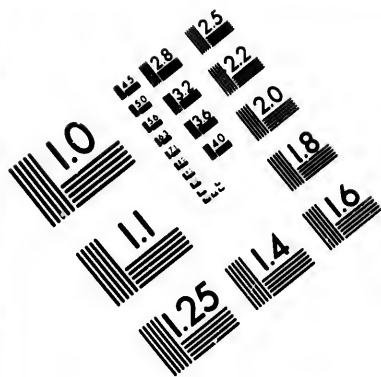
² The Iroquois.

³ The Athapasean.

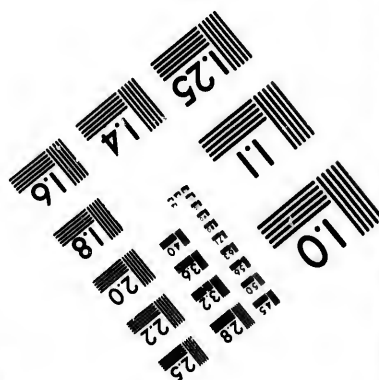
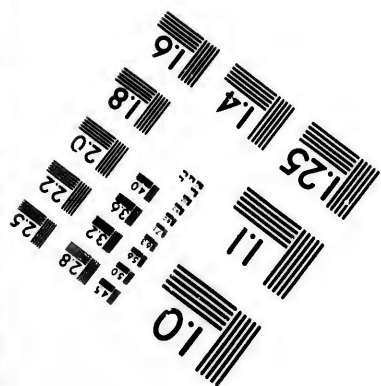
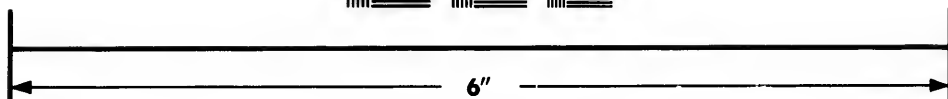
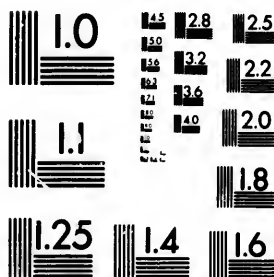
⁴ The Nahuatlacâ.

⁵ The Dakota.





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*Aboriginal
America.*

which northern and southern Peru were peopled, the former from the basin of the Amazon, the latter from that of the Plate River. All such movements could in the nature of things only be known to us by inference; and with this imperfect knowledge we must perforce be content.

It is, on the other hand, possible that the maritime explorations and migrations of the great Carib people might have become known to us by the usual process of history; and the loss of this knowledge, in circumstances positively favourable to its preservation, must ever be lamented. The scheme of their voyages as a whole must in some form, however incomplete, have been familiar to the Carib captains; the rock-sculptures of the Orinoco district¹ prove the race to have possessed artistic capacity; their contact with Mexico might easily have suggested and furnished the material for graphic historical records similar to those which were kept in that country. We might thus have learned the story of Carib advancement, proceeding from the Orinoco district to the Lesser and Greater Antilles, the peninsulas of Honduras and Yucatan, and the shores of the Mexican Gulf; of the foundation of numerous and powerful agricultural pueblos on the banks of the Great Water and its tributaries; of the various tribes with whom this adventurous race came in contact, their commerce, wars and alliances, their successes and defeats; of the gradual decay of their maritime power: of the causes, whether pestilence, failure of crops, or attack by more numerous and warlike tribes of lower status, which produced the depopulation, and ultimately the desertion, of their colonies. Of all this we know nothing. The history of the early settlers on the Mississippi must ever remain a lamentable blank; the mounds erected by them, from which our knowledge of them is mainly inferred, are themselves apparently destined to disappear, and are indeed disappearing, under the plough of the thrifty farmer.

Even in the one district as to which we possess more

¹ Humboldt, 'Aspects of Nature,' tr. Sabine, vol. i. p. 196.

ample information, we cannot but regret the shortness of the time, and the narrow limits of the area, to which this information relates. In the mountain region which extends from Colorado to Costa Rica—probably the original seat of maize-cultivation in the Northern continent—the principal and dominant stock was that of the Nahuatlacá, whose progress reached its highest point on the plateau of Anahuac, and in the adjacent district of the Maya of Yucatan and Guatemala. Such history as we possess relates to the district of Anahuac only. We know no facts, names, nor dates in connexion with the ancient Maya peoples; but there can be no doubt that the Maya, or some other people aboriginal relatively to the Nahuatlacá, reduced the great American cereal to cultivation, though the Nahuatlacá first relied on it as the substantial basis of subsistence. Tradition attributed the discovery of maize to an alleged Maya culture-hero¹, whose name, however, is a Maya translation of 'Quetzalcohuatl': and we have good reason to infer that long before the arrival of the Nahuatlacá the culture of maize had been extended far to the northward of its district of origin—perhaps as far as the climatic limit of its ripening in Arizona and Colorado. The opening chapters of a complete Mexican history, could they be written, would probably describe the arrival from the north of successive swarms belonging to an adventurous hunter stock, who then beheld for the first time the secure life of settled tribes cultivating and storing corn, pursuing the chase only as a subsidiary resource; the conquest and permanent subjection of the aborigines by the stronger newcomers; the adoption by the latter of a similar form of life; the establishment of the tribe on its complete basis of chiefs and peasantry; the building of pueblos, of adobes or stone, in a region where timber was rare, and too valuable as fuel to be used for other purposes; the extension of settlements to the southward, where soil and climate were more favourable—from New Mexico to Casas Grandes, from Casas

¹ Gucumatx (Quiché) or Cuculcan (Yucatec); see vol. i. p. 357.

Book II.

Aboriginal
America.

History of
the Na-
huatlacá.

BOOK II. *Aboriginal America.* Grandes to Chihuahua; the spread of branches westwards to the Californian Gulf and the Pacific Ocean, and the slow progress of migration through the present States of Durango, Zacatecas, and Xalisco, until they at length reached the borders of Anahuac, the destined seat of the race. Such a series of events must certainly have taken place, and of such events positive memorials survived in the traditions of the Mexican pueblos at the Conquest. The Mexican people unanimously described their ancestors as immigrants from the north, who had reached Anahuac in several successive swarms by way of Xalisco, or the 'Land of Sand.' The 'Tlapallan' of the Toltecs, and the 'Chicomoztoc' or 'Seven Caves' of the later Nahuatlacá, may perhaps represent Arizona or New Mexico; the 'Aztlán' of the Azteca, if this name be indeed a genuine remnant of ancient tribal tradition, which is doubtful, must be sought further to the southward¹.

District of
the Na-
huatlacá.

Under the general name 'Nahuatlacá'—the Mexican word used to denote tribes living mainly by agriculture in accordance with a settled Nahua, or Rule of Life, dictated by a custom administered by hereditary chiefs—all agricultural tribes of Northern origin who spoke languages of the group to which the modern Mexican, or Nahuatlacá, belongs are naturally included. Probably the inhabitants of the deserted pueblos of Arizona and Colorado, of Casas Grandes and Chihuahua, belonged to the Nahuatlacá stock. The Mexican and its allied languages at present extend lineally, with a limited breadth, from the head of the Californian Gulf to the isthmus of Tehuantepec; the Pima, the northernmost of these allied languages, includes within its area a large part of the State of Arizona and extends to a point not far from the frontier of New Mexico. Evidently the Nahuatlacá once extended farther northward, and the Apache, Shoshone, Sahaptin and Salish have intruded between the Nahuatlacá area and those northern lands

¹ See ante, p. 418, and post, pp. 509, 547.

where, if our conclusions are well founded, the Nahuatlacâ originated. We have in a previous place¹ shown that in the southern part of Mexico, where the continent begins to narrow to the isthmus of Tehuantepec, several stocks still survive who are aboriginal relatively to the Nahuatlacâ. Over some of these peoples the Mexicans had at the Conquest partially extended their domination; and the Nahuatlacâ stock may be considered to have been slowly shifting its place from north to south, encroaching on the tribes of Southern Mexico and Central America, and closely followed by the Apache and Shoshone. South of Tehuantepec the advancement of the Nahuatlacâ had spread among the Maya peoples in Yucatan and Honduras; and sporadic bodies of Mexican emigrants had established themselves at various points further southward, in Nicaragua, San Salvador, and Costa Rica. In its whole extent the distribution of the Nahuatlacâ at the Conquest thus covered still about three-fourths of the whole distance between the last-named country, which was, so far as is known, their southernmost limit, and British Columbia, the probable place of their origin. The movement above described was proceeding, though it had passed the point of plenary vigour, when it was arrested by the Spanish invasion; and, but for this event, it seems likely that they would in due time have pushed beyond Panama, and perhaps have thus come in contact, as the Spaniards did in after times, with the dominion of the Incas.

The history of aboriginal America, we have remarked, is essentially a history of pueblos rather than of peoples or nations. The territory of the Nahuatlacâ included some hundreds of permanent pueblos, each of which may be presumed to have had some kind of chronological record. Most of these were small servient pueblos, in which only an annual reckoning, or calendar, would probably be kept, for the purpose of marking those days on which tributes

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Aboriginal
America.

Indigenous
history in
Mexico—
the pin-
turas.

¹ Page 422.

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*Aboriginal
America.*

and sacrifices were due. The calendars kept in the great dominant pueblos were necessarily of a more complicated character; they indicated the succession of festivals, each distinguished by the figure of its appropriate god, and by a representation of the sacrifices due on the occasion. The greater pueblos also kept reckonings of successive years, and of successive groups of 52 years. Nothing could be more natural than to illustrate these reckonings by figures representing the chiefs who succeeded to the sovereignty, the pueblos reduced by them to submission, and miscellaneous incidents such as floods, famines, and eclipses: and in this way each large pueblo became gradually possessed of an historical chronicle. Concurrently with these chronicles there was handed down in many pueblos a considerable body of traditional lore relating to the settlement of Anahuac, to the leaders by whom migrations had been conducted, to the early history of men and gods, to the vicissitudes of nature, and to human destiny in a future life. The complicated birth-cycle, together with the prognostications belonging to its successive groups of 13 days, and the observances by which unfavourable presages were supposed to be averted, had also to be recorded as a reckoning parallel with the civil one. This mass of chronological and historical lore was embodied in paintings or 'pinturas,' the manufacture of which furnished employment to a considerable class of artists, some of whom are known to have been women¹. They were executed in bright and varied colours, with a feather pencil, on prepared skins, paper, or rolls of cotton or aloe-fibre cloth²; and the pictographic system thus created was applied to the purposes of ordinary life, and served as a species of writing. Memoranda of transient importance were recorded on paper; records intended to be permanently kept were painted on the prepared skins of

¹ Codex Tellerio-Remensis, Part iv. lam. 3.

² Hence the Spanish name for the roll on which the pinturas were executed—'lienzo' = linen or hempen cloth.

animals, for which purpose those of the deer and bear were commonly employed. The pinturas are usually executed on both sides of the paper or skin. The skins, oblong in shape and often of great length, were folded, the ends being protected by boards. When folded they had the figure of a quarto volume; and the Mexican word to 'read' (tlapoa) primarily means to 'unfold.' The interpretation was a traditional one, generally learned by heart, and largely consisting of speeches attributed to the various figures represented; a person capable of repeating these, and of giving a general explanation of the purport of the pintura, was called 'amamatini' or 'amapoani'—one who 'knows' or 'reads' the paper (amatl). On such paintings, and on traditional explanations and speeches describing their meaning, the Indian chroniclers and the Spanish antiquaries based the works which are the foundation of our knowledge of Mexican history; to some extent they added to them the substance of unrecorded tradition, mainly embodied in popular songs or recitations, which, however, do not appear to have assumed a necessarily rhythmical form¹.

Most of the Mexican lienzos have perished; and the Tlatohuani Izcóhuatl, the liberator of Mexico (1428-1436), is said to have commanded many to be burned in order to efface from memory the former servitude of the Mexican people. A more extensive destruction than usual followed the Spanish Conquest; historical and ritual lienzos were alike doomed to the flames as relics of idolatry, obstructing

¹ Rhythm was certainly not absent from the Mexican cantillation, for the chant was accompanied by beat of drum, different drum-rhythms being used with different songs. The significant words of the chant, moreover, were interspersed with sequences of meaningless syllables having a manifestly rhythmical character. Probably there was a certain irregular rhythm in the significant words, alternating with the more regular rhythm of the meaningless refrain. See Brinton's 'Ancient Nahuatl Poetry,' some of the contents of which volume appear to be of date anterior to the Conquest, though much is obviously later.

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*Aboriginal
America.*

Interpreta-
tive
Codices.

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*Aboriginal
 America.*

the conversion of the aborigines, and tending to foster the spirit of independence. A few escaped, some of which were sent to Europe as curiosities; and to interpret them baffled the learning of Spain and Rome. Keen interest was felt in these extraordinary works of art; it was doubtless thought that through them, could they be understood, light might be thrown on the vexed question of the origin and affinities of the indigenous American race. Instructions were therefore given for the preparation of documents explaining and illustrating their contents; and copies of typical pinturas were accordingly executed by surviving professors of the art, to which the missionaries entrusted with the duty of procuring them added explanations taken down from the lips of native amapoanimé. Three different volumes of this kind, which may be called Interpretative Codices, and are all written on European paper, are preserved in the great libraries of Oxford, Paris, and Rome respectively¹; and they constitute a most important source

¹ These are named in the order of their apparent age. The oldest, and most important, is the OXFORD MS., commonly known as the 'Mendoza Codex,' and forming part of the Selden collection in the Bodleian. It was prepared under the directions of the first Viceroy, Antonio de Mendoza (1535-1553), and transmitted by him to Charles V. The ship in which it was sent was captured by French corsairs, who sold the MS. to Thevet, the King's geographer, on whose death Hakluyt, then chaplain to the English Ambassador in Paris, bought it for twenty crowns. Hakluyt by his will bequeathed it to Purchas, who published woodcuts of the pinturas, with an English version of the Spanish interpretation, in the third part of his 'Pilgrims' (1625). The PARIS MS., sometimes called Codex Tellerio-Remensis, from having once been the property of Mgr. Le Tellier, Archbishop of Rheims, must be about thirty years later, as it carries on the chronicle of Mexico to 1562. The latest is the VATICAN MS., which contains a calendar from 1558 to 1619. It is commonly said to have been 'copied in Mexico by Pedro de los Rios in 1566.' The pinturas appear to be the work of European hands, and as the explanations are in Italian they were probably obtained by Italian missionaries. Three different hands are traceable in the book; folios 1 to 51 are in a fine large cursive hand, 54 to 61 in an upright clerical hand, and the residue of the MS., which forms

of our knowledge of Mexican life and history. When all three are compared, what they have strictly in common proves to be extremely small: it is, in fact, limited to some brief account of the traditional ethnology of Anahuac, presently discussed. The authors of the interpretative Codices of Paris and Rome paid special attention to the Mexican theology and time-reckoning, with their accompaniment of ritual and sacrifice—matters which the author of the Oxford codex ignored. The Paris codex adds to its ethnological information some particulars of early political geography, which are wanting in the others; the historical chronicle of Mexico, common to those of Oxford and Paris, is not found in that of the Vatican. The latter has a few illustrations of manners and customs, such as are more abundantly supplied by the Oxford codex; and in one particular of the greatest importance the Oxford codex stands alone. It furnishes a complete list of the servient pueblos tributary to the dominant pueblo of Mexico, describing the nature and quantity of the tributes due from each; this unique document of political geography and economy thus forms the principal authority for the constitution and territorial extent of the Mexican dominion.

The original pictographic codices which have escaped destruction, though of higher interest to the antiquary, are of less importance to the historian, than the interpretative volumes last mentioned. They are mainly concerned with the calendar, usually presented in the popular form of the birth-cycle, with mythical lore of various kinds, with the ritual of sacrifice, and with theology generally. One kind of lienzo can be identified as a manual of religious obligations—a species of 'Whole Duty of Man,' prepared for the use of Mexicans of the upper class. An original Mexican

a new work beginning 'Questo e l'origine delli Indiani' &c., in a hand resembling the former rather than the latter, but evidently different from either. The writer of the second portion was evidently ignorant of Mexican. The MS. is numbered 3738.

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America.

Original
Codices—
'Book of
the Dead.'

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 Aboriginal
 America.

codex, preserved in the Vatican, is a work of this description: its concluding panels form what may be called the Mexican 'Book of the Dead',¹ and enforce the scheme of duty which precedes by vividly depicting the trial and judgment of the soul after death. The corpse is seen mounted on a stool, swathed for burial; the soul emerges in human form from the mouth, and is presently conducted, naked and bound with a wooden collar, by a warrior garbed as an ocelot, and carrying a sheaf of darts and the standard of Tezeatlipoeca, to the presence of that dread deity. Tezeatlipoeca sentences him to the prescribed series of trials which must be endured before admission to the peaceful abodes of the underworld; and to enable him to encounter them he is armed and furnished with a sheaf of darts. Perilous mountains and rivers have to be crossed, freezing winds to be braved, and hostile deities, of gigantic stature and fearsome aspect, to be overcome, before he sees awaiting him the god who acts as janitor to Mictlantecuhtli, and to whom, seated in his teocalli, the newcomer at length does reverence. Laying his accoutrements aside, he enters the final home of man naked as he quitted the mortal body; old friends welcome him, as he passes into Mictlan, and worships its presiding deity, who sits gorgeously attired, and attended by a tame serpent².

¹ It is interesting to compare this document with the Egyptian 'Book of the Dead'; a composition of a similar nature, though used for a different purpose.

² Vatican original codex (No. 3773), verso, foll. 18-24. Similar pinturas occur in the Dresden Codex (see post, p. 481). The perils of the soul on its way to Mictlan are more fully illustrated by the interpreter in Vatican Codex No. 3788. He must pass the twin mountains, which threaten to fall and crush him, traverse a path defended by a great serpent, and overcome the ferocious alligator Xochitonal. Eight deserts and eight mountains have to be crossed, and the sharp wind Itzhecatl, which tears up rocks and cuts like a knife, to be endured. The soul is accompanied by the soul of a favourite dog, slain in order that it may follow him. Among the adverse gods to be encountered are Izpuzteque, the lame demon

The other original Mexican codices now extant either depict the course of the 260 days' cycle, or, like that above described, are concerned with religious myth and ritual, and contribute little or nothing to our knowledge of Mexican history. Yet it must be inferred from the historical information stored in the Interpretative Codices of Oxford and Paris, and in the works of antiquaries who wrote soon after the Conquest, that in this people, though barely emerged from savagery, the sense of a memorable past was no less keen and vigorous than in highly civilised nations. They speculated as to who were the first inhabitants of Anahuac; whence they came, and how they passed away; whether they were anterior or posterior to the great deluge in which all living things had wellnigh perished—the memory of which survived among so many American peoples; how man had become endowed with speech, and what cause had produced the subsisting diversity of languages in the district¹. Conscious of being strangers in the land, they enquired whence the various tribes of the Nahuatlacâ had come, and under whose leadership; the story of their wanderings and fortunes; the circumstances in which their settlements had been established, and the means whereby they acquired that superiority in the arts of life which distinguished them from the surrounding tribes. The existing people of Anahuac, at the Conquest, accepted the answers to most of these questions which had been in vogue among an ancient people speaking the same language, and descended from the same stock, with themselves, who had long perished, leaving nothing but a memory and a famous name behind them; a people superior, it was understood, in all but mere military force, to those who preceded and followed them, and to whom Anahuac and the adjoining districts largely owed the

with cock's feet and legs (his knees bending backwards); Nextepetua, the scatterer of ashes; Contemoque, he who descends head foremost, &c.

¹ See p. 178.

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America.

Beginnings
of history
in Anahuac
—the
Toltecs.

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 Aboriginal
 America.

blessings of religion and general advancement. These were the Toltecs, or people of Tollan; a pueblo north-west of the mountains which bound the Mexican valley, built near a small river whose waters flow to the Mexican Gulf. At the Conquest the ruins of Tollan, situated in the midst of a district which had long been over-run by the uncivilised Otomi, still bore witness to the high culture of the ancient Toltecs, who had been the originators and maintainers of a true 'golden age' in Anahuac. So far as concerns times anterior to their dispersion, the beliefs current at the Conquest represent opinions entertained by this people; nor can we doubt that pinturas once existed, of Toltec execution, in which these opinions were embodied. The art of painting, invented or introduced by this people, is said to have flourished among them no less vigorously than among the later Nahuatlacà; and according to Tezcucan tradition there was once preserved in Tollan a codex reputed to be the Teoamoxtli, or Divine Book, of an early Toltec chief called Hueymactzin (Great Hand), in which answers to such enquiries as have been above suggested were recorded¹. This document was understood to be the prototype of the existing Nahuatlacan picture-records. The religion of the Toltecs chiefly consisted in the worship of Quetzalcohuatl, to whom the elements of their advancement were generally ascribed: and it may fairly be assumed that the codex elaborately illustrating the legend of Quetzalcohuatl, preserved in the Royal library of Dresden, and in some respects the best extant specimen of Nahuatlacan pictography, is based on an ancient Toltec original. Its earlier sections

¹ Ixtlilxochitl, Hist. of Chichimecs, ed. Ternaux-Compans, vol. i. p. 6. The editor quotes from another work of Ixtlilxochitl a statement to the effect that Hueymactzin had been the leader of the Toltec immigration. 'He composed a great book containing the history of the Toltec people, the genealogy of its chiefs, principles of morals, everything relative to the ritual of worship,' &c. It contained also prophecies of the fall of the Toltecs. Such a document, if it ever existed, could scarcely have been of the antiquity ascribed to it.

were perhaps believed to be an extract from the Teoamoxtli itself.

To the Nahuatlacà the facts and events of the past appeared as a receding series, beginning with their own progenitors, and the chiefs who had led them, and embracing in succession vanished peoples of the same stock, immigrants from other lands, who had preceded these peoples, and aboriginal races, true sons of the soil, who had divided the land between them in remote times, and still existed in great numbers and variety of speech, on every side. Stimulated by the comparisons thus suggested, the imagination took yet another backward step into the unknown. It was inconceivable that Anahuac, furnishing as it did everything necessary for the nourishment and delight of man, had ever lacked human inhabitants. Beyond this receding series of peoples there had been another; this primitive stock, as in the Old World, was conceived as a race of giants. Whatever may have given rise to this conception—whether the disinterred bones of large extinct animals, the contemplation of ancient statues of size greater than nature, or the occasional appearance of human beings exceeding the common stature—it is certain that the Mexicans believed in a gigantic race as the earliest occupants of Anahuac. They are invariably spoken of as a species; no individual giant appears to have acquired a name and fame of his own. The Mexican imagination connected them with the Sun's all-dominating personality, and with the fabled Suns of the past. One generation of them perished in the flood which accompanied the destruction of the Water-Sun¹: another had perished with the second mythical Sun, the Sun of Earth², in the earthquakes—catastrophes so tremendous as to shake down the mountains themselves—by which this age had been terminated. A third generation of giants had perished in the fourth destruction of the world, by fire. The creation

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Aboriginal
America.

Mythical
ethnology
of Mexico
—the
Giants.

¹ Chavero, Appendix to Duran, p. 30.

² See vol. i. pp. 557, 558.

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 Aboriginal
 America.

of the subsisting Sun brought with it the last race of giants. These, who appeared together with the earliest rays of the new Sun, as he first rose over the dark earth from the east, were seized with an inextinguishable desire to reach the mighty source of life and light. They separated into two companies, one of which strove to intercept him as he rose, marching to the east, the other, to overtake him as he set, pursuing him in the west. Baulked in each case by the sea, they reunited in the place called Iztaczolin Inneminian, or Dwelling of the White Quail, and sought to reach him by building a lofty pyramid or tower. The Sun, the chief lord of the upper world, indignant that eaters of flesh should seek to mingle with dwellers in the sky, summoned the gods from the four quarters of the heavens, who destroyed the building and dispersed these presumptuous mortals over the four quarters of the earth¹.

Hostility
 of the
 Giants to
 the Nahu-
 atlacá.

The Spanish antiquaries considered the legend of the Mexican giants to be confirmed by reference to the antediluvian giants of Holy Scripture, and the gigantic aborigines of Canaan: and further corroborative evidence was discovered by those who explored the Pacific coast of South America in the region of the equator. Near Puerto Viejo were found the bones of giants who were said to have arrived by sea, and to have erected huge buildings; some rude specimens of masonry were pointed out as the work of their hands². The Mexican giants were described as leading a savage life, subsisting on acorns only³. They dwelt by preference in the Sierra; here their bones were occasionally dug up after

¹ Duran, *Hist. de las Indias*, vol. i. p. 6. The story is also given by the interpreter of the Vatican Codex, No. 3738. The American myth gains rather than loses by comparison with similar legends belonging to the Old World. Of its genuineness as an indigenous invention there can be no doubt whatever; the idea of reaching the sun from the earth occurs in various forms among the Mexicans (see vol. i. pp. 582, 583, and post, pp. 490, 491).

² Torquemada, vol. i. p. 35; Cieza de Leon, Part 1, cap. 52.

³ Chavero, Appendix to Duran, p. 34.

the Conquest, and it was estimated that their stature was thrice that of an ordinary man. The Ulmees and Xicalancans, who immigrated into Anahuac before the Nahuatlacá, encountered and overthrew them; the Chichimecs of Tezcuco, and the Tlaxcaltecs, the principal people of the Sierra belonging to the Nahuatlacan stock, claimed to have prevailed over them also¹. The Ulmees and Xicalancans, on their arrival in Anahuac from the southern shores of the Mexican Gulf, reached the Sierra in the neighbourhood of Puebla and Cholula, where the giants still dwelt. The giants assailed them and reduced them to slavery; they regained their freedom by preparing a banquet for their tyrants, making them drunken, and massacring them with their own enormous weapons. Elsewhere in the Sierra, it was said, the giants perished by natural causes. The arrival of new tribes diminished their means of sustenance; their huge bodies wasted with famine; a few solitary specimens wandered from mountain to mountain, like beasts of the field, among the dwellings of a later human generation. Many were devoured by ocelots²: others perished of hunger. At a later day the giants sprang once more to life, and took a fearful revenge on the race which had supplanted them: the dispersion of the Toltecs was heralded by their reappearance. At a festival held by this people at Teotihuacan with the object of appeasing the gathering wrath of the gods, a giant suddenly intervened in the dance which preceded the sacrifices. Too terrified for flight, they continued the ceremony, the giant seizing and crushing in his huge limbs all with whom he came in contact; on a subsequent day he reappeared, again joined in the dance, and slew those whom he encountered by thrusting his finger-nails through their bodies. These, among other prodigies, warned the Toltecs to flee for their lives from Anahuac, seeking, among

¹ Acosta attributes the annihilation of the giants to the Tlaxcaltecs: Torquemada and Ixtlilxochitl to the Ulmees and Xicalancans.

² Chavero, ubi sup.

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Aboriginal
America.

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BOOK II. other places of refuge, the shores of Campeachy and Guatemala.

*Aboriginal
America.*

Otomi
ethno-geo-
graphy—
first form.

An ancient traditional ethno-geography of Anahuac, in which the Nahuatlacâ have no place, has been preserved by Torquemada. It embraces the region between Mexico in the west, the Mexican Gulf in the east, the mountains of the Otomi in the north, and the northern parts of the Mixtecapan in the south; this region was partitioned among six stocks, each alleged to be descended from one of the six sons of an ancestor called Iztac Mixcohuatl (White-Cloud-Serpent) and Ilancueitl his wife¹. The descendants of Xelhua², the eldest son, held the district south of Puebla, adjacent to Mixtecapan; those of Tenoch, the second, the valley of Mexico (Tenochtitlan); those of Ulmecatl, the third, the immediate neighbourhood of Puebla; those of Xicalancatl, the fourth, the shores of the Gulf southward of Vera Cruz; while those of Mixtecatl, the fifth, and Otomitl, the sixth and last, occupied respectively the land of the Mixtecs, to the south-east, in the direction of Oaxaca, and the mountains enclosing the valley of Mexico on the north. We can be at no loss to assign this system to its origin; it belongs to the Otomi, and probably to the branch of that stock settled at Tezcuco. Iztac Mixcohuatl, the Cloud-Serpent, was the tutelar deity of the Otomi³; and it may be inferred from the place occupied by their ancestor, Otomitl, in the pedigree, that they considered themselves to be, as they possibly were⁴, the most recent arrivals in

¹ Torquemada, vol. i. p. 32.

² The word means 'he divides,' the suggestion apparently being that this branch of the stock first separated from the rest. 'Tenoch' is formed from 'Tenochtitlan,' an ancient name of Mexico, meaning 'place-of-a-prickly-pear-on-a-rock' (tetl + nochtli + tlan). The other names are simple ethnical names, applied to imaginary ancestors.

³ See vol. i. p. 517. According to the Annals of Quauhtitlan, the Mixcohuâ were a race who disappeared before the Aculhuaquê. Their ashes were carried by whirlwinds to the sky as a black cloud. Mixcohuatl was the last survivor.

⁴ See p. 422.

Anahuac before the Nahuatlacâ. Some antiquaries have considered the Ulmees to have been the first outpost of the great series of Nahuatlacan immigrations. We do not deny that other Nahuatlacan tribes, now forgotten, possibly and even probably preceded the establishment of a settlement of that stock in the valley of Tollan; we cannot, however, identify the Ulmees with these early Nahuatlacan immigrants. The name itself¹, like that of the Xicalancans², indicates them as immigrants from the hot lands adjacent to the eastern sea, who had sought the Sierra as a better field at once for hunting and maize-cultivation; and we cannot but conclude that, like the other five stocks enumerated as descended from the Otomi deity, they were aborigines relatively to the Nahuatlacâ.

Another authority cites the same geographical myth in the form which it apparently assumed after the Nahuatlacâ had entered and settled in various parts of the plateau of Anahuac³. White-Cloud-Serpent now has a seventh son, who is assigned as the ancestor of the Tlaxcaltecs, Cholulans, and Huexotzincans; and this son is none other than the Toltec god Quetzalcohuatl. In neither form of the myth is there any mention of the Toltecs themselves. In this modified version Tollan is casually mentioned as a pueblo in the district occupied by the descendants of Otomitl: and both accounts evidently date from a period subsequent to the dispersion of the Toltecs. It is significant that Quetzalcohuatl is not put forward as a son of Ilancueitl, the mother of the indigenous tribal families of Anahuac. He is the son of a second wife of Iztac Mixcohuatl—one Chimalnanti; a name signifying 'Mother of the Shield,' and apparently distinguishing the posterity of her son as a military people.

¹ 'Ulli' = rubber; 'Ullan' = land of rubber; 'Ulmeçâ' = people of the land.

² 'Xicalanco' = land of pumpkins (Xicara). The tierra caliente on the Gulf.

³ Gomara, Conquista de Mexico, ch. 218.

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Aboriginal
America.

Otomi
ethno-geo-
graphy—
second
form.

BOOK II.
 Aboriginal
 America.

Whether this addition to the descendants of Iztac Mixcohuatl, like the legend of that personage himself, is of Otomi origin, is doubtful. That any Nahuatlacan people should have so far corrupted the legend of Quetzalcohuatl as to regard him as an ancestor seems at first sight improbable. Yet it is certain that he was so regarded in Cholula at the Spanish Conquest: the degenerate mythology of the later fiction-mongers even affirmed him to have descended anew from heaven in historical times, to have become incarnate by birth of a Toltec woman, and to have succeeded in due course to the supreme chieftaincy of Tollan. Another circumstance indicates the myth in question as of late Nahuatlacan origin. In the form in which the whole story of the seven sons of Mixcohuatl is thus presented, their arrival in Anahuac is confused with an alleged series of migrations of a different kind—those of the Nahuatlacâ themselves into the Mexican valley and the adjoining districts; for the seven brothers are alleged to have started for Anahuac together from Chicomoztoc or New Mexico, which the Nahuatlacâ of the valley unanimously assigned as their original seat.

Ethno-geo-
 graphy of
 Paris and
 Vatican
 codices.

A similar confusion is found in the case of another ethno-geographical system of earlier date, probably formulated by the Nahuatlacan annalists themselves when the district and its aboriginal inhabitants had become more fully known, though apparently anterior to the development of the dominion of the lake pueblos. The country is divided into eight districts, the only ones common to the list above quoted being those of the Ulmees and Xicalancans. These peoples, if we read the panels of the Paris and Vatican codices rightly, are treated as the earliest settlers¹. They are followed by the Huastecs, of Maya origin, near Panuoc;

¹ Through some misunderstanding, probably, on the part of the interpreter, the list is in the Paris codex reversed, the Ulmees and Xicalancans appearing last in the catalogue of peoples (Part 3. lam. 1).

next come the Totonacs, also on the Atlantic, presumably of southern origin, like the Huastecs. The Coahuiltecos and Tarascans, on the Pacific side, follow in order; the list closes with the Nonohualcâ, at the south end of the lake of Chalco, who claimed to have preceded the first Nahuatlacan settlers, and the Chichimecâ, who settled at Tenayucan and Tezcuco. The district dealt with is much larger than that included in the system described in the preceding paragraph; it touches the seas on the west and east. The topography is that of a people accustomed to travel beyond the limits of their own territory; and what renders it more interesting is that each section includes a list of its most important pueblos. These pueblos, altogether thirty-six in number, bear for the most part archaic names¹, only a few of which occur in the list of pueblos tributary to Mexico inscribed in the tribute roll of the Mendoza codex; and it is clear that we have here a topographical description of Anahuac and the neighbouring districts in early Nahuatlacan times. The principal pueblo mentioned in the immediate district of Mexico is Culhuacan; this appears to identify the description as belonging to the first period of Nahuatlacan occupation, when the three dominant pueblos were Culhuacan, Tenayucan, and Xaltocan. According to the Vatican interpretative codex there had been three periods of history in the Mexican valley, each marked by the domination of three different groups of pueblos. In the first of these periods the pueblos above enumerated had been dominant; in the second, the dominant pueblos were Azcapozalco, Cohuatlichan, and Aculman; in the third and last before the Conquest, the dominant pueblos were Mexico, Tlacopan, and Tezcuco. The eight districts enumerated in this ethnographic scheme are here again confused with the seven migrations from Chicomoztoc; the numerical discrepancy is removed by the compiler of the Vatican codex, who

¹ Most of the names end in -tepetl (mountain), the oldest pueblos having been built on spurs of the mountains.

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 Aboriginal
 America.
 First Nahuatlacan
 immigrants
 —the
 Aculhua-
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reduces them to seven by counting the Ulmecs and Xicalancans as a single stock.

Neither of the topographical documents above described makes any mention of the Toltecs, or people of Tollan, the chief centre of early Nahuatlacan advancement. The author who has preserved the Otomi topography in its second form, according to which a limited district, not extending to either sea, is divided among the descendants of seven chiefs, describes the first swarm of the Nahuatlacà which reached the Mexican valley by the name of Aculhuaquè = 'Strong' or 'Tall Men'; and by the general consent of Mexican authorities a tribe or stock bearing this name was among the earliest Nahuatlacan immigrants, though some writers describe their immigration as subsequent to those of the Toltecs and the Chichimecs of Tezeuco. According to Gomara, the Aculhuaquè arrived in the neighbourhood of Mexico from Aculhuacan, their previous seat beyond Xalisco, 770 years before his time, or about the year 780 of the Christian era, established the pueblos of Tollantzinco, Tollan, Cohuatlichan, and Culhuacan, and built a few huts on an island in the lake, which subsequently grew into the pueblo of Mexico; many years afterwards another swarm of the same race entered the valley through

¹ Gomara, *Conquista de Mexico*, ch. 216, 217. 'Aculli' = shoulder: 'aculhua' = one who has a shoulder (higher or stronger than others), pl. aculhuaquè. Elision of the initial vowel reduces the name to 'culhua,' as in Culhuacan, Culhuatzinco, Coliman, &c. The original form is retained in Aculnahuac, Aculman, &c. Such an elision is exceptional, although there can be little doubt that it took place in this case; some etymologists, however, assign a different meaning to 'Culhua.' The pintura-makers certainly considered the two forms identical, for they use the same symbol (a human shoulder) in the ideographs of both groups of names. The name of Aculman (see last page), an ancient pueblo two leagues from Tezeuco, seems to have suggested a singular and not very edifying myth as to the creation of man. Here, it was said, the sun shot an arrow into the earth, and from the hole thus made a man emerged, but from the armpits upward only (Mendieta, *Hist. Ecclesiastica Indiana*, lib. ii. cap. 4).

Tollan, its natural portal to the northward, founded the pueblos of Azcapozalco, Tlacopan, and Chapultepec, and occupied Mexico, which in their hands first became a considerable town'. The first settlement of the Aculhuaquê, according to this account, was at Tollantzinco, to the north-eastward of the valley, and at no great distance from the point where the temperate plateau begins to sink into torrid lowlands; from this point one branch of these earliest Nahuatlacan immigrants turned westward, and settled at Tollan; another marched southward to the Mexican valley, and the region of Tlaxcallan, Cholula, and Huexotzinco. This account differs from the more recent myth related by the same writer, enumerating the seven sons of the Cloud-Serpent, in which the last-named district only is assigned as the home of Quetzalcohuatl's descendants. Nothing is there said of Tollantzinco, here reputed the earliest settlement of the Aculhuan race, while Tollan, the seat of the most famous group among the original Nahuatlacan immigrants, is included in the Otomi district. The exclusion of Tollan from the district occupied by Quetzalcohuatl's people is evidently due to the fact that this once famous pueblo had greatly decayed and wholly lost its former dominant position, and the surrounding country had lapsed to the Otomi, its original occupants. Tollantzinco had lost its independence, and become tributary to Tezcuco; most of its people were of Otomi descent, and it ceased, in time, to be associated with the Aculhuan immigration.

The discrepancies found in the surviving accounts of Toltec history are due to causes of a different kind. After the dispersion of the Toltecs, although a few of their original pinturas may have survived², the traditions embodied

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Tezucan
accounts
of the
Toltecs.

¹ Gomara, op. cit., ch. 218.

² Torquemada examined ancient lienzos which were reputed, and which he himself believed, to have been executed by ancient Toltec artists; and he refers to them as authorities for the fact that the Toltecs were familiar with the use and cultivation of the cotton

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 Aboriginal
 America.

in their records were principally preserved by incorporation with those of other Nahuatlacan pueblos; and these are not always consistent with each other or with themselves. Yet there can be no doubt that the accounts of Toltec history current at the Conquest contain a nucleus of substantial truth. In one instance they carry us back to the remote times when this branch of the Nahuatlacâ migrated from its original seat, on a shore which, according to the narrative itself, can only have been some part of British Columbia: and although, as will be seen, the account itself cannot be regarded as other than mythical, this circumstance indicates that the Nahuatlacâ still retained a correct tradition of the place where their stock had originated. Between their departure from their primitive home and their arrival in Anahuac it was universally understood that the Toltecs had long dwelt in a country called Tlapallan¹, or Place of (Bright) Colour, sometimes called Hueyhuetylapan, or Great Tlapallan, to distinguish it, apparently, from Tlapallantzinco, or Lesser Tlapallan, the reputed scene of a subsequent settlement. The Tezucan writer Ixtlilxochitl has preserved two accounts of the early Toltec migrations², only one of which deals with the period anterior to their arrival in Tlapallan; according to this, Tlapallan was a maritime country, and the Toltecs reached it by sea, coasting southwards along the shore of California. We have little doubt that the Nahuatlacan migrations mainly took place by land, following the valleys and plains of the Rocky Mountains, and that the site of Tlapallan should be sought in the interior of the continent. Yet it is neither impossible, nor wholly improbable, that there may have been concurrent

plant: 'Del qual (the cotton plant) los antiguos Toltecas usaron y vistieron, como en sus pinturas yo lo he visto.' Tom. i. p. 67. It is not probable that these were older than the fall of Tollan.

¹ Tlapalli = colour, especially red. This etymology of the name is traditional, and is open to doubt.

² Hist. des Chichimecs (ed. Ternaux-Compans, vol. i. p. 9), ch. ii.

expeditions by canoes along the maritime route indicated, and that one of these expeditions might have resulted in the settlement of Tollan. The tribes of British Columbia have doubtless been adventurous seamen from the remotest times: and the Toltec traditions represent Quetzalcohuatl as skilled in managing the canoe¹. Intelligence of the land of maize, honey, and pulque may have determined one of these tribes to seek it by sea, a mode of migration at once more expeditious and less exposed to interruption from other tribes than marching over land; and without transgressing the legitimate bounds of speculation, we might reconstruct the plan of some Indian Columbus of the north-west shore for reaching the distant Promised Land of Anahuac by a maritime instead of an over-land expedition, and follow its realisation.

The account before us represents the founders of Tollan, not as voluntary emigrants, but as having been expelled from their country. We may understand this to mean that a population had increased beyond its means of procuring food, and that a certain number, chosen by lot, were compelled to depart in quest of a new area of subsistence. From the place of their origin the adventurers voyaged southward, during a long period of time, 'coasting many lands in the direction of what is now called California,' and reached Tlapallan in the year 1 Tecpatl, A. D. 387. They then passed the country of Xalisco, and landed at the port of Huatulco; travelled by land until they reached Tochtepec², also situated on the Pacific shore, and from this place made their way inland to Tollantzinco. Their progress was slow, for it was calculated that when the last-named district was reached two Xiuhtlapilli, or 104 years, had elapsed since the emigrants quitted the land of their origin. The Tezucan writer's account undoubtedly exhibits a remarkable coincidence with the ethnogeographical

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Alleged
maritime
migration
of the
Toltecs.

¹ See post, pp. 481, 482.

² Evidently the reading should be Tototepec.

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Toltec history
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Tom. i. p. 67.
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i. p. 9), ch. ii.

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 America.

facts distinguishing the coast alleged to have been passed along. The Nahuatlolli, the language of the Toltecs, is to this day the native language of the whole of this coast, from the mouth of the Californian gulf in the north to a point not far from Tototepec in the south; and although it is here arrested by the area within which the Mixtec and Zapotec languages are spoken, the fertile valley of Oaxaca, which extends northward from Tototepec towards Teohuacan, Tlaxcallan, and Tollantzinco, and forms the natural highway to the plateau of Anahuac, was occupied in very early times by Nahuatlacan colonists. Were it sought to infer from this limited group of facts the probable route of a people coming from the north-western coast to occupy the present area of the Nahuatlolli, that described in the account above quoted would naturally be fixed on; and in these circumstances the question arises whether the subsisting distribution of the Mexican language is due to maritime migrations such as that above described, those migrations being accepted as historical facts, or whether the story of the migration has been fabricated to account for the distribution of the language, or at least been adapted to it. As between the two opinions, we cannot but lean decidedly to the latter; for it seems incredible that an ethnogeographical distribution should to this day exist substantially unaltered, which was effected by a migration alleged to have taken place before the foundation of Tollan.

Alleged
 land migra-
 tion by way
 of the
 Pacific
 coast.

Another account of the Toltec migration, preserved by the same writer in a different work¹, makes no reference to the alleged sea-voyage, although it is not inconsistent with the statement that Tlapallan, the northernmost station of the immigrating tribe, had been reached by coasting along the Californian shore: it varies from the one just quoted as to dates and incidents, though resembling it in general purport. According to this account the migration was led

¹ Ixtlilxochitl, *Primera Relacion* (Part I), cited in Ternaux-Compan's edition of the 'Chichimec History,' vol. i. p. 10.

by two chiefs of Tlapallan, who were expelled from the land in the year 1 Tecpatl, A. D. 439, for an attempt to wrest the government from the lawful sovereign. Eight years they hovered on the border, before moving to Tlapallantzinco, their first halting-place, where three years were spent: and this was the first of a series of thirteen stations occupied by them in the course of a series of wanderings extending over a century, Tollantzinco being the last. The conventional number 13 is in itself enough to excite suspicion; and when the details of the narrative are scrutinised in connexion with the names assigned to the alleged halting-places, the distances said to have been traversed, the time occupied in the journeys, and the length of sojourn in each halting-place, they present an obviously artificial aspect. The first six stations are apparently imaginary localities on or near the Pacific shore; the rest are names of well-known pueblos, in the region north and east of Anahuac, which at the Conquest were included in the widely-spread dominion of Mexico, or in that of Tezenco. No greater authority, it would seem, can be ascribed to this account of the Toltec migration than to that previously noticed. Both pursue substantially the same plan—that of tracing a progress from the Californian peninsula southwards along the coast as far as Huatulco, and thence northwards to the plateau of Anahuac and the shores of the Mexican Gulf; and while the possibility of migrations by this route is undeniable, it seems most probable that the main migration of the Nahuatlacâ into the Mexican district took place by land, and by the direct route south-eastwards over the plains of Chihuahua, Durango, and Zacatecas, until the plateau of Anahuac was reached, and that from this point they descended to the Mexican Gulf in the east, and the Pacific shore on the west, ultimately settling along the latter in a north-westerly direction as far as the Californian peninsula.

Besides Tollan itself, the chief pueblos understood to

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America.*

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 Aboriginal
 America.
 Situation
 of Tollan.

have been founded by Aculhuaqu  of the same race as the Toltecs were Tollantzinco, Cholula, Tlaxcallan, Huexotzinco, Tepeyacac, and Teohuacan on the plateau, and Culhuacan, Tlacopan, Azcapozalco, and Quauhtitlan in the Mexican valley; and these are distributed over a district about 170 miles in length. The relative antiquity of Tollan among these Aculhuan pueblos we cannot pretend to determine. It was generally reputed, as we have seen, to be of more recent foundation than Tollantzinco. Cholula, the next oldest among the pueblos of the plateau, and Culhuacan, the oldest Aculhuan pueblo of the Mexican valley, dated their importance from the fall of Tollan. Yet other Aculhuan pueblos besides Tollantzinco may have been of older date; and it is likely that Tollan and many other Aculhuan pueblos were built on the site of ancient Otomi villages. No original superiority in the materials of advancement, or in capacity for using them, can be ascribed to the first settlers of Tollan: its higher culture must be due to local causes. Contact with other advancing stocks is the most common cause of superiority; and the suggestion that this cause was in operation at Tollan is confirmed by reference to its legendary history. The pueblo stands on a feeder of the Moctezuma River, which falls into the Mexican Gulf at Panuco. One of the first recorded incidents in the history of Tollan after its foundation was the arrival of a body of strangers who had followed the course of the stream from Panuco, having reached that place by sea¹. Their peculiar short-sleeved dress, open at the neck, and long afterwards used as a costume in solemn dances, was depicted in the Toltec pinturas. They were skilled in the arts of life, especially in the working of stone and metal; to their teaching, indeed, Tollan was said to be largely indebted for its industrial culture. From Tollan the strangers

¹ Torquemada, vol. i. p. 254. The legend is here and elsewhere confused with that of Quetzalcohuatl, and may possibly be only another version of the story of the original Toltec immigration.

passed to Cholula: here they settled, intermarrying with the Chololtecs, and ultimately spreading their influence to the valley of Oaxaca. This legend, whatever may be its meaning, points to an ancient line of communication across the continent from Panuco by way of Tollan and Cholula to the Pacific coast. Tollan is the natural portal of the valley of Mexico to the northward; it is also the place where the track from the west, by which Mexico is approached from Michoacan and Xalisco, and that from the north-west in the direction of Queretaro and Chihuahua, naturally converge. These circumstances indicate Tollan as the market-place of ancient Anahuac. Its advancement implies a certain degree of wealth, and wealth raises a presumption of commerce. Was Tollan a commercial centre, and what was the nature of its trade?

One answer to this question is at once suggested by the name itself. 'Tollan' means place of the 'tollin' or reed; a plant adapted to human needs earlier than the aloe and cotton, and largely used by the Indians in many parts of the plateau of Anahuac for making mats, baskets, and miscellaneous articles of domestic use and ornament, including vessels so admirably woven that water can be carried in them without leakage. A pueblo with an ample supply of tollin at hand was supplied with the materials of an important manufacture; but the great prosperity of Tollan was certainly founded on a broader and more varied basis of industry. The Toltecs were pre-eminently artificers of every description; throughout Anahuac in later times, the name became a synonym for craftsman. A legend just cited seems to imply that the Toltecs modestly disclaimed the origination of the arts for which they were celebrated, and considered them to have been taught by some strange people who fortuitously landed on the Mexican shore. This self-depreciating hypothesis was surely unnecessary. In their original seats on the Pacific shore the Nahuatlacâ had doubtless been workers in wood, stone, and bone, as are the

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Industrial
prosperity
of Tollan.

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America.*

present Indians of British Columbia¹, and had become skilled in preparing skins, and in manufacturing articles of clothing and domestic use out of vegetable fibres. The simple arts of the north were probably improved during their gradual southward progress. In their various intermediate settlements they must have become increasingly familiar with the metals, and with the use of clay and stone for building; and as they proceeded farther southward the materials available for industrial use became more abundant. The mountains enclosing the valley of Mexico, to the south-eastward of Tollan, besides affording admirable stone for building and carving, furnished supplies of the most useful metals, gold, silver, lead, copper, and tin; these, like the precious stones of the district, were sought under the direction of the Sun, who was understood to aid the prospector by atmospheric indications given at his rising. The valley afforded clay for pottery and building; the mountain sides yielded various kinds of timber; the neighbouring district abounded in coloured stones and crystals, the working of which formed a special branch of Toltec art. But a considerable portion of the material used by them must have been imported from distant parts. Such was the case with the bright shells which lavishly decorated their buildings, the feathers used in their tapestry, and the medicinal plants for the knowledge of whose properties they were universally celebrated. Tollan, we can scarcely doubt, was once a dominant pueblo, drawing tributes from servient ones. But there is no reason for supposing that the area of its domination ever embraced the hot maritime districts from which the last-named products were imported; and it can only be concluded that they were obtained in the course of trade, and were exchanged for the manufactures of the pueblo and the produce of its immediate neighbourhood.

Few more eligible sites for settlement could be found than

¹ See p. 415.

Tollan. The soil of the valley, 700 feet nearer the sea-level than that of Mexico, produces crops of every description in abundance ; its fruits and garden vegetables are still sent to the markets of Mexico, a distance of 50 miles ; Xocotitlan, or Place of Fruits, was an ancient alternative name of Tollan in the Nahuatlatoalli. Fish abound in the streams, and game on the adjacent hills. The lofty ridge of Cohuatepec, a mile in length, provided the pueblo with a natural citadel ; and the ruins which surmount it prove it to have been thickly covered with buildings. But the greater part of ancient Tollan stood in the valley ; the present city of Tula is largely constructed out of its ruins. Here, among other edifices, was the famous teopan of Quetzalcohuatl, called Chalchihapan¹ (On-the-blue-water), from the fact that it was built between the two channels into which the river is here divided. Among the many richly decorated apartments of Chalchihapan four were specially distinguished for their magnificence ; they seem to have occupied the four sides of a court. That on the east was the House of Gold ; on the west was the House of Green Jade and Turquoise ; that on the south was covered with brilliant sea-shells set in mosaic, the interstices being filled with silver ; that on the north was elaborately decorated in red stones, relieved by shells of various colours. Another court contained four buildings whose walls were covered with different kinds of feather tapestry. That on the east was decorated with yellow feathers ; that on the west, called the Quetzalcalli, with the bright blue feathers of the quetzaltototl ; that on the south had white feathers, arranged in plumes, as in the warrior's headdress ; that on the north had red plumes similarly displayed. There were also many subterraneous vaults ; chambers of this description were a characteristic feature in the Toltec buildings. Prominent among the ruins of Tollan, in post-Toltec times,

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*Aboriginal
America.*Description
of Tollan.

¹ Chalchihuitl (= turquoise) + atl (= water) + pan (locative particle).

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 Aboriginal
 America.

was the unfinished building called the Quetzalli, the main body of which was supported by pillars in the form of rattlesnakes, the head being at the base, the rattle at the summit. This monument, together with a large uncompleted mound, destined, apparently, to serve as a basement for some edifice of unusually ambitious proportions, attested the legend that sudden ruin had overtaken the pueblo in the height of its prosperity¹.

History of
 Tollan.

Tollan was destroyed some centuries before the Spanish Conquest; and its history, apart from popular tradition, could thenceforth only be preserved by incorporation with the annals of other pueblos. The current lists of its chiefs may be reduced to three types, which are traceable to the records of Culhuacan, of Quauhtitlan, and of Tezcuco respectively. That of the Culhuacan annalists appears in its oldest form in a relation attributed to Juan de Zumarraga², from which it was copied by Gomara³, and subsequently by Torquemada: the last-named writer also presents his reader, on another page, with the totally inconsistent account of Toltec history given by the pinturas of Tezcuco⁴, and embodied in the work of Ixtlilxochitl⁵. The account

¹ These details are furnished by Sahagun, who minutely investigated the remains of ancient Tollan. The description of the rattlesnake pillar seems erroneous. The pinturas show the head, with expanded jaws, as a capital: the body, folded rectangularly, covers the face of the pillar.

² Tezozomoc, *Cronica*, ed. Orozco-y-Berra, p. 183.

³ *Conquista de Mejico*, cap. 220.

⁴ *Monarquia Indiana*, vol. i. p. 36; id. p. 254. Both Sahagun and Torquemada sometimes give two inconsistent accounts of the same set of facts. This is due to the method pursued by these writers. Their works were produced by slow compilation, whatever they found recorded by competent authorities being copied as it was discovered. They occasionally met with new accounts varying from those previously transcribed: these were usually added without any observations on the discrepancies thus produced, or any attempt to reconcile them.

⁵ *Op. cit.* vol. i. pp. 13-27.

furnished in the recently published Annals of the pueblo of Quauhtitlan¹ is now preferred by local antiquaries². We unhesitatingly assign the first place to the account given by the annalists of Culhuacan. This pueblo, founded or augmented by Toltec fugitives after the fall of Tollan, claimed to be the representative successor of Tollan among the pueblos of the Mexican valley, and prefixed to its list of chiefs the names of the chiefs of Tollan. When Culhuacan, in its turn, was depopulated, and became a dependency of Mexico, the Mexicans prefixed the list of its chieftains, preceded by those of Tollan, to their own annals. A continuous record was thus constituted, beginning with the Toltec immigration, and extending to the Spanish Conquest; and this document was accepted by the Spaniards as the authoritative basis of Mexican history. As regards Tollan, it is the only account noticed by Gomara; in Torquemada's work it stands as a correction of the succession previously quoted from the annals of Tezcuco; and the Quauhtitlan annalist evidently used it as the basis of his own extended list of Toltec chiefs. The original list might well be regarded as a scanty one, for it contains four names only—(1) Totepeuh, (2) Topiltzin, (3) Hueymactzin, and (4) Nauhyotzin; and these are grouped in pairs, Totepeuh being associated as a contemporary with Topiltzin, and Hueymactzin with Nauhyotzin.

Do these names represent historical personages? Have we here a genuine though perhaps defective list of the chiefs of Tollan before its fall? As to the first pair of names the answer admits of no doubt. 'Totepeuh'³ (= Our-chief) and 'Topiltzin' (= Our-young-chief), according to Zumarraga, were the leaders of the original migration which brought

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America.

Chiefs of
Tollan ac-
cording to
the Cul-
huacan
annals.

¹ Anales del Museo Nacional de Mexico, tom. i.

² Chavero, Appendix to Duran; A. Garcia Cubas, Cuadro Geografico de los Estados Unidos Mexicanos, p. 347.

³ 'Tepetl' (mountain) + 'hua' (possessor) = 'Tepehua': noun of first person plural, 'totepeuh.' Compare vol. i. p. 481, note 1.

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 Aboriginal
 America.

the Toltecs to Tollantzinco. They are obviously mythical; the annalists of Culhuacan themselves seem to authorise this inference by interposing a break of 97 years between Topiltzin and Hueymactzin. The last pair of names must also stand or fall together. Of these 'Nauhyotzin' alone has the appearance of a genuine name designating an historical personage. 'Hueymactzin' means 'Great-hand'; the large hands of the Toltecs, indicating them as a physically powerful race, are a familiar feature in the pinturas. Hueymactzin, who figures in many legends concerning the Toltecs, appears to be merely a personification of the race; we have seen that the name was sometimes given to the leader of the original Toltec immigrants. The name Nauhyotzin, which signifies 'Four-hearts,' denotes its bearer as a man of unusual strength or courage. Torquemada describes both chiefs as great conquerors, and Nauhyotzin as having added the Mexican valley to the dominion of Tollan. But Gomara, whose commentary on the list deserves more attention, describes them as contemporary heads of two Toltec clans, and as having conducted these clans, at the fall of Tollan, into other parts; Nauhyotzin became in this way the first chief of Culhuacan. According to this view, which we believe to be the correct one, Tollan was a composite pueblo, like Tlaxcallan and Cholula, and can therefore have had no succession of sovereign chiefs ruling it in its entirety; it is in any case certain that in this, the best authenticated account of the chiefs of Tollan, none are mentioned by name between the pair who presided over its foundation and the pair who witnessed its destruction.

Chiefs of
 Tollan ac-
 cording to
 the annual-
 ists of
 Quauh-
 titlan and
 Tezcuco.

This defect the annalists of Quauhtitlan and Tezcuco set themselves, by different methods, to supply. The former adopt the four chiefs above mentioned as the basis of their enumeration, and add to them seven others, twice utilising, for the purpose of providing supplementary names, the idle fiction of Quetzalcohuatl's human incarna-

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tion¹. The succession thus produced covers a period of four centuries, and is defined by precise dates. The Tezcucan list of the chiefs of Tollan contains the names of Totepeuh and Topiltzin, but Hueymactzin and Nauhyotzin are unknown. Discrepancies occur in different versions of the catalogue: but the original scheme was evidently framed on the basis of a symmetrical group of uniform chronological periods. The history of the Toltecs from their quitting Tlapallan to the destruction of Tollan in A.D. 1116 comprised exactly 10 Xiuhtlalpilli, or 520 years; one fifth of this period, or 2 Xiuhtlalpilli, is treated as the period of migration, Tollantzinco having been reached at the end of the first period of 52 years, and Tollan at the end of the second. The remaining 8 Xiuhtlalpilli are assigned as the periods during which the pueblo was governed by eight successive chiefs, each of whom held power for precisely 52 years. Some modifications have been admitted in the scheme, evidently for the purpose of bringing it into harmony with collateral reckonings; these, however, neither alter nor disguise its nature. No particulars are furnished concerning the chiefs attached to this chronological myth, except a series of fabulous incidents with which the fall of Tollan is connected. Topiltzin, otherwise called Meconetzin, or Son-of-the-aloë, now figures as the last chief of Tollan, and is described as the illegitimate offspring of Iztacquauhtzin, his predecessor, who insisted, contrary to established rule, on being succeeded

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¹ The list of chiefs of Tollan given in the Annals of Quauhtitlan is as follows:—

- | | |
|--------------------------------------------|----------------------------------------|
| 1. Mixcohuamazatzin, A.D. 700-765. | 6. Matlaxochitl, A.D. 947-982. |
| 2. Huetzin. | 7. Nauhyotzin, A.D. 982-997. |
| 3. Totepeuh. | 8. Matlacoahuatzin, A.D. 997-1025. |
| 4. Ilhuitimaitl, A.D. 887-925. | 9. Tlicohuatzin, A.D. 1025-1046. |
| 5. Topiltzin Quetzalcohuatl, A.D. 925-947. | 10. Huemactzin, A.D. 1046-1048. |
| | 11. Quetzalcohuatl II, A.D. 1048-1116. |

The dates have evidently been irregularly arranged in order to give the succession a semblance of probability.

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by him ; and the fall of Tollan originated in a revolt which ensued upon his succession. The romantic circumstances of his birth, the disaffection of the chiefs presiding over the servient pueblos to the northward, consequent on his elevation to power, the portents which heralded the impending fate of Tollan, the sterility and famine in which it began, the attack of the insurgents, the retreat of Topiltzin by way of the Mexican valley, the slaughter of his partisans, and his own mysterious disappearance, were evidently favourite topics with the romance-mongers of Tezcuco ; and the purpose which this myth was designed to serve is too plain to be mistaken. The destruction of Tollan retained after four centuries a strong hold on the imagination of all dwellers in the country, and served as a theme for singers and a favourite subject for painters. In the wars which constituted the main business of Nahuatlacan life, the destruction of pueblos, and the ruin of their people, was of frequent occurrence. What had befallen Tollan might befall any among the flourishing communities of contemporary Anahuac ; and its fate, commemorated by song and pintura, served as a perpetual warning of the instability of human fortune. The sovereign chiefs of Tezcuco, whose line had already been interrupted, dexterously availed themselves of these circumstances, and converted a popular legend into a practical argument in favour of strict legitimacy in the descent of the chieftaincy.

Dispersion
 of the
 Toltecs.

Although the current accounts of the succession of Toltec chiefs must be rejected, we cannot doubt that Tollan was long the principal seat of Nahuatlacan advancement, and that it was abandoned by its inhabitants, in circumstances no longer capable of being precisely ascertained, some centuries before the Spanish Conquest¹. We cannot, however,

¹ According to Torquemada (vol. i. p. 44), when the Chichimec chief Xolotl sent to explore the valley of Mexico, his messenger found several Toltec families settled in the neighbourhood of the lakes.

believe that the pueblo was ever entirely destroyed, or that so admirable a site ever remained long unoccupied. Probably the Nahuatlacan settlements usually pointed out as having been founded by the dispersed Toltecs were largely original pueblos of the Aculhuaquê, in some cases no less ancient than Tollan itself. Wherever the settled Nahuatlacâ approximated in wealth and the arts of life to the Toltecs of tradition, it was natural to connect them with the dispersion; and ultimately 'Toltec' became a common name denoting builders in stone and artificers in the metals. Such a view was occasionally carried so far as to produce a general impression that 'the Toltecs were the ancestors of the Nahuatlacâ',¹ as the latter people were distributed at the Conquest; and in practice the name ceased to be directly associated with the pueblo from which it was derived. But to doubt that there once existed in Tollan an advancement superior to that which prevailed among the Nahuatlacâ generally at the Conquest, and that its people spread this advancement throughout Anahuac and into the districts to the eastward and southward, would be to reject a belief universally entertained, and confirmed, rather than shaken, by the efforts made in later times to construct for the pueblo something in the nature of a history and a succession of supreme chiefs.

One dwelt on the hill of Chapultepec; two others on the site afterwards occupied by the pueblo of Culhuacan; others were found at other places. They alleged famine, war, and pestilence as the causes of a general dispersion of their nation which had recently taken place. Some, they said, had gone eastwards to Campeachy, on the western shore of Yucatan, others to the southward. Two Toltecs who dwelt at Quecholac were engaged in mining and working silver: they continued this occupation under the Chichimecs, supplying the latter with their work as a form of tribute (Id. p. 46). The Quauhtitlan annalists describe the exiled Toltecs as hanging themselves through chagrin. The last remnant sought shelter in the caverns of Chapultepec, where they wept and howled, shunning the light of day: the ultimate survivor hung himself (op. cit. p. 29).

¹ Sahagun, lib. iii. § 1.

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 America.*
 Advanc-
 ment of the
 Toltecs.

We may here briefly consider in what this advancement consisted, and what rank should be assigned it in the general scale of American culture. The latter question admits no doubt whatever. To the Toltecs, among the early peoples of the New World, the first place no less indisputably belongs than to the Greeks in the Old. The Toltecs not only excelled all other American peoples in the prosecution of the useful arts, in the reckoning of time and in the conventional imitation of nature by painting and sculpture, but stood prominently forth among the surrounding savages and barbarians as haters of war, and worshippers of a mild and beneficent deity who rejected sacrifices of blood, accepting in their place offerings of maize, flowers, and perfumes¹. We dare not affirm that human sacrifices and cannibalism were unknown to them; the worship of Tezcatlipoca, which fostered these odious practices, was undoubtedly a part of the Toltec religion. The worship of Quetzalcohuatl long held these practices in check. The legend of his abandonment of Tollan and flight to the southward shows that there came a time when this resistance could no longer be maintained. Throughout Anahuac, war, human sacrifice, and cannibalism had at the Conquest completely regained ascendancy; the Spanish adventurers who first penetrated the country found this true of Cholula itself, after the fall of Tollan the chief home of the Toltec arts and institutions. Here the beneficent god Quetzalcohuatl was still worshipped as an idol of huge dimensions, and pilgrims from all parts frequented his teocalli; but their offerings, for the most part, took the form of human victims, and Cortes found here as elsewhere the hideous wooden prisons (quauhcalli) in which captive men and boys were daily crammed for the impending sacrifice. Even while the Chololtecs were entertaining the Spaniards with professions of friendship and alliance they privately immolated human victims to their

¹ Sahagun adds snakes and butterflies. Fish and birds appear among the offerings depicted in the 'Book of Quetzalcohuatl' (post, p. 482).

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gods, to enable them to execute the design, treacherously concerted with Montezuma, of surprising them and sending them prisoners to Mexico; twenty only were to be spared for sacrifice to the gods of Cholula. When Cortes had inflicted on them a severe though well-merited chastisement, the enraged Chololtecs flung down the subsisting idol of Quetzalcohuatl and replaced it by another¹.

The current accounts of the physical habits and characteristics of the Toltecs are not altogether consistent. The stock to which they belonged—the People of the Great Shoulder—was undoubtedly one of the most vigorous on the continent. Sahagun repeatedly describes the Toltecs as delighting in the name ‘Chichimecâ,’ or hunters; a title which was affected by all the strong peoples of Anahuac to distinguish themselves from the feebler denizens of the torrid lowlands. We cannot doubt that the Toltecs were hunters by practice as well as in name. In the ‘Book of Quetzalcohuatl’ the dog is represented as the god’s companion and servant; the worship of Quetzalcohuatl appears from the same authority to have been associated with that of the falcon and ocelot, the natural fetishes of the Mexican hunting tribes. Not only were the Toltecs taller than the existing population at the Conquest, but their superiors in strength and activity; they were described as ‘tlanquacemilhuiquê,’ or ‘those who run a whole day without resting².’ The savage tribes of the New World usually wore their coarse black hair long—a practice not favourable to vigorous bodily exertion. The Toltecs cut their hair short on the occiput, and cherished long locks on the crown of the head; these were plaited and securely knotted, forming a species of natural hat³. Their usual dress appears to have been

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¹ Bernal Diaz, ch. 83.

² Sahagun, lib. iii. § 1.

³ Two styles of dressing the hair are depicted in the Dresden Codex. In the more common one the hair appears to be gathered into several small tufts: in the other it is wound into a single coil, artistically disposed on the top of the head.

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a short tunic, an elaborately decorated skirt being assumed on occasions of ceremony only. Nothing contained in our best authorities forbids us to regard them as equal or superior in vigour of body and activity of habit to other branches of Nahuatlacan race. Mexican traditions, however, represented them—apparently by way of contrast to the sinewy athletes of a later time, the 'Ocelot-Eagles' in the service of the Lake Pueblos, who extended their conquests from the Pacific to the Mexican Gulf—as a portly race, of graceful bearing, clad in long white cotton tunics, indisposed to war, and exclusively devoted to the arts of peaceful life. That they were distinguished by a strong devotion to all forms of craftsmanship is beyond all doubt. They quarried and wrought the volcanic tufa and basalt of Anahuac, and built storied houses carved and ornamented, if we may judge from the remains found at Tula¹, in a style of greater purity, and characterised by more power of design and contrivance, than the vaster ruins of Central America, undoubtedly built by or under the direction of their emigrated descendants. They methodised and perfected the cultivation of maize, pulse, pepper, and cotton; wrought gold and silver, in the words of our authority, 'into such forms as they pleased'; shaped and set the rough jade and turquoise; adapted stones of less price to various purposes of use and ornament, and wove the bright plumage of birds into the gorgeous feather-tapestry which afterwards became one of the most valued products of Anahuac. The Mexican calendar was universally ascribed to their ingenuity; nor is there any reason to doubt it, though it may well be doubted whether they brought this complicated scheme with them, as tradition related, from their ancient home in Tlapallan. Nothing in all this is inconsistent with the character of a warlike and adventurous race. That such

¹ The modern form of 'Tollan.' Tula is now a flourishing little town situate on the Ferrocarril Central (the main line from Mexico City to the north), 80 kilometres from Mexico.

they really were may be inferred from the facts that they were always regarded as the pioneer branch, and often claimed as the general ancestors, of the Acullhuan people: that Tollan long maintained a secure position in the midst of a region overrun by wandering tribes; that the worship of the 'youthful warrior' Tezcatlipoca, which supplanted that of the benevolent Quetzalcohuatl, was practised by them, if it did not originate among them; and that after the fall of Tollan they sought the unknown tracts of Yucatan and Central America, re-establishing there, in more than forty places, in the midst, and almost certainly by the labour, of alien peoples, the characteristic culture of the Mexican plateau¹.

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In Anahuac itself, the fall of Tollan and the dispersion of the Toltecs are said to have heralded a general change for the worse. Less advanced tribes pressed onward, the barrier Tollan had interposed being removed. The sanguinary worship of Tezcatlipoca became the model of ritual: war succeeded the arts of peace as the main business of life. In the neighbourhood of Mexico few monuments of Toltec architecture and sculpture are now to be found²:

Monu-
ments of
Toltec art.

¹ The Tezucan myth alleged that the Toltecs were driven from Tollan by superior force. Mexican tradition, according to Sahagun, described them as evacuating it voluntarily, by command of Quetzalcohuatl, who had himself already quitted it. It may well be that their dispersion was really part of the general movement of the Nahuatlacá from North to South, and that Central America presented itself to the Toltecs as a promising field of colonisation. But the fact that the worship of Quetzalcohuatl, under the name of Cuculcan or Gucumatz, was extensively prevalent in Yucatan and Central America, while no trace, apparently, is found of the worship of Tezcatlipoca, strongly suggests that the founders of the Central American pueblos were in fact devotees of Quetzalcohuatl who preferred exile and adventure in strange lands to accepting a religious innovation which was intolerable to them.

² The pyramids of Teotihuacan are probably of comparatively recent origin, and marked the re-establishment of the Otomi ascendancy at Tezcuco in 1431 (see post, p. 515). Each was once surmounted by a teocalli, that on the larger one containing an idol representing

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but good specimens exist in the districts east and south of the Mexican plateau, and abound in the distant tracts beyond Tehuantepec, colonised by the Toltecs after the dispersion. Papanla and Guatusco in Totonacapan, Mitla in Oaxaca, Ocotzincó and Palenque in Chiapas, Chichen Itza, Izamal, and Uxmal in Yucatan, Quirigua in Guatemala, Copan in Honduras, and other ruined pueblos of minor importance, have often been explored and described by enthusiastic antiquaries¹; and a fortunate accident has preserved, in a celebrated bas-relief, evidence that the builders of Palenque observed the Toltec religion in its pure and original form². The art of the Toltecs is also represented by a group of lienzos distinguished from those of Mexico and Tezeuco by the greater skill and purity of their draughtsmanship and colouring, and from the close resemblance of their figures and symbols to the sculptures of the Maya district commonly classed by antiquaries as 'Maya codices³.' The precise places of their origin are unknown; nor is it impossible they may have been executed by or for the same people who built the pueblos of Mayapan. They are none the less essentially Toltec as to their style and contents; and the principal among them, preserved

the sun, that on the smaller, another representing the moon. Teotihuacan (see vol. i. p. 559) was reputed in Mexican legend to be the place where the existing sun was created: the religious observances associated with it probably represented a revival of the Otomi religion by Nezahualcoyotl (see vol. i. p. 544).

¹ To enumerate those who have visited and studied these monuments, from Stephens and Catherwood, more than half a century ago, to Charnay, Maler, Maudslay, Gordon, and others in our own time, is beside our purpose. We can but refer the reader to Winsor, *Narrative and Critical History of America*, ch. 3. The labours of those who are interested in these monuments would probably be more fruitful if the groundless figment of an 'ancient and original Maya civilisation' were abandoned.

² See page 94.

³ Besides the Dresden Codex, these are the so-called 'Codex Troanus' and 'Codex Cortesianus' (at Madrid) and the 'Codex Peresianus' (at Paris).

in the Royal Library of Dresden, is so rich in illustrations of Toltec art and thought, and presents so many details in the myth of the great Toltec god which are not furnished from other sources, that some account of it may here fitly conclude our brief sketch of the remarkable people whose religion and later history it embodies or illustrates¹.

Throughout the Dresden codex the personality of the Man of the Sun so largely predominates that we do not hesitate to denominate this most interesting document the 'Book of Quetzalcohuatl².' The impression of this antique American god's attributes and history which it conveys is remarkably full and precise, if not absolutely complete; incidentally it reveals the Toltec conception of human advancement in different stages, and is specially valuable as showing that this indigenous people of the New World had a definite and accurate knowledge, evidently derived from actual tradition, of man's progress from savagery to the middle grade of culture, and considered this movement to be of comparatively recent origin. The first panel exhibits, what is rare in the pinturas, a large full-faced portrait of the deity, drawn without a trace of conventionality. He wears an elaborate head-dress, and is displayed as of mild, thoughtful and majestic aspect; the second panel abruptly introduces his legend. The first incident depicted is the capture of the celestial bird (Kanikilak) by the Toltec hero Hueymactzin. It was he who accidentally caught it in an ordinary fowler's net, and tied its wings, when it alighted on earth; and accordingly, when the human shape is resumed, the shoulders of Quetzalcohuatl appear bound behind the back with a thong. The third panel illustrates

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The 'Book
of Quetzal-
cohuatl.'

¹ The Dresden Codex is coarsely copied in Kingsborough's Antiquities of Mexico. It has recently been admirably reproduced in chromophotography by Klinkhardt of Leipzig, under the direction of Dr. Fürstemann, of the Dresden library.

² The main purpose of the document appears to lie in the pictographs and numerical symbols denoting the calendar and the prescribed sacrifices, the figures being added as illustrations.

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his connexion with the tree and bird worship of the Palenque bas-relief, described in a previous place¹. The tree, heavily laden with fruit, grows from the opened breast of a human victim, sacrificed to the Earth-goddess Cihuacohuatl; a falcon, perched on the cross branch, devours the victim's eye²; a votary, seated on the ground, eats eagerly of the fruit, once man's principal aliment, while another captures and secures Quetzalcohuatl's dog. The purport of many among the pinturas which follow is obscure, yet the general drift of the document is clear enough. Fish and snakes, man's earliest animal food, are offered to him; and his votaries, who appear to have reputed him the inventor of fire-making, kindle new fire in his honour with the wooden drill. Ears of maize, and vessels filled with maize porridge, are now presented to him. At a later stage Quetzalcohuatl appears attended by his dog; the domestication of this animal was evidently attributed to him. The falcon reappears, presently followed by the ocelot; such animals, it has been shown in a former place³, are among man's earliest objects of veneration. Quetzalcohuatl next figures as the builder of a house; a Toltec follows his example, building one exactly resembling it. In the next panel, which concludes the first series of pinturas, Quetzalcohuatl delivers oral instruction. A Toltec sits before him, in an attitude of attention, while the god addresses him with emphatic gestures, the symbolic word, or Tlatolli, issuing as a substance from his lips⁴. The benefits conferred by the god are not limited by the present life; he renders important aid to man after death. The soul, in the form of a heart, emerges from the mouth; the dead man is fettered with a wooden collar; his head, now represented as a skull, is decorated with a plume for the journey to Mictlan,

¹ Page 94.

² This appears from the line drawn from the eye to the falcon's beak. As to Cihuacohuatl, see vol. i. p. 524.

³ Vol. i. p. 444.

⁴ See page 139.

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² Id.,
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or the underworld, whither Quetzalcohuatl conducts him. Offerings of food are received by the dead man, to sustain him in his labours, and the travellers are attended by the dog and falcon. At particular stages—probably where rivers or mountains have to be crossed—all are carried on the shoulders of deceased Toltecs, the food-supplies being similarly transported. The last portraits of the dead man depict him as meeting with a female and a male friend, probably his mother and father. These pinturas evidently represent the Mexican 'Book of the Dead,' described in a previous place, in its rudimentary form¹.

The next section of the 'Book of Quetzalcohuatl'² depicts his services to man in a more advanced stage: we have before us his later inventions in the arts of life, and the sacrifices rendered to him in acknowledgment of them. Man, as the servant of Quetzalcohuatl, assumes a mask which imitates the god's features; the god now carries man on his shoulders, the usual symbol of care and protection³. Man follows the god as the dog follows his master; Quetzalcohuatl carries man on his back masked as a dog. He teaches man the use of the wooden staff which serves as a digging-stick, and assists him in his migrations: more important inventions follow—the sharp hatchet, consisting of a stone blade wedged into a wooden handle, the canoe and paddle, the raft and fishing-net. The pinturas in which these occur are the most interesting parts of the document. Various uses of the hatchet are now successively illustrated; and the attitudes assumed in wielding it exhibit no little power of observation and artistic skill. Quetzalcohuatl sits on a maguey plant, flourishing in one hand this implement, with which he has severed the stem, in the other the cup containing the pulque thus obtained. Quetzalcohuatl is often depicted paddling his canoe; one pintura displays

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Quetzal-
cohuatl
and the
higher ad-
vancement.

¹ Dresden Codex, pp. 1-24. The part corresponding to the 'Book of the Dead' (see ante, p. 448) begins with p. 10.

² Id., pp. 25-45.

³ See p. 38.

Book II. him carrying off in it a captured woman. Another shows
 Aboriginal a canoe with a lofty prow, surmounted by the falcon's
 America. head¹, under which are placed a fishing net and basket;
 and the capture and eating of fish are occasionally depicted.
 Quetzalcohuatl, in virtue, apparently, of his skill in naviga-
 tion, sometimes appears as a water-snake; in one pintura
 he is mounted on a sea-monster, whom he directs by
 brandishing in either hand a feathered staff. The offerings
 made to him confirm the statement of the Mexican anti-
 quaries that he accepted no sacrifice involving bloodshed;
 fish, snakes, and small headless birds, killed by breaking
 the neck, are alone represented. Quetzalcohuatl is seen
 performing on the wooden teponaztli, or Mexican drum:
 a rude species of flute or hautbois, played by a dark figure
 sitting on the ground, seems to indicate this instrument as
 having originated in the torrid lowlands.

Quetzal-
 cohuatl
 and Tezcat-
 lipoca.

The third and last division of the book² introduces the
 youthful god Tezcatlipoca, displaying his brilliant shield,
 attended by a squire carrying his fatal darts, and followed
 by armed votaries: their appearance heralds the fall of
 Quetzalcohuatl, and his departure from Tollan. Quetzal-
 cohuatl is attacked as he sits at ease, quaffing pulque from
 a jar; his votaries are taken captive, his dog is slain with
 a dart, and he himself is flung ignominiously to the ground.
 Tollan is destroyed: its ruin is symbolised by an aged
 Toltec sitting amidst the fallen columns of its buildings;
 another commits suicide by hanging himself to a carved
 stone lintel³; and the desertion of the pueblo is typified
 by an empty edifice. The masks of Quetzalcohuatl now
 hang uselessly from the wall; while the crossed darts of
 Tezcatlipoca, and Nauhollin, the symbol of the Sun's Four

¹ The falcon is evidently chosen for this purpose on account of
 its keen eyes (*πρῶτα πρόσθεν ὄμμασιν βλέπουσ' ὄδον*, Aesch. Supp. 696).
 The impression conveyed by the canoes represented in the pinturas is
 of ocean rather than river or lake navigation.

² Dresden Codex, pp. 46-74.

³ See p. 472, note.

Motions¹, are suspended in the teocalli. The remaining pinturas depict the retreat of Quetzalcohuatl from Tollan, and the final discomfiture of his followers. Sometimes he marches on foot; occasionally he is carried by Toltecs, seated on his sacred throne. A very remarkable pintura represents him as seated on a rattlesnake column², with his hatchet reversed. An ocelot is seated behind him on another column; the next panel depicts him similarly placed, but the second column is surmounted by his dog, and the hatchet is now elevated. Later, he appears on foot, carrying his belongings in a basket; presently he paddles his canoe; this evidently represents his journey southward by way of the Lake. Again he appears on the march; he has now reached the waters of Coapan, into which he throws some portions of his property³. He next appears seated on a stool representing his own mask, and twice on the summit of a teocalli; a Toltec vainly induces him to return. Wielding his serpent staff, he resolutely proceeds, until he reaches the sea-coast; here he shivers his staff with his hatchet, for his march is over. A double idol, representing two figures of the god seated back to back, and recalling the Janus of ancient Rome, seems to typify him as bidding farewell to the old scene of his labours, and entering a new one. Two votaries, widely different in features and costume, now present him with offerings; one is a Toltec of the well-known type, the other presents the coarser features and uncouth costume of an Indian belonging to the coast district. Before finally quitting the country Quetzalcohuatl receives honours of a characteristic kind. He embraces a woman in Toltec costume, is presented with a massive bracelet, and is seated on large bundles enveloped in matting, evidently containing valuable offerings. Three portraits of him close the series of pinturas: in the first he is depicted slaying a sea-monster with his hatchet; in the

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America.*¹ See p. 311, note 3.² See p. 468, note 1.³ See vol. i. p. 594.

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second he sits on a throne richly decorated with shells, again accompanied by the sacred falcon; finally, he is mounted on the rattlesnake column, wearing a dog's-head mask, and having the feathered staff once more in his hand. A change, however, has come over his person. He is painted black; this may perhaps indicate him as henceforth the tutelary deity of the dark Totonacâ and Maya¹. The last panel of the manuscript cannot be misunderstood; it represents the triumph of Tezcatlipoca.

Acuilhuan
 pueblos of
 the plateau
 —Tollan-
 zinco and
 Cholula.

Contemporaneously, or nearly so, with the foundation of Tollan, the Acuilhuaquê appear to have spread over most of the plateau of Anahuac and valley of Mexico, and founded many other pueblos which still subsisted at the Conquest. It will be convenient to consider first the principal pueblos of the plateau. Among these, two were always closely associated with Tollan itself—Tollantzinco², or Lesser Tollan, where the Toltecs had originally settled, and Cholula, which succeeded Tollan as the centre of Toltec culture. Of Tollantzinco little remains on record. The 'Chichimecs,' Otomi immigrants who entered the Valley after the Toltecs, and built the pueblos of Tenayucan and Tezcuco, found Tollantzinco under the rule of a chief named Macuilacatl (Five-Cornstalks), whose daughter was given in marriage to the leader of the invaders. Thenceforth Tollantzinco is said to have formed part of the Chichimec dominion; and it so remained at the Conquest, though the pinturas recorded more than one attempt to regain its independence³. Cholula was at the Conquest

¹ The Totonacs, at the Conquest, were devoted worshippers of Quetzalcohuatl; see vol. i. p. 596, and compare Las Casas, 'Hist. Apologetica,' ch. 122.

² The particle -tzinco usually has a reverential meaning (see pp. 295, 296). Added, as it often is, to place-names, it conveys the idea of smallness—literally, of diminution by one-half; the pictographic symbol used to denote it in place-names represents the human body from the thighs downwards. (See post, p. 559, note.)

³ Torquemada, vol. i. p. 66.

a large and flourishing pueblo, composed, like Tlaxcallan, of four separate quarters, each ruled by its own supreme chief, and independent of the Lake confederacy, though in temporary alliance with it. The complete name is said to be Tollan-Cholollan (Place of Flight from Tollan); and as its inhabitants were known as 'Great-Toltecs',¹ it may be conjectured that it also bore the name Hueyhueytollan (Greater Tollan), distinguishing it from the small pueblo of Tollantzinco. These names, taken in connexion with the Cholulan legend of Quetzalcohuatl's flight thither and his twenty years' sojourn there, and with the fact that Cholula was at the Conquest the chief seat of the Toltec arts and religion, confirm the statement that it was augmented by fugitives from Tollan when the latter pueblo was abandoned. Cholula formed together with Tlaxcallan and Huexotzinco a triad of pueblos whose territory lay wedged between the mountain range of Iztac-cihuatl and Popocatepetl on the west, and that of Matlalucueye on the east; at the Conquest the area of Mexican domination touched this district on the south, while that of Tezcuco stretched towards it on the north. The arts of Tollan flourished in Cholula with some deterioration; its religion, we have seen, had borrowed the bloody ritual of Mexico, and it had become the chief seat of the slave trade in Anahuac. Quetzalcohuatl, according to Acosta, was regarded by the Chololtecs chiefly as the god of Riches², and was regularly worshipped with rites closely assimilated to those of Tezcatlipoca. He was represented by an idol of fair complexion, broad forehead, large eyes, and long black hair. He was originally the inventor, and still the patron, of the silversmith's art, to which Cholula owed much of its prosperity. Although his characteristic

¹ Torquemada, vol. i. p. 255.

² A rich man, says Sahagun, was called 'son of Quetzalcohuatl.' In the wealthy pueblo of Cholula the Spaniards noticed large numbers of beggars—an unusual spectacle in Anahuac. Increased wealth, even in this rudimentary civilisation, was attended by increased poverty.

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rejection of blood sacrifices was now a nullity, he was understood to be averse from bloodshed, robbery, and wrongs in general. 'When any one,' says our authority, 'sought to consult him touching wars, or murders, or other ills causing men damage, he turned away his face, and closed his ears'.¹ The teopan of Quetzalcohuatl was open to all Anahuac; it was, indeed, continuously frequented by pilgrims from all quarters, anxious to propitiate by sacrifice the god of Riches. The inhabitants of hostile pueblos were allowed to visit it unmolested, and even to maintain within its precinct their own permanent oratories, containing private images representing the Toltec deity. The Chololtecs believed that he had once sojourned among them for twenty years; that on his departure four of their young chiefs accompanied him to the shore, and that these had been installed on their return as chiefs of the four quarters of Cholula; and the chiefs who ruled over these four quarters at the Conquest, claimed descent from them².

History
 of Tlax-
 callan.

Tlaxcallan, or Texcallan, less than 20 miles distant, was occupied by the Aculhuaquê more recently than Cholula. The pueblo of Tepeticpac³, the oldest of four contiguous villages collectively known by a name originally applied to the surrounding district⁴, was understood to have been occupied by the Ulmecs when the Aculhuaquê invaded the district; the Ulmecs themselves had dispossessed earlier inhabitants⁵. Tradition pointed to this as the earliest seat

¹ These indications were probably given by a human representative, wearing the god's mask.

² Las Casas, 'Hist. Apologetica,' cap. 122.

³ Tepetl + icpac = 'on-the-mountain.'

⁴ Torquemada thinks the district was named from the town. Both forms of the name have the same meaning—'place of tortillas.' The original name was probably Texcallan = textli (flour) + calli (house) + tlan (locative particle); texcalli (obsolete) = tortilla, 'calli' alluding to the solidification of the cooked maize-flour; tlaxcalli has the same meaning; tlaolli (= shelled maize) being substituted for textli. Gomara's explanation of 'Texcallan' ('casa del barranco') is untenable.

⁵ See p. 453.

of population on the plateau. Here alone were exhibited to the Spaniards remains of ancient mountain fastnesses constructed by vanished races, defended by ditches and cyclopean walls; and to these retreats the Tlaxcaltecs themselves sent their women and children on the approach of the troops of Cortes. Among many such sites an immense ruined fortress near the hermitage of San Miguel, to the westward of Tlaxcallan, was pointed out as the chief seat of the Ulmecs. The gradual growth of Tlaxcallan was evinced by its geographical distribution. Beneath the rocky heights of Tepeticpac, on a pine-clad slope, had been founded, in historical times, the second pueblo, or quarter, of Ocotelolco¹; this had been successively followed by Quiahuiztlan² and Tizatlan³, both in the valley of the shallow river Atoyac, a tributary of the Rio de Mescala, which discharges into the Pacific. Each of these quarters, besides the separate pueblo of Topoyanco, a few miles distant, had its own tecpan and war-chief; the territory, 40 miles in its greatest length, and somewhat less in average breadth⁴, contained 28 minor pueblos, in a state of compulsory alliance rather than normal servitude⁵, and mustered altogether at the Conquest 50,000 warriors. The inhabitants of this district, as the read-

¹ 'On the hill of pines.' (Ocotl = pine; tlatelli = hill.)

² 'Place of rain.' So called, according to Gomara, because it was liable to be flooded (por ser aguazal).

³ 'Place of white earth (tizatl).'

⁴ Torquemada states the length as 15 leagues, the breadth as 10 leagues.

⁵ Tlaxcallan appears not to have been a dominant pueblo in the extreme sense of a pueblo exacting tribute by military force from others outside its natural area of influence, although other languages (Otomi and Pinome) were spoken in a few pueblos on the N.E. border of the area. The 'Tlaxcaltec' pueblos in the Maya districts of Huaxtlan, Yucatan, and Central America were probably Aculhuan colonies independent of Tlaxcallan, and their association was rather with the district of Tlaxcallan than with its principal pueblo. See p. 261 for a reference to the 'Tlaxcaltecs' of Isalco (in the present Republic of San Salvador).

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knows, were completely isolated from the rest of the Mexican tribes¹. The territory subject to Mexico and Tezucuo completely enclosed them, and all commerce with them was interdicted. The coarse salt of the Mexican lake was withheld from them; unable to procure cotton, they were fain to clothe themselves in garments of aloe fibre; cacao, esteemed throughout Anahuac as a luxury surpassing all others, was unknown to them; tribute was paid by the peasantry to the chiefs in maize only. To these privations was added what might well be thought the positive disadvantage of being surrounded on every side by enemies whose thirst for blood no victory could assuage, and whose hostility no concession could buy off. Yet it is by no means certain that the Tlaxcaltecs would willingly have exchanged this condition of things for one of perpetual peace. The War of Flowers was not always hanging over them as a scourge which might strike without notice at any moment. It was periodical, and they were prepared for it; it brought to their frontier a regular supply, which courage and hard fighting might fairly expect to secure, of animal food in the most coveted and satisfying form; it was a religious duty, for their god Camaxtlê required it of them, as did Huitzilopochtli and the Sun of the Mexicans, and Tezcatlipoca of the Tezucans. Gomara describes them as warriors of unparalleled valour; one was presented to Cortes who was reputed to have captured and sacrificed with his own hands a hundred prisoners².

¹ See vol. i. p. 579. The isolation of the district produced many variations of dialect, which were collected by the old grammarians in manuscripts, some of which are still extant (Camargo, 'Hist. de Tlascala,' ed. Chavero, p. 55). According to Gomara three languages were spoken in the district of Tlaxcallan: Mexican, Otomi, and a third spoken by the 'Pinomes.' Otomi is still spoken about Iztacamaxtitlan: the Pinomes were probably Totonacs.

² The Tlaxcaltecs excelled as archers. Two ancient arrows, used by the founders of the pueblo, were kept in the teopan of Camaxtlê; one of these was shot at the first enemy seen, and the successful or unsuccessful issue of the fight was divined by the result.

Antiquaries have variously contended for the identity of Camaxtlê with Mixcohuatl, Quetzalcohuatl, or Tezcatlipoca. It is enough for us that he was the principal deity of the Tlaxcaltecs. The name denotes him as a wearer of a richly decorated skirt; this vestment was not sufficiently ornate for use in the greater festivals, and his votaries then borrowed for his use the robes of the Cholulan Quetzalcohuatl¹. The Tlaxcaltecs carried him with them in their peregrination from the north-west, and an antique mask which he always wore was reputed to date from the time when they sojourned on the plain of Poyauhtlan, near Tezcuco. Like Huitzilopochtli in Mexico, Camaxtlê was attended by a minor god as a page. Tlaxcallan undoubtedly thrived under his protection, and occupied both before and after the Conquest a position without a parallel in American history. Its local isolation, the hostility of the dominant Lake pueblos, and the situation of the parties relatively to the line of invasion, made the Tlaxcaltecs the natural allies of Cortes, and they rendered him invaluable service. When the Conquest was complete, and the kingdom of New Spain organised, their timely aid was rewarded by the grant of a limited local independence. This grant remained unaffected by subsequent revolutions; and the ancient district of Tlaxcallan is still a separate territorio which has never been included in the surrounding state of Puebla. Tlaxcallan shares with Tezcuco the distinction of possessing a history compiled by an author of semi-aboriginal descent. Muñoz-Camargo's work cannot be reckoned a favourable specimen of native learning; and while Torquemada made some use of its contents, the most valuable parts of this indefatigable antiquary's account of Tlaxcallan are derived from other sources, including popular ballads which the native historian either knew not or deemed unworthy of recognition².

¹ Gomara, 'Conquista de Mexico,' c. 246.

² Camargo was born in the early years of the Conquest. His 'Historia de Tlascala' was paraphrased in French by Ternaux-

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Aboriginal
America.

Isolation of
Tlaxcallan.

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 Aboriginal
 America.
 Migrations
 of the
 Teochichimecs.

Tradition carried back the history of this people to a remote period. Their isolation fostered a sense of nationality, and their story was extensively embodied in popular poems; these, if some extant fragments are genuine, exhibited a rhythm analogous to the songs of the Peruvian peoples. Like most Mexican tribes, they described themselves as Chichimecs, adding, however, to this name a prefix indicating that they were 'Chichimecs of the Sun' (Teochichimecá). They had advanced, like the other Aculhuaque, from Chicomoztoc and Xalisco by way of the Tollan district and the Lakes¹; that is, in a general direction from west to east. Like the giants mentioned in the myth above cited, the Teochichimecs proposed to discover and occupy Teotlixco-Anahuac, or 'the Land by the Water where the Sun rises'; hence their peculiar tribal name, for the Sun was in Mexico regarded as 'in teotl,' or 'the god,' by excellence². They halted, and remained during several years near Tezcuco, already a flourishing pueblo; tradition assigned them a tract forming part of the plain of Poyauhtlan³, though, according to other accounts, the pueblo of Cohuatlichan represented their original settlement. Multiplying rapidly, they became an offence to their neighbours; the united pueblos of Culhuacan, Azcapozalco, and Tenayucan at length attacked them, with the object of compelling them to move onward. In the battle which ensued, according to the popular ballads of Tlaxcallan, the streams falling into the Lake of Tezcuco, from Cohuatlichan to Chimalhuacan, ran with pure blood,

Compans, and the original text has since been twice reprinted. Chavero's edition (1892) is chiefly valuable for this learned antiquary's notes. The work itself is only remarkable for its dullness, and evinces little special knowledge of the subject on the part of the writer.

¹ Chavero supposes the Teochichimecs to have left Chicomoztoc about the ninth century of the Christian era. It is scarcely necessary to say that such calculations are wholly misplaced.

² See vol. i. p. 576.

³ According to Chavero they arrived in Poyauhtlan A. D. 1208, and were expelled A. D. 1350.

and the shore itself was covered with corpses. This part of the lake has, or once had, a peculiar ruddy hue, caused by the red larvæ called *Izcacuitli*, here found abundantly in the shallow waters; this discoloration, it was said, was produced by the blood of those who perished in the struggle. It scarcely needs be said that the Teochichimecs, according to their own account, gained the victory; they nevertheless deemed it prudent to follow the advice of their god *Camaxtlé*, by abandoning *Poyauhtlan*, and seeking new lands elsewhere. The response of the god, when duly consulted, was preserved in a *Tlaxcaltec ballad*¹:

Yonder will the sun rise, yonder will dawn be;
Pass ye yet further, your place is not here.

The wanderers passed onward. The *Tezcucans*, who took no part in this attack on a people whom they treated as friends and kindred, furnished them with guides; and the *Teochichimecs*, leaving the Mexican valley, crossed the *Sierra of Tlalocan*, in further quest of the imaginary land of *Teotlixco-Anahuac*.

On quitting *Poyauhtlan* the *Teochichimecs* divided into two bodies; that which comprised the future settlers of *Tlaxcallan* marched northward, halting at *Tollantzinco*, where *Macuilacatl* was still head of the pueblo. Hence a part of the emigrants entered the slope of the *tierra caliente*, and founded *Papantla*, *Achachalintlan*, *Nauhtlan*, and the pueblos generally of *Meztitlan* and *Tuzapan*. The rest turned southward and eastward, occupying the district about the great volcano *Popocatepetl*. Some settled in the direction of *Perote*, or wandered towards the sea at *Vera Cruz*. Others remained within sight of *Popocatepetl*; one body of these entered the territory of *Tlaxcallan*, overcame the resistance of the scattered population, slew the *Ulmec*

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Settlement
of *Tlax-
callan.*

¹ *Torquemada*, vol. i. p. 260:

ONCAN TONAZ, ONCAN TLAHUIZ,
OCAN YAZQUE, AYAMO NICAN.

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chief Colopechtli, and established themselves in his fortress of Tepeticpac. Thus was the Tlaxcallan of history founded. The Ulmecs retreated northward, and occupied the comparatively barren district about Zacatlan: and the Zacatecs were regarded in Tlaxcallan as descendants from the exiled Ulmecs. From the vantage-ground thus gained, the Tlaxcaltecs quickly spread southwards, and founded Xalpan and Xicochimalco. The people of Huexotzinco and the adjacent district, dreading the extension of the dominion thus established, united to attack the new-comers, captured Tepeticpac, and drove the invaders to take refuge in the strong places of the mountains. Assistance was sought by both parties from the pueblos of the Mexican valley. While the Tlaxcaltecs had recourse to Tezcuco, the Huexotzincans invoked the support of Azcapozalco; and the warriors of the latter pueblo proceeded to the seat of war, rather for the purpose of observation than of taking an active part in the contest. In a battle which ensued, the Tlaxcaltecs were completely victorious: Camaxtlê enveloped the enemy in a thick mist, from which they vainly strove to escape: the very women and children of Tlaxcallan joined in the easy labour of despoiling the Huexotzincans: and the Tecpanec warriors returned to Azcapozalco, deeply impressed with the prowess of the Tlaxcaltecs and the power of their tutelary deity. The battle was ever afterwards regarded as the foundation of Tlaxcaltecan independence: in a later age it was celebrated in the Nahuatlolli by the Tlaxcaltec warrior and poet Tequanitzin, whose ballads describing this battle and that of the Lake of Tezcuco won applause from the Spanish antiquaries¹. Tepeticpac was now strongly fortified; and

¹ Torquemada, vol. i. p. 268. The real age of these compositions is doubtful. The Tlaxcaltecs, after the Conquest, were intensely proud of the limited independence granted to them by Spain; and the fact that the alleged compositions of Tequanitzin are in verse forcibly suggests that the writer of them was more or less influenced by European models. Torquemada praises Tequanitzin for the precision of his compositions (he was 'muy puntual en sus palabras').

the pueblo of Ocotelolco was shortly afterwards established on its outskirts. These incidents were understood to have taken place towards the end of the fourteenth century¹.

The flourishing period of Tlaxcallan now began. The district was soon fully occupied, and emigrants from the pueblos thus founded gradually spread over the entire Mexican district, and carried the Acullhuan advancement to Yucatan, Guatemala, and the coasts of Central America. Everywhere they were peacefully received, and we hear of alliances made with the Tlaxcaltecs themselves by almost all the peoples of the surrounding country. Tlaxcallan seems always to have had a population tending to increase beyond the means of subsistence: to this fact, probably, and to a perpetual overflow of emigrants into the adjacent districts, the hostility of the Lake pueblos, and the settled policy of excluding the Tlaxcaltecs from other territories, is ultimately attributable. On the other hand, the prosperity of the central settlement attracted immigrants from other quarters: and the pueblo of Ocotelolco, according to the native annalists, quickly surpassed the original settlement of Tepeticpac. It was augmented by a colony of Chololtecs, who founded a new quarter called Tecuitlixco, and whose leader overthrew the aged chief of Ocotelolco, and became master of the whole pueblo. Henceforth Ocotelolco became the most important among the four contiguous pueblos of Tlaxcallan; and it so remained at the coming of the Spaniards. The people of Quiahuiztlan claimed to be descended from a separate body of immigrants who had come under their own chief from Poyauhtlan when the Teochichimecs quitted that district. Tizatlan, the fourth pueblo, had originally been founded by settlers from Tepeticpac and

¹ Señ. Chavero, in his edition of Camargo (p. 57), places the fortification of Tepeticpac in A. D. 1384. Torquemada, however, assigns the flourishing period of Tlaxcallan a duration of 300 years. Torquemada's legend of the chief Culhuatcuhtli dividing his dominion with his brother Teyohualminqui, and of the latter then founding Ocotelolco, is obviously mythical.

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America.

Growth of
Tlaxcallan.

Book II. *Aboriginal America.* Ocotelolco, under the name of Teotlalpan: this had been changed in consequence of a revolution which displaced the original chiefs and substituted another family in their place. Xicotencatl, chief of Tizatlan, who figures so prominently in the narrative of the Conquest, was treated by the Spaniards as the principal chief of the Tlaxcaltecs, partly because complimentary precedence was allowed him as the eldest among the chiefs of the four contiguous pueblos, partly because the Spaniards entered Tlaxcallan through the territory belonging to Tizatlan. The largest and most powerful among the four pueblos was Ocotelolco; here the principal market was held, and this quarter is represented by the present town of Tlascala. The great teopan of Camaxtlè was situated in this quarter, and at the feast of the Teoxihuitl, celebrated every four years¹, 405 captives were here sacrificed, 100 being at the same time sacrificed in each of the other quarters. Gomara estimates that on this occasion, which was Camaxtlè's principal festival, from 900 to 1,000 human beings were killed and eaten in the entire district of Tlaxcallan².

Huexot-
zincó,
Tepeyacac,
and Teo-
huacan.

Of Huexotzinco, once the enemy, always the rival, and at the Conquest the ally of Tlaxcallan against the Lake pueblos, little remains on record³. At the Conquest it was reputed to comprise in its territory over 35,000 households. The Spaniards abandoned the elevated site of the old Aculhuan pueblo for one situated a league distant, on the lower level of the plain; and in this situation it lost its old prosperity. The barrier of hostility, more than a century old, which separated them from Mexico being once removed, the peasantry of Huexotzinco, like those of Tlaxcallan, flocked into the prosperous towns of the Mexican valley; and the foundation of the new city of Puebla completed its depopu-

¹ See pp. 323 and 364.

² Op. cit. cap. 245.

³ 'Place of willows' (huexotl) with diminutive particle; the simple form Huexotla was a common place-name in Anahuac; Huexotzinco was probably so called with reference to Huexotla near Tezcuco.

lation. The pueblo of Tepeyacac¹, also of Acalhuan foundation, was at the Conquest not much less populous than Huexotzinco, with which it was closely connected: when Cortes had reduced Cholula to submission, Huexotzinco and Tepeyacac submitted as a natural consequence. The last settlement of the Aculhuaquê on the plateau was Teohuacan², near the northern border of Mixtecapan: here the plateau terminates, and the traveller must either turn eastward, descending the mountains in the direction of Vera Cruz, or southward in the direction of Mitla³. Teohuacan was reputed as one of the earliest seats of the Aculhuaquê: and from the minute account given by Gomara of the rites by which the lapse of time was recorded⁴, it would seem that the primitive year of the Nahuatlacâ, a period of 360 days⁵, here remained still in use. The teopan of Quetzalcohuatl, from which the pueblo took its name, was widely celebrated throughout Anahuac; and Montezuma is said to have regarded the officials employed in recording time with special veneration. Both Tepeyacac and Teohuacan were doubtless included in the area of Mexican sovereignty, although the latter does not appear in the tribute roll of the Mendoza codex.

¹ 'On the nose of the mountain'; yacatl = nose; -c or -co, locative particle. There was another Tepeyacac on the north shore of the Mexican lake (see vol. i. p. 525).

² 'Place of those who have the god' (Quetzalcohuatl); the officials were popularly called 'teohuaquê.' Now called Tehuacan.

³ In both these directions Nahuatlacan colonies seem to have been founded in early times. See post, p. 520.

⁴ Gomara, op. cit. cap. 247. Four officials, whose service lasted four years, kept a perpetual vigil, two being always on duty while the other two slept. They lived on tortillas, and a beverage of maize, flour, and honey, only tasting animal food on the first day of each Cempohualli. Each passed through an aperture made in his ear three stout pieces of reed every day. These were carefully preserved as official evidence of the lapse of time, and at the end of four years the 17,280 reeds were solemnly burnt.

⁵ See pp. 359-363.

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*Aboriginal
 America.*
 The Valley
 of Mexico.

While the language and arts of the Nahuatlacá were thus carried by various emigrating swarms into all parts of the Mexican plateau, to the littoral tracts on the Atlantic and Pacific, and thence to the coasts and interior of Central America, the scene of the facts and events which have secured them a permanent place in history was the narrow Valley of Mexico; a broken oval, about sixty miles long by thirty miles broad, distinguished rather than separated from the rest of the plateau by an irregular girdle of porphyritic mountains. These are crossed by easy passes in several directions; and within their circuit the necessaries of life—food, water, and fuel—have from remote times existed in abundance. At first, probably, the crater of an immense volcano, the Valley next became the bed of a deep lake, broken by rocky islands and peninsulas, and filled by many streams issuing from the pine clad slopes which surrounded it. Under a tropical sun, and at a height of nearly 7,500 feet above the sea, evaporation proceeds with abnormal rapidity; and the loss thus occasioned was inadequately balanced by the sources from which the lake was supplied. Slowly receding from the sides of the Valley, the waters at length sufficed to fill only the deeper hollows in its volcanic floor. What had once been islands became peninsulas; what had been bays in the shore became marshes, through which the scanty mountain streams found meandering channels; finally considerable tracts of alluvial soil were left bare and available for cultivation. These necessarily remained liable to inundation during the rainy season. To this circumstance, possibly, is due the invention of the chinampa or floating garden, by which the soil was purified from the nitrous elements which abounded in it, and continuously irrigated from below, while the seed-plot rose and fell with the waters of the lake, and the crop was secure from injury by flood in the early stage of its growth¹. As the waters

¹ See vol. i. pp. 377, 378. The word is properly written 'chinampan' (chinamitl = enclosure, -pan, locative particle).

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receded still further, this danger diminished ; and the floating gardens of Mexico and other pueblos founded in the marshes left by the receding waters of the lake have long been things of the past¹.

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America.

At the Conquest the number of pueblos, great and small, in the Valley was roundly estimated at fifty², and the receding waters, judging from the situation of pueblos known to have then stood on their margin, still covered about half the floor of the Valley. They formed four lakes, the various levels of which roughly indicated various stages in the process of subsidence. Northernmost, and highest in level, stood the small isolated lake of Tzompanco, then probably less than twenty feet higher than the lake of Tezcuco, and separated by a few miles of low land from the lake of Xaltocan, the level of which was considerably below that of Tzompanco, and somewhat higher than that of Tezcuco. Only a narrow neck of land, when the waters were high, separated the lake of Xaltocan from that of Tezcuco, then a body of water more than three times its present area. On the margin of the last-named lake, and on the banks of the streams which poured into it, stood most of the Valley pueblos ; that of Mexico was built on an island in the bay which then formed its south-western corner. Its southern boundary was the rocky peninsula of Iztapalapan, separating its waters from those of the southernmost lake of the series, which stood a few feet higher in level. On an island in the midst of this southernmost lake stood the pueblo of Cuitlahuac, connected by short causeways with the shores to the north and south. The lake was thus divided into two portions ; that to the westward took its name from the pueblo of Xochimilco,

Lakes and
Pueblos of
the Valley.

¹ The construction of the canal of Huehuetoca, finished in 1789, practically coincides with the extinction of the chinampa. By this work the surplus waters of the lakes of Tzompanco, Xaltocan, and San Christoval, which formerly overflowed into the lake of Tezcuco, were carried through the mountains enclosing the Valley on the north into the Tula river.

² Gomara, op. cit. cap. 78.

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 America.

in the south-western angle, that to the eastward from the pueblo of Chalco, at its eastern extremity. A narrow strait, at the western end of the peninsula, afforded communication between the lake of Xochimilco and that of Tezcuco. When the waters were at their lowest, the strait became a marsh; not long before the Conquest it had been bridged by a causeway, pierced with sluices through which the waters of the lake of Xochimilco, having regained their normal level, poured into the lake of Tezcuco. Before the construction of this work—certainly not older than the fifteenth century—the lakes of Tezcuco, Xochimilco, and Chalco must have presented the appearance of a single sheet of water; and at the Conquest the lake of Tezcuco, when flooded by the overflow of those above it, poured its waters through the sluices of the embankment into that of Xochimilco¹.

The Valley
 before the
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 pation.

These conditions being given, and the diminution of the lakes being conceived as a slow but continuous process, the distribution of land and water in the Valley when the Nahuatlacâ first entered it is easily restored. The lakes of Xaltocan, Tezcuco, Xochimilco and Chalco then formed a single body of water. Those of Chalco and Xochimilco, which occupy a narrow basin enclosed by high ground, only slightly exceeded their present dimensions, but were probably somewhat above their present maximum level. The shores of the lake of Tezcuco presented in each respect greater discrepancies from their present aspect. At the Conquest, when it covered about thrice its present area, it had the pueblos of Coyohuacan, Mixcohuac, Tlacopan, and Azcapozalco—all many miles distant from its present shores—on its western margin, and Chimalhuacan, Cohuatlichan, Tezcuco, Atenco, and Chiauhatlan, also now far removed from

¹ Cortes, who noticed this phenomenon (Letter II), attributed it to tidal action, to which he supposed the salt lake of Tezcuco to be subject, like the sea. He says nothing of the embankment. This, however, must have existed in his time, and is minutely described by Gomara.

the lake, but less distant than the western pueblos, on its eastern margin; on the north it was divided only by a narrow neck of land from the lake of Xaltocan. At a period not greatly remote from the Conquest the last-named lake must have formed part of the lake of Tezcuco; and the waters of the united lakes extended in every direction beyond the boundaries above traced, until they touched the lower spurs of the enclosing mountains. Such, it may be concluded, was the aspect of the Valley when it was inhabited by the savage tribes who preceded the Nahuatlacâ, and who were described in the traditions of this race as dwelling in caves of the mountains. Game was found in the greatest abundance on the pine-clad hills; besides fish and many species of aquatic birds, the waters of the lake yielded, especially when their periodical retreat left broad margins of marshy land exposed, some peculiar foods, still resorted to by the poorer Indians on the lake of Chalco¹. While a district thus qualified as a food-area presented few attractions to a people considerably advanced in the arts of life, it was well suited to a savage population. Hence, probably, its neglect by the founders of Tollantzinco and Tollan, to whom it could scarcely have been unknown: and it accords with this that its earliest pueblos were unanimously attributed to the Otomi, who were aboriginal relatively to the Nahuatlacâ.

The gradual retreat of the lake waters, besides exposing an ever increasing margin of marshy soil, had another effect of an unique kind. As the lake of Tezcuco decreased in depth and area, and finally became severed from those of Xaltocan and Xochimilco, its waters acquired a peculiar character. They are, and long have been, so saturated with

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Pueblos on
the lake of
Tezcuco.

¹ The pith and roots of the lake-reed, the marsh-flies (axayacatl) and their eggs and larvae, frogs, crayfish, and the water-lizard called axolotl (see Ober, Travels in Mexico, p. 339; Tylor, Anahuac, p. 156). The waters of the united lakes doubtless contained fish, which still abound in the lakes of Xochimilco and Chalco, though none are now found in the lake of Tezcuco.

BOOK II. compounds of soda as to be unfit for human drink, nor is any species of fish found in them. As they retire, in the dry season, from the shore, they leave its surface incrustated with a white deposit called *Tequixquitl*; this substance chiefly consists of carbonate of soda, but contains a small proportion of common salt, and was largely used by the aborigines as a condiment to their food, and for preserving the flesh of game. At the Conquest the large pueblos of *Mexicaltzinco*, *Huitzilopochco*, and *Mixcohuac* were employed in producing it by artificial evaporation from the water of the lake, and the chiefs of Mexico derived from this source a large revenue. As the waters of the lake receded the facility of procuring it probably concurred with the gradual exposure of more and more alluvial soil available for cultivation to attract population to the lake margin: and the saline deposit became at length an article of commerce, being exchanged by the tribes settled on the lake for the cotton and other produce of the warm districts to the southward. Such was the basis on which the predominant importance of the Valley pueblos appears to have been substantially founded. Increasing in number and population, they became the centres of a miscellaneous trade which extended on all sides far into the surrounding country. In the Valley itself the lake facilitated intercourse, and many thousands of large canoes navigated its waters. The progress thus initiated was by no means a peaceful one. The feuds which naturally arise in barbarous communities were heightened as population increased, and appear in this case to have been scarcely mitigated by the practice, which early established itself, of intermarriage between the chieftain classes in adjacent pueblos. The prosecution of these feuds ultimately produced the relation of dominance and servience; and at the end of the fourteenth century the supremacy of the Valley and the adjacent districts was divided between *Azcapozalco* on the western, and *Tezcuco* on the eastern shore of the lake. A prolonged rivalry between these two

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pueblos was terminated, about a century before the Conquest, by the defeat of Azcapozalco in a desperate struggle with its servient pueblos on the island of Mexico: these pueblos allied themselves with Tezcuco and Tlacopan, and established a dominion which included the entire valley, and in course of time was extended from the Pacific to the Mexican Gulf, embracing all the most productive tracts in Anahuac except the territories of Tlaxcallan, Cholula, and Huexotzinco, which were completely enclosed as a single area within it.

Mexican tradition uniformly indicated the Otomi as having preceded the Nahuatlacá in the occupation of the Valley; and this view is confirmed by all facts within our knowledge. The Otomi language is still spoken in the north-west part of the Valley; and the south-eastern boundary of the Otomi-speaking district, which extends northward almost to San Luis Potosi, touches the environs of Mexico itself. Xaltocan in the north, and Xochimilco in the south, were regarded as of Otomi foundation; Mixcohuac retains the name of the Otomi deity Mixcohuatl; and the presence of Otomi rites in the midst of the religious observances of Mexico seems to indicate in the case of this pueblo an Otomi element diffused throughout the population. Tezcuco was notoriously of Otomi origin, although its inhabitants had at the Conquest long adopted the arts and habits of life of the Nahuatlacá. The exact time when the Nahuatlacá had been generally adopted in the pueblo was fixed by Tezcucan tradition; but the Otomi was still commonly spoken, and the poems attributed to the Tlatohuani Nezahualcoyotl are written in this language. The Sun-worship favoured by this chief, and practised so assiduously by the warriors of Mexico, appears to represent the primitive Otomi religion¹. The large pueblos in the north of the territory of Tezcuco had each an Otomi quarter, and were thus bilingual communities²; in Otumpan the Otomi population so far

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Otomi
pueblos in
the Valley.

¹ See vol. i. pp. 544, 560, 578.

² Torquemada, vol. i. p. 261.

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predominated as to give name to the pueblo itself¹. That Teotihuacan, situated in the Valley between Otumpan and the lake of Tezcuco, was an Otomi pueblo is indicated by its two great pyramids, dedicated to the worship of the Sun and Moon; and the Moon was worshipped as the principal deity in Xaltocan. It is scarcely doubtful that the Otomi once possessed the entire Valley, and that those who dwelt near the lakes were absorbed rather than exterminated by the Nahuatlacan immigration. Sahagun describes those who inhabited the highland tracts as imitators of the Nahuatlacâ, and as differing little from them in their habits of life². Dwelling in thatched huts, they practised a rude agriculture, consuming their maize before it had ripened, and then recurring for subsistence to prickly pears, roots, and grasses. They were familiar with the useful properties of the aloe, from which the men extracted pulque, while the women wove the fibre into coarse clothing.

First triad
 of pueblos
 —Xalto-
 can, Tenayucan, and
 Culhuacan.

Two among the pueblos mentioned in a document above quoted as the principal settlements of the earliest historical period³—Xaltocan and Tenayucan—were of Otomi origin; Culhuacan, the third, reputed to be the earliest settlement of the Nahuatlacâ in the Valley, was said to have been founded by Toltec exiles. The association of these three places evidently belongs to the period when all the lakes, except that of Tzompanco, formed a single body of water, and the canoes of Xaltocan, situated at its northern extremity, maintained an easy communication with the entire circuit of its shores⁴. The chiefs of this pueblo have been sometimes credited with the establishment of a dominion comprising most of the Valley; a dominion said to have been gradually curtailed by the establishment of Nahuat-

¹ Otomi + pan = place of the Otomi.

² Lib. III. sec. 4.

³ Ante, p. 457.

⁴ Xaltocan = place of burrowing in the sand. The pictograph of the pueblo represents a rabbit on a sand-hill.

lacan settlements, and finally absorbed in the territory of Tezcuco, to which pueblo Xaltocan was tributary at the Conquest. That the Xaltocanecs were once a powerful tribe, and navigated the lake to its south-western extremity, appears from the traditions of the Aztecs, whom they continually harassed while sojourning at Chapultepec¹; but it is improbable that either Xaltocan or Tenayucan ever exercised a permanent and regularly organised domination. Tenayucan, now an unimportant village, on the western margin of the Sierra de Guadalupe, was the original seat of the Otomi founders of Tezcuco, and commanded the north-western angle of the original lake, as Xaltocan commanded the northern, and Culhuacan the south-western². In a later age, when Tezcuco ranked as the second dominant pueblo of the Valley, its chiefs alleged that their ancestors had exercised an extensive dominion from Tenayucan—a dominion which preceded that of the Tecpanecs of Azcapozalco, who were said to have been once its subjects³. Everything indicates that, on the contrary, the Otomi settlers of Tenayucan crossed the lake and established themselves at Tezcuco, to escape from the rapidly expanding domination of the Tecpanec pueblos; and it is with the foundation of this domination that the history of the Valley substantially commences. The exact site of Culhuacan, the third pueblo of the first historical triad, is no longer known. If we are right in supposing it to have been on the margin of the original lake, and to have had communication by water with Xaltocan and Tenayucan, it must have occupied a more elevated site than the pueblos which lined the margin of the lake of Tezcuco at the Conquest; possibly it stood on the shore of what is now the

¹ Torquemada, vol. i. p. 83.

² Tenayucan = place enclosed by a wall (tenamitl).

³ Xaltocan and Coahuatlichan are also alleged to have been once subject to it. Ixtlilxochitl (Hist. of Chichimecs, vol. i. p. 35) makes out that Culhuacan also was from the first tributary to Tenayucan.

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lake of Xochimilco, near the great lava field which forms so conspicuous an object in the south-western angle of the Valley¹. By the subsidence of the lake waters, which left Xaltocan an isolated pueblo in its own small lake, Culhuacan, like Tenayucan, was left farther and farther inland; like Tenayucan, though not wholly abandoned, it became depopulated, in the following period, by the migration of most of its inhabitants to Tezcuco.

The
 Teapanec
 pueblos.

Before Culhuacan had been thus practically abandoned, several other Nahuatlacan settlements, collectively known as the Teapanec Pueblos, had arisen on the lower margin of the lake, in its immediate neighbourhood. The principal ones were five in number—Azcapozalco, Tlacopan², Coyohuacan, Atlaquihuayan³, and Huitzilopocheo⁴: Mixcohuac, an ancient Otomi settlement, and Mexicaltzinco, an offshoot of Huitzilopocheo, were apparently of secondary importance. A tradition mentioned by Gomara attributed the Teapanec pueblos to a separate Nahuatlacan migration, long subsequent to the foundation of Culhuacan⁵. The increasing margin of the lake, and the value set upon the saline deposit left by its receding waters, doubtless caused the Valley to be more and more resorted to by Nahuatlacan immigrants; and the settlement of the Teapanec pueblos is rather to be referred to this cause, than regarded as a mere expansion of the Toltec colony at Culhuacan. In this group, apparently, the institutions of the Nahuatlaca assumed the typical character exhibited at the Conquest in the great dominant pueblos of Tezcuco and Mexico, both of which were founded by immigrants of alien stocks, and had been held by the Teapanecs in a state of subjection.

¹ Clavigero's map assigns this position to Culhuacan. The name was transferred, in comparatively recent times, to a pueblo of later origin, on the opposite side of the strait connecting the lakes of Tezcuco and Xochimilco (the present Colhuacan, probably the Colhuatzinco of the Mendoza Codex).

² Now Tacuba.

³ Now Tacubaya.

⁴ Now Churubosco.

⁵ Ante, p. 458.

The term 'Tecpanec,' though sometimes misunderstood as a specific ethnical name, merely indicates that each pueblo had its own Tecpan, or Chiefs' House; the form 'Atepanec,' which occasionally occurs, is probably the true one, and indicates the ruling class of these settlements as dwellers in the 'Chiefs'-Houses-by-the-Water'.¹ The principal among the Tecpanec pueblos was Azcapozalco; now an inland village a few miles north-west of Mexico, where a low mound, from which it was perhaps named, is the sole memorial of its ancient celebrity.² Its local records, in Torquemada's time, carried back its history no less than 1561 years.³ In this reckoning, which would fix its foundation somewhat later than the Christian era, the Spanish antiquary professes little confidence. Its site must have been covered, at a much later date than this, by the waters of the lake; and the succession of its recorded chiefs, the fourteenth of whom was in power at the Spanish invasion, seems to limit its history to some part of the twelfth century. Its prominence among the Tecpanec pueblos is evidently due to its geographical position; being the northernmost among them, it naturally became the bulwark of the confederacy against Tenayucan, Xaltocan, and the Otomi district to the northward. Coyohuacan,⁴ the second in importance, probably owed that position to its original situation relatively to the Otomi pueblo of Xochimilco, to the southward; hence it was treated as an appanage of Azcapozalco, being always governed by

¹ Atl + tecpan. The form 'Tepanec,' though defended on etymological grounds by Clavigero, is evidently a corruption.

² Azcapozalco = place of an ant-hill, or of ant-hills (azcatl = ant, zalli = tumulus). The name is sometimes understood as an indication of its very numerous population.

³ Monarquia Indiana, vol. i. p. 252.

⁴ 'Place of those who keep coyotes.' These are enumerated by Bernal Diaz (chap. 81) among the wild animals kept in captivity by Montezuma, and were doubtless so kept by the chiefs of Coyohuacan.

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a son of the chief of that pueblo. The names of Huitzilopochco and Mexicaltzinco, both of later foundation than Coyohuacan, indicate them as places specially consecrated by shrines of the Teapanec war-god Huitzilopochtli or Mexitli; these formed new outposts of the Teapanec territory on the lake to the south-east. Tlacopan, immediately southward of Azcapozalco, was probably once the northernmost pueblo in the confederacy, and lost, when the latter pueblo was founded, the predominant position which this situation conferred on it. It accords with this view that when Azcapozalco was attacked by the two pueblos on the island of Mexico, Tlacopan remained neutral; and that it retained, in the confederacy which was subsequently established, the same position which it enjoyed in the confederacy of the five Teapanec pueblos, being entitled to one-fifth share of the tributes rendered by the districts which had been servient to them.

Founda-
 tion of
 Tezcuco.

The pueblos on the eastern margin of the lake, taken as a group, appear to have been of more recent foundation than those on the western. It is true that a tradition reported by Gomara mentions Cohuatlichan as a settlement made by Aculhuaquê of the first migration, and as contemporary with Culhuacan; and Tezcuco itself was said to have been built on the site of a deserted Toltec pueblo called Cohuatlenixco. Nor are the traditions of the Tezucans themselves inconsistent with an early Aculhuan occupation of this shore. The migration which led to the settlement of Tenayucan was said to have been directed by a chief named Xolotl; this word is explained as meaning 'eye,' and the name denoted the circumspection with which the migration was conducted¹. Having crossed the mountains which enclose the Valley on the north, Xolotl despatched two bodies of his followers to explore it. The first, led by his son Nopaltzin, investigated the eastern shore of

¹ The Spanish writers sometimes describe him as 'Xolotl el Grande.' Possibly the true form of the name is Hueyxolotl (Great-eye).

the lake, which was found destitute of inhabitants, although from the hill of Tezcutzineo traces of cultivated fields, long since deserted, were here and there descried. Pursuing their journey southward, the explorers mounted another eminence, whence smoke was observed ascending on the opposite shore; it proceeded, in fact, from the Tecpanec pueblos, between Coyohuacan and Chapultepec. The second exploring party visited the western side of the lake, and reached the site afterwards occupied by the pueblo of Tenayucan. This was deemed the most favourable place for settlement; and here, accordingly, Xolotl founded in or about 1120 the community which was removed, nearly two centuries later, to Tezcuco. The reason of this change is readily divined. The Tecpanec confederacy was extending its area of dominion northwards¹; Azcapozalco, its headquarters, within a short march of Tenayucan, threatened the independence of the latter pueblo. The retreat of the lake waters furnished another reason for the abandonment of Tenayucan. The removal of the settlement to some other site became inevitable; and it was natural to choose one on the opposite shore of the lake, where the Otomi stock remained predominant. The site of Tezcuco had long commended itself to the Chichimecs as a desirable place of settlement: according to some authorities, a colony had been actually established there, shortly after the foundation of Tenayucan. Be this as it may, the Chichimec headquarters were finally removed thither by Quinantzin, the fourth chief in succession from Xolotl, about the close of the thirteenth century.

The new settlement on the eastern shore of the lake appears to have rapidly prospered; and in the course of time it received accessions which greatly enlarged it, and substantially converted it from an Otomi into a Nahuat-

¹ Azcapozalco, according to Torquemada (vol. i. p. 64), enlarged its dominions in this direction by the conquest of Tepozotlan, far to the north of Tenayucan, about 1236.

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Growth of
Tezcuco.

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lacan community. Culhuacan, the original nucleus of the Tecpanec power, from causes which have been above explained, had lost its old importance; and its inhabitants, or a considerable proportion of them, resolved to quit it and establish themselves elsewhere. Some sought the pueblo of Quauhtitlan, in the north-west of the valley. The greater part crossed the lake, and joined the new pueblo of Tezcuco¹; and Nahuatlacâ from other quarters settled there about the same time². Although the Otomi settlers of Tezcuco adopted the Nahuatlacan language³ and habits of life, they proudly cherished the memory of their 'Chichimec' origin, and traced the pedigree of their chiefs to the ancient founders of Tenayucan. Other pueblos which soon sprang into existence on the north-east shore of the lake fell naturally under the influence of Tezcuco; and Techotlalatzin, the son of the chief in whose time the new settlement had been established, and the fifth in descent from the founder of Tenayucan, found himself, towards the end of the fourteenth century, at the head of a confederacy embracing the pueblos of Huexotla, Acolman, Cohuatlichan, Atenco, Ocolco, and many others of minor note, which promised at no distant time to rival that of the Tecpanec settlements on the other shore of the lake⁴. The Tezucan chroniclers, in fact, describe the dominion of the Chichimecs as having comprised, from the first, both

¹ According to Ixtlilxochitl the migration from Culhuacan to Tezcuco took place in 1301. The immigrants founded four new quarters, one of which was Huitznahuac, though another authority (see ante, p. 50) attributes this quarter to Nahuatlacan immigrants from the north.

² The 'Tlailotlaquê' and 'Chimalpanecs' of Ixtlilxochitl (vol. i. p. 81), who claimed to be of Toltec descent, and introduced the worship of Tezcatlipoca, afterwards recognised as the chief deity of Tezcuco.

³ The Nahuatlatoalli, according to Ixtlilxochitl, was first adopted by Techotlalatzin.

⁴ According to Torquemada (vol. i. p. 88), Techotlalatzin was at the head of 26 inferior chiefs.

sides of the Valley, and even extended northwards as far as Tollantzinco¹. This extravagant claim can only be regarded as a perverted view of the wide distribution of the Otomi stock, of which the Tezcucan Chichimecs were the most powerful branch. Yet, after making ample allowance for exaggeration on the part of the Tezcucan chroniclers, we cannot doubt that Tezcuco was early recognised as the natural head, not only of the various settlements planted on the north-eastern margin of the lake, but of the Otomi villages far to the north and north-east of them; and that its growing power and prosperity excited the jealousy of the Tecpanecs, who viewed with natural apprehension the organisation of a large Otomi population by the superior knowledge and discipline of Aculhuan chiefs who had settled in its midst. Already the north-eastern shore had acquired the name of Aculhuacan, or Land of the Aculhuaquê. The day, perhaps, was not far distant when the supremacy of the Tecpanec pueblos, confined to narrow limits in the south-western angle of the lake, would come to an end, and the seat of power be transferred to Tezcuco.

While Tezcuco was thus acquiring a dominant position on the north-eastern shore of the lake, the Tecpanec confederacy on the south-western shore received a memorable accession to its forces. A wandering tribe, of uncertain origin, who had sojourned at various places in the Nahuatlacan country, at length settled on the marshy lands which the retreating waters had left bare in the south-western bay near Tlacopan and Azcapozalco. The Tecpanecs called them Aztecâ, or Crane People; a name probably descriptive of their vagrant life, or their habit of wading in the marshes, though commonly referred to a district in the north called Aztlan, or Crane-land², from which, according to their own account, they had emigrated in the latter half of the twelfth century. No credit whatever can be given to the prolix and contradictory stories current among them,

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The Aztecs.

¹ See ante, p. 484.

² See note 1, p. 418.

BOOK II. *Aboriginal America.* in later times, of the causes and circumstances of their migrations before they reached the Valley of Mexico¹. One place where they halted is said to have been called Huey Culhuacan (Great Culhuacan); this name suggests, what all other known facts confirm, that they closely followed some branch of the Aculhuaquê, and were thus conducted to their final place of settlement. Tzompanco, Ehecatepec, and Tepeyacac are mentioned as places in the Valley where they temporarily rested; they dwelt a while in the neighbourhood of Culhuacan, whose chiefs reduced them to serfdom; thence they removed to Chapultepec, which they quitted to escape molestation by the Xaltocanecs, and took refuge on the islands gradually emerging from the neighbouring marshes, where they partly subsisted by fishing and fowling, partly upon the natural food resources already enumerated². Following the examples of their neighbours in the pueblos on the shore, they constructed chinampas on the muddy surface of the marsh, and built dams of stone and timber to protect their huts from inundation. The Tecpanec chiefs tolerated the settlement on condition of fixed tributes of fish, water-fowl, and vegetable produce: and the industry of the newcomers at length reclaimed a large portion of the marshes which were emerging from the lake, and converted them into the thriving villages of Tenochtitlan³

¹ See the first three chapters of Torquemada's Second Book, the *Cronica Mexicana* of Tezozomoc, and Sahagun, lib. iii. § 12. The legends of the Aztec migration are probably free adaptations from the traditions of the Nahuatlacâ. The war-god Huitzilopochtli, their chief god in historical times, who was said to have directed their journeys, was a Tecpanec deity, adopted by them, according to Chimalpahin, after the fall of Azcapozalco. It may be true that in the course of their wanderings the Aztecs had passed through Mechoacan, and had halted for some time at or in the neighbourhood of Tollan: but our real knowledge of their history begins with their entrance into the Valley. Everything indicates that they were then savages of a low grade.

² See note, p. 499.

³ 'Place of a prickly-pear ('Indian fig') on a rock.' The Aztecs,

and Tlatelolco¹. The Aztecs were skilful boatmen, proved apt pupils of the Tecpanecs in the art of war, and became indispensable auxiliaries in distant expeditions. Their chiefs were admittedly taken from the pueblos on the shore. Acamapichtli, the first sovereign chief of Tenochtitlan, was of the Tecpan of Culhuacan, while Quaquauh-pitzahuac, the first chief of Tlatelolco, was a son of the sovereign chief of Azcapozalco.

Tenochtitlan and Tlatelolco, though founded by an alien and inferior tribe, became about the middle of the fourteenth century substantial accessions to the Tecpanec confederacy; and henceforth the conquests of the Tecpanecs increased in all directions. With the aid of the Aztecs they not only subdued the principal pueblos of the sweet-water lake—Xochimilco, Mizquic, and Cuitlaluac—but crossed the sierra and conquered Quauhnahuac in the south. Meanwhile, the Aculhuaque of the north-eastern shore were threatened by a revolt of the Otomi pueblos, headed by the chief of Xaltocan. The chief of Tezcuco is said, with little probability, to have appealed for help to the Tecpanecs. However this may be, these invaded the Otomi district in the north, and became masters not only of Xaltocan, but of the valley of Quauhtitlan, and the mountainous district to the north-westward. The Tecpanecs now commanded more than half the Valley; and they aspired to the dominion of the whole. The Aculhuan pueblos which had sprung up north and south of Tezcuco

when they landed on the island, are said to have found on it a prickly-pear tree growing on a rock, on which was perched an eagle devouring a snake. The story is obviously a fable. The name possibly alludes to the Teotlalli (see vol. i. p. 516), an artificial mound made of rocks and soil, and planted with trees, which still existed at the Conquest.

¹ 'Place of a hill' (tlatelli). The name is said to have been originally Xaltelolco (place of a sand-hill). The two pueblos, which remained separate communities until 1473, were probably built on separate islands.

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Second
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Pueblos—
flourishing
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The Aztecs,

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were by this time ready to shake off the supremacy of the Chichimecs. The most considerable among them—Acolman, in the north, and Cohuatlichan, in the south—secretly favoured an alliance with the Tecpanecs, under the predominant influence of Azcapozalco; and the death of Techtolalatzin, in 1406, afforded the ambitious chiefs of that pueblo a favourable opportunity for executing their designs. His successor, Ixtlilxochitl, was unpopular or incompetent; and most of the pueblos hitherto in alliance with Tezcuco yielded to the Tecpanec intrigues. Having secured their support or neutrality, the chief of Azcapozalco formally demanded of Tezcuco the usual token of servitude—a tribute of cotton cloths¹. Ixtlilxochitl refused to comply; war ensued, and during three years the Chichimecs not only kept their ground, but almost succeeded in driving the Tecpanecs from their conquests in the north-western parts of the Valley. Meanwhile the Tecpanecs, aided by Tenochtitlan and Tlatelolco, held the lake, ravaged the north-eastern shore in their canoes, and at length attacked Tezcuco itself. Ixtlilxochitl was driven from his pueblo, and fled to the mountains, where he fell by treachery. The Tecpanecs, now masters of the whole Valley, rewarded the services of their Mexican auxiliaries by giving Tezcuco as a fief to Chimalpopoca, the sovereign chief of Tenochtitlan; Huexotla, a smaller pueblo contiguous to Tezcuco, was similarly assigned to the chief of Tlatelolco. The chiefs of Acolman and Cohuatlichan retained their positions, on condition of recognising the supremacy of the Tecpanecs:

¹ Raw cotton (see post, page 524) was delivered to each tributary pueblo for the purpose of being spun and woven into cloth. According to the historian Ixtlilxochitl (Ninth Relation, quoted in Ternaux-Compans' edition of the 'History of the Chichimecs,' vol. i. p. 103), the demand, when first made, was complied with. On a second occasion a larger quantity of raw cotton was sent: this also was spun and woven into cloth, and duly returned. On the third demand the tribute was refused, the Tezcucan chief adding to the message of refusal that he retained the cotton to make cuirasses for his warriors, and asking for more.

and henceforth the three principal pueblos in the Valley were Azcapozalco, Acolman, and Cohuatlichan, forming the second historical triad referred to by the authority before mentioned¹.

BOOK II.
Aboriginal
America.

The supremacy thus gained by Azcapozalco among the Valley pueblos was of short duration. It was maintained, as it had been acquired, only by the aid of Tenochtitlan and Tlatelolco; and the situation of these pueblos clearly foreshadowed a conflict between them and the Teapanec settlements on the mainland. The island of Mexico, on which they stood, occupied the centre of the bay around which the Teapanec pueblos were built. It was gradually extending as the waters of the lake contracted; in the dry season, when the waters were at their lowest, it was possible to cross on foot to the surrounding shore; and the time could be foreseen, though as yet distant, when the strait which encompassed it on three sides would be effaced, the Teapanec pueblos be left far inland, and the command of the lake be transferred to Tenochtitlan and Tlatelolco. These pueblos, from the same cause, were increasing in extent and importance. They were now the strongest military positions, and the principal markets, of the Valley. Their warriors had already claimed and obtained immunity from the personal service at Azcapozalco which had formerly been exacted; and the tribute of food-produce which was still rendered fell as a burden on the industrial class alone. In these circumstances the island pueblos were prepared to shake off the yoke of Azcapozalco on the first opportunity; and an occasion in due time presented itself. The water of the lake, laden with nitrous matter, was unfit for drinking; and a few brackish springs, which furnished the only alternative supply, were insufficient for the needs of the inhabitants. The Mexican chiefs asked permission to bring a supply of pure water, by means of an aqueduct², from the

Fall of
Azcapo-
zalco.

¹ Ante, p. 475.

² According to some authorities a rude aqueduct of clay had already

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 Aboriginal
 America.

abundant springs of Chapultepec, on the main shore. This request, which the Tecpanecs affected to regard as a threat of invasion, was peremptorily rejected. The refusal completed an alienation which had long been increasing; and the Tecpanecs, dreading the issue of the impending struggle, resolved to suppress the tecpans of Tenochtitlan and Tlatelolco, to remove the inhabitants to the mainland, and to reduce the populous island of Mexico to its original condition of a marshy waste. Intercourse with the islanders was forbidden; a measure which established a state of war, though the first hostilities were of a desultory nature. Not until the chief of Tlatelolco had been assassinated, and the chief of Tenochtitlan captured and imprisoned at Azcapozalco, where he hung himself in his wooden cage, did the Mexicans assume the offensive; and the election of the warlike Izcuhuatl as his successor nearly occasioned the defection of the industrial class, who were disposed to evade the impending conflict by migrating in a body to the mainland, and placing themselves under the protection of the chiefs of Azcapozalco¹. Some among the chieftains favoured the same policy: but the bolder counsels of the new sovereign chief prevailed. Bravely supported by thirteen subordinates², whose names the Mexicans revered as the true founders of their extensive dominion, Izcuhuatl led the Mexican warriors to the mainland, routed the Tecpanecs in the field, captured Azcapozalco, and slew its chief, who had concealed himself in the tecpan, fearing to risk his life in fight. This event, which had the effect of

been constructed, which it was now sought to replace by one of stone. The aqueduct in existence at the Conquest was begun by the first Montezuma in 1454, and was built by masons from Tezcuco.

¹ See ante, pp. 36-37.

² Tezozomoc, *Cronica Mexicana*, cap. 9; Duran, *Hist. de las Indias*, vol. i. p. 78. Among the thirteen chiefs traditionally remembered as the 'conquerors of Azcapozalco' were Tlacaeltetzin, to whom some authorities assign the chief share in the movement of independence, and the first Montezuma, who succeeded Izcuhuatl in the chieftaincy.

substituting Tenochtitlan, the more powerful of the two Mexican pueblos, for Azcapozalco as the dominant power in the Valley, took place in or about the year 1428.

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America.

From this date until 1519, when Cortes entered it at the head of the Spaniards, the supremacy of Tenochtitlan among the Valley pueblos remained undisturbed; a fact which at once indicates the revolution above described as the result of deeply-seated causes, and the chiefs who conducted it as no less expert in policy than brave in war. A prominent instance of this is afforded by their mode of dealing with Tlacopan, the pueblo next adjacent to Azcapozalco on the south. The Tlacopanecs, who appear to have rightly divined the issue of the impending struggle, remained neutral during its progress, and on its conclusion entered into an alliance with the conquerors on an independent footing; nor was this alliance broken when the power of the Mexican pueblos had become more than strong enough to destroy, if their chiefs had so determined, the freedom of Tlacopan. A similar policy was pursued in the restoration of the Otomi pueblo of Tezcuco to independence under its native line of chiefs, and to its former dominant position on the north-eastern shore. Nezahualcoyotl, son of the last Otomi chief Ixtlilxochitl, had during the thirteen years of the Azcapozalcan supremacy led a wandering life; and his adventures at this time furnished a favourite theme, in a later generation, for the Tezucan romance-mongers¹. The Mexicans, in 1431, brought him back to Tezcuco, and reinstated that pueblo in the position it had held in the days of Techotlalizin; and the restoration of the Otomi ascendancy on the north-eastern side of the lake was signalised in 1435 by the foundation, or perhaps the rebuilding, of Teotihuacan².

New
alliance of
the lake
pueblos.

¹ The legend of Nezahualcoyotl ('Fasting Coyote'), who continued sovereign chief of Tezcuco until his death in 1472, is fully related by Torquemada, vol. i. pp. 116-174. Its most picturesque episodes are incorporated in Mr. Prescott's 'Conquest of Mexico,' Book I. ch. 6. He was succeeded by his son Nezahualpilli (1472-1515).

² Chimalpahin, ed. Siméon, p. 103.

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where the Pyramids of the Sun and Moon still remain as monuments of the ancient Otomi religion, in the midst of a district from which every trace of the multifarious idolatry of the Nahuatlacâ has long since disappeared. As in the case of Tlacopan, the independent position assigned to Tezcuco was maintained unimpaired until the Spanish Conquest. The tributes formerly received by the Tecpanec pueblos were now divided among the pueblos of the new confederacy. One fifth, being probably the share formerly enjoyed by each of the five principal ones—Azcapozalco, Tlacopan, Atlaauhayan, Huitzilopochco, and Coyohuacan—was allotted to Tlacopan. The residue was divided into three parts, two of which were received by the Mexican tecpans—Tenochtitlan and Tlatelolco—and the remaining one by Tezcuco¹. This arrangement appears afterwards to have been supplemented or superseded by the assignment of a specific territory to each of the three confederate pueblos². Tlacopan received the Otomi district in the north-west of the Valley; Tezcuco, the eastern side of the Valley, from Xaltocan to the borders of Chalco; the rest was considered as the share of the Mexicans, and each member of the confederacy was free to pursue the path of conquest, without limit, from the border of its original dominion. This arrangement was strictly adhered to; nor is any serious contest recorded as to their acquisitions, though Tezcuco and Mexico, each of which was extending its conquests towards the Mexican Gulf, were advancing side by side, and

¹ Torquemada, vol. i. p. 146. It is often erroneously stated that the tributes were divided between the three dominant pueblos in equal shares.

² It would appear from the Mendoza Codex, which contains the tribute roll of Mexico, and from Ixtlilxochitl, who enumerates the pueblos tributary to Tezcuco, that each of the three dominant pueblos received the whole tributes rendered by the servient pueblos in its own district. The partition of the tributes probably relates only to the district subject to the Tecpanecs at the date of the fall of Azcapozalco.

must have come into conflict, but for the maintenance of the mutual understanding established by their original alliance¹.

The defeat of Azcapozalco left the people of Tenochtitlan and Tlatelolco free to pursue the development of their allied settlements on the lines which nature and circumstances indicated. The situation of the island enabled them, by the construction of causeways connecting it with the adjacent shores, to convert the south-western bay of the Tezucan lake, together with the whole shore of the lake of Xochimilco and Chalco, into a single land-locked harbour. The chief obstacle to this project, the resistance of the pueblos occupying the shore to be thus enclosed, was quickly removed. Atlacuihuayan, Huitzilopocheo, and Coyohuacan on the saline lake, Xochimilco, and Cuitlahuac on the sweet-water lake, submitted to Izcohuatl; Chalco, the remotest and most powerful, held out for some years after his death, and was reduced to subjection by his successor Montezuma. Long before this, the design above indicated had been accomplished: Mexico had been connected by causeways in three directions with the shore, and a fourth causeway bridged the former strait between the lake of Tezcuco and that of Xochimilco. By the effect of these works the south-west angle of the lake of Tezcuco, and the whole lake of Xochimilco and Chalco, became a fortress of which the Mexican chiefs held the key; and the foundation of Iztapalapan, built by a son of Izcohuatl in 1430 on the north side of the promontory dividing the saline from the sweet-water lake, greatly increased its security. The movement of extension, which followed naturally upon that of consolidation, spread far

¹ Although the Tezucans claimed to have extended their dominion, like the Mexicans, to the shores of the Gulf, it is doubtful whether they ever exercised any substantial domination beyond Tollantzinco. The Mexicans held the Otomi district north of Tzompanco as far as the independent district of Meztitlan (see ante, p. 40). The Tezucan territory was thus limited by that of Mexico on the north, and by that of Tlaxcallan on the east. Eastward of the territory of Tlaxcallan that of Mexico recommenced, and extended to the coast.

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Aboriginal
America.

Growth
of the two
Mexican
pueblos.

Book II. beyond the Valley. Other sons of Izcohuatl founded the
 Aboriginal pueblos of Xilotepec, in the Otomi district near Tollan, and
 America. Apan, near the frontier of Tlaxcallan¹. It can scarcely be
 supposed that these were solitary instances, for the rapid
 enlargement of the Mexican dominion, which took place
 under the successor of Izcohuatl, seems to presume other
 colonies of the same kind as its necessary basis.

The
 Mexican
 dominion
 beyond the
 Valley.

During the 92 years which elapsed between the reconsti-
 tution of the Tecpanec confederacy, with Tenochtitlan at its
 head, and the Spanish Conquest, not only did the alliance of
 Tenochtitlan-Tlatelolco, Tezcuco and Tlacopan remain un-
 broken, but the warriors of the allied pueblos reduced large
 tracts of country outside the Valley to a tributary condition.
 The principal part in the movement of conquest was taken
 by the chiefs and warriors of Tenochtitlan, by whom the
 tributes yielded in the greater part of the conquered area
 were received, although both Tezcuco and Tlacopan, if the
 Tezucan chronicler is to be credited, participated both in
 the wars and in the tributes secured by them. The general
 course of these wars, and the enlargement, through them, of
 the tributary area, can be traced with little difficulty. Under
 Izcohuatl, the emancipator of Tenochtitlan, the Mexicans
 were chiefly employed in establishing their supremacy over
 the lake pueblos, and in securing those parts of the area
 formerly tributary to Azcapozalco, which had not been
 either assigned to Tlacopan, or restored to Tezcuco. This
 residue of the Azcapozalcan dominion was separated into
 two parts by the area now given to Tlacopan. (1) The
 larger division included the shore of the lake from Azcapo-
 zalco northwards, the valley of Quauhtitlan, and the Otomi
 district generally north and west of Xaltocan and Teotihuacan,
 where the territory assigned to Tezcuco commenced. (2) The
 remaining division of the original dominion of Azcapozalco
 consisted of the warm district of Quauhnahuac, whence the
 Tecpanecs had drawn their supplies of cotton. The Mexican

¹ Chimalpahin, ed. Siméon, p. 108.

chroniclers attributed the original conquest of this district to Izcahuatl; but there can be no reasonable doubt that it had become tributary to the Tecpanecs at least a century before his time. Possibly he may have somewhat enlarged the tributary area in both directions. When, however, regard is had to the difficulties attending the complete establishment of the Mexican power in the Valley itself, these enlargements cannot be supposed to have been very extensive or very important; and to the southward of Quauhnahuac the extension of the tributary area is unanimously attributed to Izcahuatl's nephew and successor Motecuhzoma-ihuicamina, commonly called Hueyhuey (Great) Motecuhzoma (Montezuma the First)¹.

Under this enterprising chief, who ruled in Tenochtitlan twenty-eight years (1436-1464), the dominion of Mexico was extended in every direction nearly to the limits which bounded it at the Spanish Conquest. It embraced every district adjacent to the Valley from which articles of use and luxury could be abundantly obtained²; and these appear in general to have been procured by trade before they were exacted as tributes. Such was undoubtedly the case with the cotton of Quauhnahuac, the first among the lowland districts to be subjected by the warriors of the Valley; and the conversion of an area of commerce into an area of conquest was hastened, on the one hand, by the multiplication of the warrior class in the Valley pueblos, on the other by the resistance experienced by traders among peoples who foresaw that commercial intercourse with stronger tribes was the beginning of political subjection. From the district of Quauhnahuac the Mexican

BOOK II.

*Aboriginal
America.*Conquests
of Monte-
zuma I
—Pacific
district.

¹ For the explanation of the name see p. 296, note 1.

² The dominions of Tlaecpan and Tezcucoc, on the N.W. and N.E. of the Valley, and the territories of Tlaxcallan, Cholula, and Huexotzincoc in the S.E., were comparatively poor districts. The Mexican territory included the richer tracts of Quauhnahuac and Toluca, S.W. of the Valley, and enveloped the dominions of the other dominant pueblos in almost every direction.

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*Aboriginal
 America.*

trader, closely followed by the Mexican warrior, advanced further southward. Approaching the Pacific, he entered regions known to the Valley people as Tlahuican and Coahuico; tracts abounding in cacao, honey, turquoises and other precious stones, copal and other gums, cinnabar, and gold. The opening of the Pacific district to trade and conquest in this direction was followed by a similar movement in two places to the eastward. (1) The little river Atoyac, which flows through Tlaxcallan and passes near Cholula, was followed southward from those pueblos to its lower courses in the neighbourhood of Tlapan. (2) The Mexican warriors pushed eastwards, along the eastern section of the great main route of Anahuac, which leads from Tollan through the Valley by way of Cholula and Tepeyacac to Teohuacan, where the plateau narrows to a point, and the traveller must either turn northward to the Mexican Gulf, or southward to the Pacific, through the valley of Oaxaca, one of the most fertile tracts in the New World, and early occupied by Nahuatlacan colonists, though the surrounding country remained in the hands of the Mixtec and Zapotec aborigines. From these, as well as from the Nahuatlacan settlers, the Mexicans procured large quantities of gold dust, turquoises, crystals, amber, caoutchouc, cochineal, and brilliant feathers. The Pacific districts, thus approached in three different ways from the highlands, extended from Coliman in the west to Tehuantepec in the east, a distance of 800 miles, and constituted by far the most extensive and valuable parts of the Mexican dominion.

Conquests
 on the
 Mexican
 Gulf.

The northern fork of the great highway of Anahuac conducted the Mexican trader, in whose wake the Mexican warrior closely followed, to the Mexican Gulf at Vera Cruz—a route familiar in legend as that pursued by the retreating Quetzalcohuatl, and by the Toltec founders of the pueblos of Yucatan¹. The extant accounts of the

¹ See ante, p. 483.

settlements on the shore of Yucatan itself leave no doubt on the mind that these were in fact Nahuatlacan colonies¹; but the warriors of Mexico do not appear ever to have attempted to annex them to their dominion. Montezuma I reduced to subjection the eastern part of the present State of Vera Cruz, known to the ancient Mexicans as Cuetlachtlan—a name which indicates it as a district chiefly celebrated for the dried skins of wolves and bears hunted in its dense forests. The tributes yielded by Cuetlachtlan included large quantities of cacao; more valued products were its amber, crystals, and gold; most prized of all were the brilliant quetzalli feathers, collected here in enormous numbers, and used by the warriors for plumes and standards. North of Vera Cruz, at Mizantlan and Papantlan, vanilla was obtained, together with amber, jade, and turquoises. Further to the northward the coast pueblos are said to have been tributary to Tezcucó. It may be doubted whether the dominion of Tezcucó ever extended to the sea, despite the assertions of the Tezcucan chroniclers to the contrary; but however this may be, the districts tributary to Mexico, on the Mexican Gulf, were far less extensive, less populous, and less valuable, than those on the Pacific side. Probably they derived much of their importance from the fact that they afforded direct communication with the sea-going Caribs. The Carib vessel encountered by Columbus in 1502 off the coast of Honduras was laden with produce which had undoubtedly been collected from various parts of the Mexican territory, and shipped from this coast for barter in the southern parts of the Carib area of navigation². As produce and manufactured articles of the same kind were sent to the dominant

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America.

¹ Bernal Diaz, cap. 2.

² Las Casas, Hist. de las Indias, tom. iii. p. 109. The vessel, propelled by sails as well as paddles, was manned by twenty-five Caribs. The cargo consisted of cotton cloaks, tunics, and skirts, the peculiar Mexican swords set with sharp stones (see p. 525, post), stone knives, bronze hatchets and bells, pans for smelting bronze, and bags of cacao.

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 Aboriginal
 America.

pueblos in large quantities from the tributary districts, it may be inferred that the tributes were to some extent disposed of by the way of this maritime trade: an inference supported by the fact that Montezuma's first conquests on this coast are ascribed to interruptions experienced by Mexican traders in transporting their merchandise to the sea, and to the necessity of effectually protecting them from being robbed and murdered.

Later
 chiefs of
 Tenoch-
 titlan—
 Suppres-
 sion of
 Tlatelolco.

Between Montezuma I, the founder of the extended dominion of Tenochtitlan, and Montezuma II, the sovereign chief at the Conquest, the Mexican dominion was governed successively by three brothers; Axayacatl (1464-1477), Tizocic (1477-1486), and Ahuizotl (1486-1502). The chroniclers attribute to Axayacatl the conquest of Toluca and the important group of smaller pueblos near to it, in the district beyond the mountains immediately to the southwest of Mexico. Large quantities of raw cotton, amongst other tributes, were yielded by this valuable district. Ocuilan, between Toluca and Quauhnahuac, acquired by the same chief, figures in the tribute rolls as providing annually 6,000 loaves of refined salt, made in long moulds; this product, which was withheld from commerce, and furnished for the consumption of the Mexican chiefs only, must have been a welcome substitute for the coarse tequixquitl of the lake, which had hitherto served the same purpose. Contemporaneous with the acquisition of Toluca and Ocuilan was the domestic revolution which suppressed the tecpan of Tlatelolco, and rendered the chiefs of Tenochtitlan sole masters of the Mexican dominion. The chroniclers attributed this event to a widely spread conspiracy entered into between the chiefs of Tlatelolco and those of several pueblos on the shore, having for its object the suppression of Tenochtitlan itself, and the transfer of the supremacy to Tlatelolco; nor is there any reason to doubt the substantial truth of the story. Tlatelolco, on the suppression of its tecpan, became tributary to Mexico; and the list of its tributes,

which include large quantities of cacao, both raw and ground with maize, shows that its people still remained owners of cacao plantations in the hot lowlands. Only one among the pueblos which joined in the revolt seems to have met with similar punishment. This was Huitzilopochco, the only large pueblo of the saline lake, except Quauhtitlan, which appears in the Mexican tribute rolls. The teepans of Azcapozalco, Atlacuihuayan, Coyohuacan, Culhuacan, Mixcohuac, and Mexicaltzinco appear to have still received the tributes of their peasantry, for none of them yielded tribute to Mexico. Similarly, the newly founded pueblo of Iztapalapan had its own teopan, and yielded no tribute to Mexico; even the conquered Otomi pueblo of Xochimilco retained its independence in this respect, though Chalco, which had long resisted, and was never completely reconciled to the Mexican domination, ranked among the tributaries. No events of importance marked the period of Tizocic and Ahuizotl. The most prominent incident in the chronicles is the foundation of the new teopan of Huitzilopochtli, which perhaps commemorated the fall of Tlatelolco¹; this was begun by Tizocic, and finished by Ahuizotl in 1486. Both these chiefs are credited by the chroniclers with successful campaigns, in the course of which many pueblos were reduced to submission, but it does not appear that they enlarged the boundaries of the tributary area²: and the same may be said of Montezuma II (1502-1520), from whom the Spaniards wrested the dominion which had been

¹ Each of the two Mexican pueblos had its separate teopan of the war-god, that of Tenoctitlan having been built by Axayacatl in 1468, after a victory over Huexotzinco and Atlitico; that of Tlatelolco, which still existed at the Conquest, immediately afterwards.

² In the First Part of the Mendoza Codex the name of each sovereign chief is followed by a catalogue of pueblos alleged to have been conquered in his time. In most cases these appear to represent expeditions not followed by any permanent enlargement of the tributary area, the 'conquests' being merely occasional victories and suppressions of revolt.

Book II. substantially formed under his predecessor of the same
 name, nearly a century before.
 Aboriginal From what has preceded it will be understood why the
 America. 358 pueblos registered in the Mendoza Codex as tributary to
 Mexico bear for the most part names which are now of little
 note, even when they have survived to modern times, or
 can be identified with others which formerly existed. With
 a few exceptions, the greater pueblos appear to have retained
 their original constitution, their tributes being yielded to
 their own chiefs, whether these resided in them, or were
 domiciled at Mexico as warriors in attendance on the supreme
 chief of the dominion. The pueblos directly tributary to
 Mexico were for the most part small country settlements,
 in which a population often belonging to an alien stock
 laboured incessantly under the direction of Mexican resident
 officials (*calpixqué*). The tributes exacted most generally,
 and in the greatest quantities, consisted of stores of food and
 clothing. The former class included maize, beans, chian,
 and huauhtli, each delivered in quantities sufficient to fill
 a certain number of stationary wooden granaries built for
 the purpose of receiving them; the bulk of these tributes
 was yielded by the pueblos of the plateau, and those of
 the higher parts of the warm valleys towards the Pacific.
 Cotton cloths, of various forms, plain and ornamental,
 packed in bundles or made up into articles of male and
 female attire, were almost universally yielded throughout
 the tributary districts; raw cotton was also furnished by
 the warm valleys which produced it, and distributed in the
 colder districts of the plateau for the purpose of manufacture.
 The aloe-growing districts yielded cloth made from the aloe
 fibre, and large quantities of the thick saccharine substance
 prepared from the aloe juice. From the wooded districts in
 the north of the plateau came timber in various forms for
 building, and burdens of fuel delivered every four days.
 From Tepeyacac were sent packages of lime, and bamboo
 canes of various sizes, the largest being destined for building,

System
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 tributes.

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the smaller for use as darts; the people of this district were also largely employed in manufacturing round shields, decorated with feathers, and swords, each consisting of a heavy wooden blade, set with a double row of sharp stones, for the use of the Mexican warriors. Southward of Teo-huacan the tributes include deer-skins, tobacco, and the wooden frames (cacaxtle) used by the porters in carrying their burdens. The rarer and more valuable tributes derived from the lowland districts stretching towards the Pacific and the Mexican Gulf have already been enumerated¹. In all cases the tributes were furnished in prescribed quantities, and were usually exacted once a year².

The continuous labour involved in the periodical supply of the tributes, and in the provision of his own stores of food and clothing, was for the Nahuatlacan peasant the chief aspect of the Nahuatlacan life, from which the people derived their name. Besides this, a heavy load of miscellaneous obligations was imposed upon him. As the only animal of burden in the country, he was compelled to transport the tributes to their place of destination; to carry stones, lime, and timber for building the teopan and the teopan of his own pueblo, and of the dominant pueblo to which it was servient; to toil in erecting them, and in repairing and cleansing them; to cultivate the lands belonging to them, to convey the produce to the proper storehouses for the use of the warriors and religious officials, and to attend the warrior on the campaign, as the bearer of his arms and food. Scarcely less laborious than that of the peasantry was the life of the ruling class, whether destined to active service in the field as warriors, or to the secluded

BOOK II.
Aboriginal
America.

The
'Nahuatlacan'
or Rule
of Life.

¹ Pp. 519-522.

² In some instances they are stated to have been exacted at shorter intervals. The pueblos tributary to Mexico, and the specific tributes exacted from each group, are enumerated in the second part of the Mendoza Codex (folios 19-54). The pictographs representing the names of the pueblos are reproduced, with a commentary on each, in Dr. Peñafiel's 'Nombres Geográficos de Mexico' (1885).

BOOK II.
*Aboriginal
 America.*

life of the teopan. In either case the Nahua imposed on them an incessant round of periodical functions. The Tequihuaquê, or warriors, were bound to sally forth and attack some hostile district once in each Cempohualli¹, partly as a military exercise, partly for the purpose of procuring human victims for sacrifice to the gods. The Teopixquê received the prisoners, fed them for the sacrifice, taught them the ceremonies in which they were doomed to play the principal part, conducted the sequence of festivals, in accordance with the successive Cempohualli of the calendar, divided the flesh of the victims among those entitled to partake of it, and arranged their skulls in the precinct of the teopan, as evidence that the sacrifices had been duly rendered to the deity². While the Tequihua did personal service as an attendant on the sovereign chief, the Teopixqui performed a continuous round of minor duties, as the servant of the deity to whose teopan he was assigned. The sacred fire must be maintained before the god: copal must be burned in his honour four times a day—at sunrise, noon, sunset, and midnight—and for this purpose the sun or stars must be watched continuously; the customary addresses or prayers must be made at prescribed intervals; at midnight all the denizens of the teopan must be aroused by the sound of sea-shells or whistles of burnt clay, and summoned to make offerings of their blood, drawn by aloe-thorns, in the chamber provided for this purpose. A similar nightly penance was performed by the female residents of the teopan—young women charged with the duties of preparing the daily food of the god and his officials, and of weaving cloth for their attire and the decoration of their chambers.

¹ See ante, page 359.

² Separate buildings, called Tzompantli, were often erected for this purpose. Seven such buildings are enumerated in Sahagun's description of the Quarter of the Gods at Mexico; the principal one (Hueytzompantli) contained the skulls of the victims sacrificed to Huitzilopochtli.

Unlike the Acllacuna of Peru¹, who were devoted to similar services for life, these were for the most part girls of the warrior class, who undertook the feminine duties of the teopan for one or more years, as a species of preparation for marriage, under the supervision of a few older women whose married lives had terminated, and who now voluntarily dwelt in the teopan as permanent residents².

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America.

An interesting outline of the Nahua of Mexico in one of its most important departments—that relating to the training of the young—is afforded by the concluding pages of the Mendoza Codex³. The artist appears to have intended to depict the life of the Nahuatlacá in every stage, from the cradle to the grave; but only a portion of the design has been executed. At four days from birth the child is brought into the open air, miniature symbols of its future occupation being placed in its hand. A small shield and sheaf of darts mark the son of the warrior; appropriate tools the son of the craftsman; girls are equipped with the distaff, spindle, basket, and a handful of broom. A feast is made to the elder children of the pueblo, among whom the child is to be brought up, and they are formally acquainted with its name. Twenty days after birth the infant is carried in its wooden cradle to a teopan, and receives, in the presence of the god, offerings of food and clothing. At three years of age the child, now able to walk, receives oral instruction, and at five years easy tasks are imposed. The boy carries miniature burdens of fuel and merchandise, while the girl is taught to hold the spindle. At seven years the boy learns to fish with a net; the girl receives instruction in spinning. Thus far the Nahua apparently forbids corporal punishment; even at eight years the instruments of discipline are only exhibited. At nine years the boy is punished by thrusting

Education
of the
industrial
class.

¹ See vol. i. p. 565.

² Torquemada, vol. ii. p. 164; Acosta, *Hist. Natural y Moral*, Lib. v. cap. 15.

³ Third Part (folios 56-71).

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*Aboriginal
 America.*

aloe thorns into his shoulders and loins, the girl less severely, being only pricked in the hand. At ten years children of both sexes are severely beaten; at eleven they are punished by exposure to the smoke of burning pepper. At thirteen they carry wood from the forest, and paddle canoes laden with the reeds of the lake; the girls grind maize and make tortillas; at fourteen the boy and girl fish from canoes, and the girl weaves cloth. At fifteen marriages are contracted. The bride is carried, after nightfall, on a woman's back, attended by four others holding lighted pine-brands, to the house of the bridegroom, and is seated by his side on a mat; in the presence of four aged witnesses, two being males and two females, the corners of their robes are tied together, while copal is burned in a brasier; the ceremony is completed by participation in a nuptial meal.

Education
 of the
 Telpo-
 pochtlin.

Thus far the Rule of Life, though applicable in principle to the whole community, has chiefly concerned the people; it is next illustrated in its application to the military class¹. At the age of fifteen the Telpochtli, or youth of noble birth, chooses between service in the field as a warrior, and residence in the teopan as a religious official. In the latter case he is received into a Calmecac, or religious school, and committed to the care of a Tiachcauh (elder brother). Services of the humblest kind are exacted from him. He sweeps the teopan, carries burdens of boughs to strew and decorate it, gathers aloe-thorns in a basket for the use of votaries making blood-offerings, and brings fuel to feed the perpetual fire on the hearth; failure in these duties is punished by thrusting thorns into every part of his body. At night the Telpochtli attends an older official, who repairs to the mountains carrying fire for open-air sacrifice, himself laden with part of the necessary material, listens while another beats the sacred drum, or watches, with a third, the revolution of the starry heaven. Such duties are understood to secure him from the allurements of the other sex: should

¹ Mendoza Codex, folios 62-67.

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they prove ineffectual in this behalf, he is subjected not only to the discipline of thorns, but to the infamy of having his hair burnt to the scalp with torches. He presently appears paddling a canoe heavily laden with stones for repairing the teopan; finally he follows the Teopixqui who accompanies the warriors to the field of battle, armed with shield and dart, as the representative of the deity at whose festival the captives are destined to be sacrificed. The Telpochtli who chooses the military life begins by attending a warrior in the field, carrying part of his equipment; and the rewards of the military career are illustrated by pictures of its several stages. The sole object of war is the capture of prisoners. Warriors of the lower classes are ranked according to the numbers of the enemy taken captive by them; and the standing thus gained is denoted by their different costumes. Those who have captured but one prisoner are plainly clothed, have no distinctive head-dress, and carry an unadorned shield. Each additional captive entitles the warrior to a more ornate uniform; he who has taken six is promoted to the class of Ocelot-Eagles, who wear as a helmet the skin of an ocelot's head richly decorated with feathers. Still more sumptuously attired are the officers forming the military council of the sovereign chief, the principal of whom bears the title of Tlacochealcatl, or Keeper of the House of Darts; the rest are in like manner named from buildings assigned to their charge¹. The operations of war are illustrated by the destruction of a pueblo where Mexican traders have been assaulted and plundered. The Telpochtlin serve as spies, and survey the pueblo by

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¹ The Tezeacoacatl had charge of the Tezeacoac, a second arsenal filled with darts: the Atempanecatl of the Atempan, a place of confinement for victims: the Tillancalqui of the Tillancalli, a building sacred to Cihuacohuatl, used as a military school: the Ezhuahuatl of the Ezhuahuaac, a building where penance was done by drawing blood with aloe-thorns. The names of twenty of these minor officers, subordinate to the Tlacochealcatl, are given by Tezozomoc, *Cronica Mexicana*, cap. 15.

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night, before the assault takes place; we see them wandering among its houses, examining its teopan, and boldly crossing the stream which runs through its midst, to gain the Tianquizco or market-place. In the morning the village is attacked, the teopan surprised, and the chief, with his wife and children, taken prisoner and transported to Mexico; the Telpopochtlin have charge of the captives. On his marriage, the Telpochtli makes a farewell feast and gives presents to his fellows, and is promoted to be a Tequihu, or Warrior.

Adminis-
 tration of
 justice—
 the Huey-
 teopan.

The artist of the Codex¹ next illustrates another function devolving on members of the military class—the administration of justice. The ordinary court consists of four Tlaillolaquê, or judicial councillors, each of whom appears seated on an Icpalli, or chair of state. Kneeling suitors apply to them for redress; behind each councillor sits a Telpochtli, who acquires, by listening to the proceedings, the principles of the law, and the duties of an office which he is himself destined to fill². The scene changes to the interior

¹ Folio 69.

² The titles given to the judicial councillors in the explanatory text, like those of the military officers, mentioned above, are evidently borrowed from buildings or localities. According to Torquemada (vol. ii. p. 352) the chief ordinary judge was the 'Tlacatecatl,' who had the 'Quauhnochtli' and 'Tlailloctlac' as assessors; all of these had their deputies or substitutes, who sat by them at the hearing of causes. The figures behind the judges, in the pintura, perhaps represent these deputies. The fourth judge named by Torquemada is the 'Cihuacohuatl,' who is stated to have been the sole judge of appeals. The Tlacatecatl was certainly a military officer, who ranked with or immediately after the Tlacocheacatl, and was probably so named from a building called Tlacatecco (see p. 529); Quauhnochtli (wild-prickly-pear) was a proper name (Chimalpahin, *Annales*, p. 180), though the word appears in the Codex (folio 65) as the title of a military official; and tlailloctlac is a general name meaning 'magistrate' or 'judge.' 'Cihuacohuatl,' the name of a goddess, can scarcely have been given to a male functionary; probably the true reading is Cihuacatl = officer in charge of the cihuacalco (the part of the teopan containing the women's apartments), or Cihuateocatl = keeper of the Cihuateocalli (see folio 64 of the Codex). According

to Gor
 and ty
¹ Th
 Tezuc
² Co
 cap. 9

of the Huoytecpan, where the Tlatohuani sits enthroned in the Teoicpalpan—a chamber of decorated masonry, exactly resembling the shrine of a god, and opening on a platform approached by a flight of steps. On his left hand are apartments reserved for the chiefs of Tezcuco and Tlacopan, when these visit Mexico; on the right are others, used in like manner by the chiefs of dependent pueblos, such as Tenayucan and Culhuacan¹. At the base of the structure, on the left hand, is seen the apartment where affairs concerning the warrior class are adjudicated upon by a council constituted for the purpose. On the right is a chamber where appeals from the decisions of the Tlailotlaquē are heard by four councillors of superior rank; in important causes an appeal lies from these to the Tlatohuani himself. At this point the artist somewhat abruptly turns to other matters. We look in vain for the surroundings of the Hueytecpan, so minutely described in the narratives of the Conquistadores², the numerous halls, hung with feather tapestry, and crowded with attendant warriors; the treasure chambers, and the storehouses filled with bags of maize and cacao; the secluded rooms occupied by the women of the household, and the great apartment assigned to the Tlatohuani's domestic gods; the spacious gardens, stocked with fruits, flowers, and edible and medicinal plants from all parts of Anahuac; the ponds and canals supplied with fresh water from the aqueduct of Chapultepec, and abounding with fish and waterfowl; the aviaries, where all kinds of birds, from the eagle to the humming-bird, displayed their varied plumage, and the wooden cages in which coyotes, ocelots, alligators, iguanas, rattlesnakes, and other reptiles

to Gomara (cap. 236) there were twelve ordinary judicial councillors, and two councillors of appeal.

¹ The explanatory text adds Chihnuauhtla, a dependent pueblo of Tezcuco (see post, p. 538).

² Cortes, Carta Segunda; Gomara, op. cit., cap. 71-75; Bernal Diaz, cap. 91.

Book II. and animals of prey, were kept in captivity. Nor have
 Aboriginal we any further hint of the daily life of the Tlatohuani
 America. and *tecpantlacā*—of their feasts, ceremonies, and domestic
 diversions; of the dwarfs, jesters, buffoons, and athletes
 maintained to amuse them; of their fantastic dances,
 accompanied by singing and beating of drums; of their
 contests in the game of *Tlachtli*, occasionally so strenuously
 maintained that the players died of exhaustion¹; of their
 great hunts, conducted in the tributary districts by the help
 of the Otomi, who gathered in vast numbers, and surrounded
 an area of large extent, driving the game to some central
 point where the sportsmen despatched them. All these
 matters, apparently, are omitted as foreign to the Nahuatl,
 which it is the aim of the artist to illustrate as a code of
 public and private duty observed by the people to whom it
 gave name, and the cause of their superiority over the tribes
 of the surrounding districts.

Conclusion The last pages of the Codex represent miscellaneous
 of the Men- incidents of Mexican life, connected with what has preceded
 doza Codex
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 law.

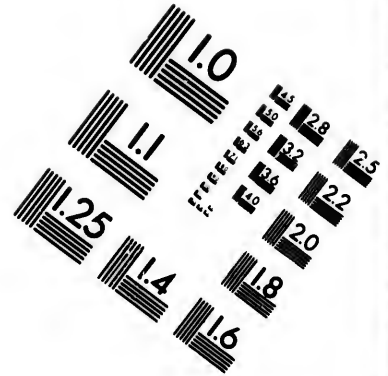
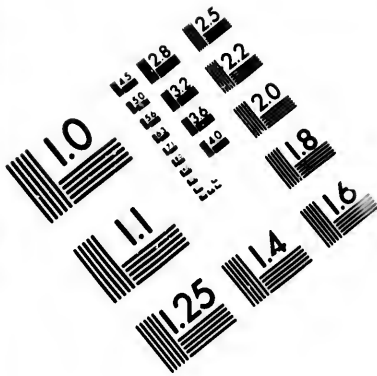
¹ Played in a court partly excavated in the soil, the earth being
 thrown up all round in the form of raised mounds, and hence called
Tlacheco (place of digging), or, more fully, *Tlallacheco* (*tlalli* + *tlacheco*;
 see folio 32 of the Codex); the floor and sloping sides were lined with
 stone or plaster, and the margin planted with trees under which the
 spectators assembled. The *tlacheco* was 100 feet, or more, in length,
 and in plan shaped like the letter I, having square recesses at each
 corner, and bisected by a transverse line painted on the floor. The
 game was played by two sets of players, the object being to drive
 a solid rubber ball, about 4 inches in diameter, to the wall at the
 opposite extremity, which thus served as a goal. At each end
 of the painted line a perforated stone was built in the wall, sur-
 mounted by the figure of the patron deity of the game; the supreme
 feat was to drive the ball through the hole in this stone. Winning
 strokes could only be made by striking the ball with the thigh, and
 the players had from time to time to fling themselves on their hands
 and knees, which were armed with stout leather guards. Every large
 pueblo had its *tlacheco*; and there was a class of professional players
 who wandered about the country gaining subsistence by exhibiting
 their skill. (Duran, *op. cit.*, vol. ii. pp. 241-246; Gomara, *op. cit.*,
 cap. 69; Torquemada, vol. ii. p. 552.)

by some relation to the training of the industrial class, and illustrated by a few particulars of the criminal law¹. The occupations of a messenger, and of a player on the teponaztli or wooden drum, are commended by a father who advises an ambitious son as to the choice of a calling. Industry is typified by the punctual rendering of tributes to the Calpixqui who sits in the Petlacaleo or Tribute House; idleness and crime are depicted in the figures of a wandering mendicant, of players at Tlachtli and Patolli, and of a thief who steals from a chest. The continuity of craftsmanship is ensured by training the son, as a general rule, to follow the occupation of the father. The son of the carpenter watches his father handling the bronze hatchet; similarly the lapidary, painter, goldsmith, and worker in feathers, instruct their children in their various arts. In contrast to the habits of virtuous industry thus inculcated and transmitted from generation to generation, the concluding pinturas illustrate the fate of indolence and vice. Stoning to death is depicted as the doom of the thief, and of the adulterer and his accomplice; it is also represented as the punishment of habitual drunkenness in young and middle-aged persons, of either sex², while

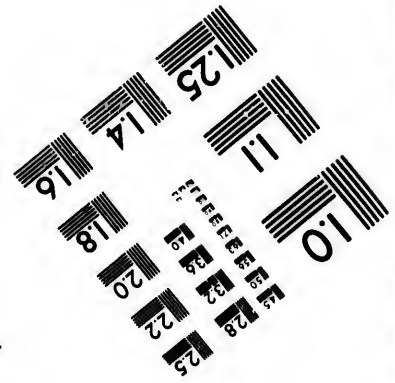
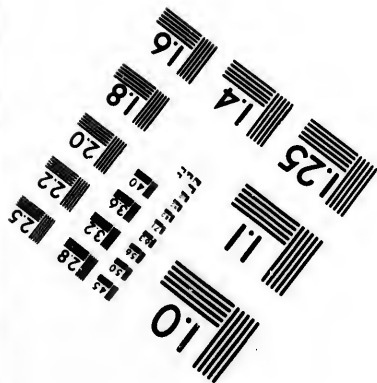
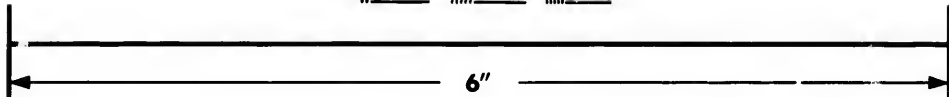
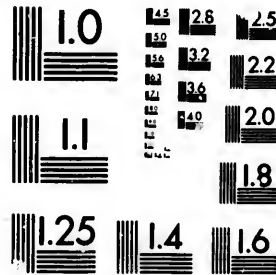
¹ Folios 70, 71.

² Although this is corroborated by some other authorities, it is scarcely credible, having regard to the extensive cultivation of the pulque aloe and the frequency of drunkenness among the Indians (see vol. i. p. 478), that such a law was ever generally in force. Among the conflicting accounts given of this matter the most probable is that of Torquemada (vol. ii. p. 550), which substantially agrees with that of Zurita, *Rapport sur les Chefs de la Nouvelle Espagne*, ed. Ternaux-Compans, p. 110. The upper class universally abstained from intoxicating drink, and many of the peasantry did the same, refusing it alike in health and in sickness. Those above middle age, however, were at liberty to drink two, three, or four cups of pulque daily, according to a scale regulated by the chiefs. Occasional drunkenness was punished by cutting off the hair and demolition of the offender's house. Pulque was freely allowed to the sick, and those engaged in severe labour; and all adults were permitted to drink a certain quantity at festivals. According to Duran (*op. cit.*, vol. ii. p. 239), there was an old law permitting those to drink to





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old men and women, on the contrary, are allowed, and even encouraged, to drink to intoxication. The offences here illustrated were probably those most common among the Mexican populace; but it is doubtful whether the penalty of death was generally annexed to them, freely as it was employed, with reduction to slavery as a milder alternative, in a community where little value was set upon human life, and cruelly as it was inflicted on those guilty of more odious crimes¹. Further particulars on this subject may be abundantly collected from the works of the Spanish antiquaries; little, however, distinguishes the penal law of the Nahuatlacà from that of barbarous peoples generally, and it was subject to considerable variation in different pueblos, and probably at different times².

Like the dominion of which it was the seat, the public of intoxication who had children old enough to take care of them when in this condition.

¹ Rebellion is said to have been sometimes punished by dismemberment (Chimalpahin, *Annales*, p. 120: see also Ixtlixochitl, ed. Ternaux-Compans, vol. i. p. 265). According to Torquemada (vol. ii. pp. 377-386) the usual mode of inflicting death was strangulation.

² What is known of the laws of the Nahuatlacà has been industriously collected from various sources by Prof. Kohler, 'Das Recht der Azteken,' Stuttgart, 1892. The various customs here enumerated must not be regarded as constituting a single body of law. Gomara summarises the criminal law very briefly: murder (including that of unborn children), rebellion, incitement to mortal combat (except in war), wearing the clothes of the other sex, and adultery, were punished with death: theft, by slavery for the first offence, death by hanging for the second. Civil rights depended upon status, the warrior class being sharply distinguished from the peasantry and the slaves, although the sons of peasant and even slave women in some cases inherited from the father the status of warriors. Hereditary slavery is said to have been unknown in Mexico at the Conquest, prisoners of war, who formerly constituted a class of permanent slaves, being then invariably sacrificed and eaten. It had once existed there, and had been re-introduced into Tezcuco, according to Ixtlixochitl, shortly before the Conquest. Slaves could hold property, and even have slaves of their own. The subject of Mexican slavery is treated at length by Torquemada, vol. ii. pp. 563-567.

Mexico itself was at the Conquest a thing of recent growth. No long time had elapsed since the soil on which it stood had emerged from the lake; of the village from which Izcóhuatl and his followers, less than a hundred years before, had sallied forth to attack Azcapozalco, scarcely a vestige can have remained. After the dissolution of the Tecpanec confederacy, and the establishment of Tenochtitlan as the chief dominant pueblo in the Valley, the warrior class appear to have flocked from all parts to the island as a place of residence; and although many of them retained their status in local tecpans, a new class of chiefs came into existence through the practice of assigning lands in the dependent and tributary districts to individuals and families of special military distinction, on condition of settling in Mexico and holding themselves always ready to take up arms at the command of the Tlatohuani¹. At the Conquest three thousand of these military feudatories are said to have thus resided there²; and their houses, built on a large scale, and sometimes emulating, in their surroundings, the Hueytepan itself, covered the greater part of its area. More prominent than these were the numerous tecpans, all of recent foundation, which occupied the large irregular area forming the quarter of the gods³. Forty pyramidal

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at the
Conquest.

¹ When visiting their fiefs, their families remained in Mexico, and were considered as hostages to secure their return. According to Ixtlilxochitl (vol. i. p. 236) this rudimentary feudalism had been begun by the Tecpanecs. Thirty descendants of the tecpan of Azcapozalco held fiefs in various parts of its dominion; fourteen of these, after its fall, remained in the dominion of Mexico, nine in that of Tezeuco, and seven in that of Tlacopan. To these military landowners the names Teteuctin and Pipiltin (lords, nobles) were applied in a special sense. Most of the dependent pueblos of Tlaxcallan appear to have been military fiefs (see Torquemada, vol. ii. p. 348).

² Gomara, *op. cit.*, cap. 76. The number is probably exaggerated, and many were housed in the Hueytepan itself.

³ Some of these were undoubtedly the deities of dependent tributary pueblos (see vol. i. p. 523): both the chiefs and the gods of conquered

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structures ascended by flights of steps, each surmounted by its teocalli or shrine, and surrounded by a group of buildings used for miscellaneous purposes connected with religion¹, marked this quarter as not less important than the closely adjoining Hueyteopan. The principal teopan, that of Huitzilopochtli, opened on the great Tianquizeco or market-place—situated within the boundary of the old pueblo of Tlatelolco, by which name it was commonly known—where the products of all Anahuac, and the manufactures of its craftsmen, were daily bartered by thousands of persons, whose cries were heard at a distance of several miles². Certain parts of Mexico still retained old local names³, probably representing an ancient distribution of the pueblo into quarters; but the division usually recognised at the Conquest was produced by the four main streets, three of which had their terminations in the three causeways connecting the island with the main-land. From the Tlatelolco one led to Iztapalapan, on the south; another to Tlacopan on the west; another to Tepeyacac on the north; eastward a fourth street, continued by a causeway, led to the place of embarkation for Tezcuco. In every direction the limited area of the

districts were thus transferred to and established in the dominant pueblo.

¹ See vol. i. p. 463.

² According to the Anonymous Conquistador (Ramusio, vol. iii. p. 309), from 20,000 to 25,000 persons frequented the daily market, from 40,000 to 50,000 the greater one held every five days. The best description of the market is given by Gomara (cap. 79); Bernal Diaz furnishes some additional particulars.

³ These quarters were about twelve in number. The names of a few (Atempan, Tezacacoac, Yopico, Cohuatlan, Huitznahuac, Xalapan, &c.) have been preserved. The inhabitants of certain quarters were liable to special services in the teopans. Some among them even appear together with Tlatelolco at the head of the list of tributary pueblos in the Mendoza Codex: their tributes, like those of Tlatelolco (see pp. 522-523, ante), were doubtless furnished from distant territories held by their inhabitants. After the Conquest, these ancient local divisions became obsolete, and the allusions to them in the writings of the Spanish antiquaries are confused and obscure.

island, mainly occupied by the Hueyteopan, the teopans, and the numerous large houses of the military class, was artificially extended by a system of dykes and dams, on which the houses of the industrial class were for the most part built; the nucleus of the pueblo stood on land, the outskirts, surrounding it on all sides, rose from the water. The entire area was thus divided, by the four main streets and the causeways into which these were prolonged, into four quarters, each of which obtained a distinctive name. The quarter on the north-east was called Aztacaleo, from the cranes and other waterfowl which swarmed on its margin; that on the north-west, Cueyapan, or Place of Frogs; the south-west quarter was Moyotlan, or Place of Mosquitos; the south-east, Zoquipan, or Place of Mud¹; and each of these is said to have had a special teopan, in which sacrifices were made to the tutelar deity of the quarter². The Spaniards estimated the circuit of Mexico at nearly three leagues, and its population at 60,000 families; both calculations were probably very much in excess of the truth.

Tezcuco was supposed by the Spaniards to contain about 30,000 families. To what extent the neighbouring villages were included in this estimate is uncertain; and it can only be accepted as showing that Tezcuco was not more than half as populous as Mexico. The aspect of Tezcuco, allowance being made for its non-insular position, and for the fact that

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¹ Tezozomoc, *op. cit.*, pp. 456, 501, and see the note at p. 460. 'Cuepopan,' which is meaningless, is evidently a misreading for 'Cueyapan.' After the Conquest Aztacaleo became the barrio of S. Sebastian, Cueyapan that of Sta. Maria la Redonda, Moyotlan that of S. Juan, and Zoquipan that of S. Pablo (see ante, p. 47); so named from the churches erected in each.

² The churches above mentioned were doubtless built on the sites of ancient teopans; but the existence at the Conquest of a true clan organisation, with special religious rites, in each of these comparatively modern quarters, is open to doubt, though such organisations may well have existed in the more numerous ancient quarters mentioned on the preceding page.

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it stood entirely, or almost entirely, on the land, closely resembled that of Mexico¹. The new Hueyteopan, built by Nezahualpiltzintli at some distance from that erected by Nezahualcoyotl soon after the re-establishment of Tezeucan independence², consisted of two large squares. The first surrounded the Tlachco or ball-court, and served as a public market-place: it formed a vestibule to the second, which contained the buildings inhabited by the Tlatohuani and tecpantlacā. The sovereign chief, when sitting in state in the Teoicpalpan, was attended by the chiefs of the fourteen principal dependent pueblos. Immediately below him, on the right, sat those of Teotihuacan—the sacred pueblo of the Chichimec race—of Acolman, and of Tepetlaoztoc; on the left, those of Huexotla, Cohuatlichan, and Chimalhuacan. The chiefs of eight less important pueblos occupied lower stations near the entrance of the apartment; on the right were those of Otompan, Tollantzinco, Quauhchinanco, and Xicotepec, on the left those of Tepechpan, Chiauhthla, Chiuhnauhtla, and Teyotocan. Four hundred warriors are said to have permanently resided in the pueblo, each in his own house³. Justice was administered, as in Mexico, by inferior and superior judges, with a similar final appeal to

¹ According to Ixtlilxochitl (vol. i. p. 264) Tezeuco was divided into six quarters, called Mexicapan, Culhuacan, Tecpanceapan, Huitznahuac, Chimalpan, and Tlailotlacan. As the inhabitants of Huitznahuac, Chimalpan and Tlailotlacan claimed to be Nahuatlacā (see ante, pp. 50, 507) the names appear to indicate the population of all six quarters as Nahuatlacan immigrants.

² According to Cortes (Carta Segunda) it was built close to the lake 'in such a manner that canoes could pass under it, and from thence issue forth upon the lake.'

³ The round number 400, like the 80 laws mentioned below, arouses our suspicions. Our account rests mainly on the authority of Ixtlilxochitl, who is ever anxious to demonstrate that Tezeuco was in all things equal or superior to Mexico. We know little of Tezeuco from independent sources; but there can be no doubt that Ixtlilxochitl's account is in many respects exaggerated and even untrue. The author of the Codex Tellerio-Remensis (part iv, lam. 7), alleges that Tezeuco was tributary to Cohuatlichan as lately as 1454.

the Tlatohuani: and the Tezeucan code of the 'Eighty Laws,' ascribed to Nezahualcoyotl, was divided into four sections, each of which was entrusted for execution to a separate council¹. Each of the greater deities worshipped at Mexico, we are assured, had a teocalli at Tezeuco; the shrines of Huitzilopochtli and Tlaloc stood side by side on the same base, as at Mexico²; even the singular structure called the Teotlalli, described in a previous place³, had here its counterpart. Far above all others, and exceeding in height the teocalli of Huitzilopochtli at Mexico, rose that of Tezcatlipoca, the principal deity of the later Nahuatlacá. All these, if all of them really existed, which is open to some doubt⁴, had been built since the restoration of the line of Otomi chiefs in the person of Nezahualcoyotl. At first, it was said, Nezahualcoyotl had refused to sanction the public worship of the Nahuatlacá gods⁵. His councillors, most or all of whom were of the Nahuatlacá stock, argued that this neglect obstructed the success of his arms and the prosperity of his dominion; and he reluctantly consented

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¹ One of them seems to have decided matters affecting the warrior class; another, disputes about tributes; another, to have administered the ordinary penal law. The fourth, strangely named by Ixtlilxochitl the 'Council of Sciences and Music,' appears from his account of it to have been constituted for the purpose of limiting the popular art of witchcraft to what was considered to be its legitimate sphere, and punishing those who practised it with wrongful intent. Writers who have celebrated the 'golden age of Tezeuco' describe it as the 'Athens of Anahuac,' and speak highly of its historians, orators, and poets. The only 'historians' were the pintura-makers; the 'orators' were doubtless the amapoanime, who learned by oral tradition the explanation of the pinturas, and the speeches attributed to the persons represented in them: and there is no reason for supposing these, or the ballad-makers who were the 'poets,' to have been greatly superior to those of other pueblos. The Nahuatlacá, according to Torquemada, was spoken in its greatest purity at Tezeuco.

² See vol. i. p. 542.

³ Vol. i. p. 517.

⁴ Torquemada says that there were many teopans, but only describes that of Tezcatlipoca.

⁵ Ixtlilxochitl, vol. i. p. 323.

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to the establishment of these deities in the pueblo, and the introduction of the Mexican system of human sacrifices, as a measure of public policy. The results of the change failed to reconcile him to the Mexican polytheism; while the dominion of Mexico, under the energetic Montezuma, was extending in all directions, that of Tezcuco remained confined within comparatively narrow limits; and to the end of his life Nezahualcoyotl remained a votary of the Sun, whom it was his habit to worship as the supreme deity in the retirement of Tezeutzinco¹.

Subordi-
 nate
 pueblos
 in the
 Valley.

Although the authorities on the subject are obscure, there can be little doubt that the chiefs of the principal pueblos subordinate to Mexico on the west and south sides of the lake occupied a position analogous to that of the fourteen subordinate chiefs of the Tezucan dominion—that they were recognised as allies and honorary councillors, though on a footing of dependence. The incidents of the Conquest² show that the chiefs of Coyohuacan and Iztapalapan were scarcely inferior in importance to those of Tezcuco and Tlacopan: and Coyohuacan, if it really contained at that time, as was estimated, 6,000 households, can have lost nothing of the position it held in the days of the Tecpanec confederacy, when it ranked next after Azcapozalco. But the chief pueblo of the Valley, after Mexico and Tezcuco, was undoubtedly Iztapalapan; originally a village of salt-makers, which the rise of Mexico and the construction of the southern causeway had converted into a military position of the first importance, commanding the road to Tezcuco. Chalco, Cholula and Tlaxcallan, and the shores of the Mexican Gulf. Hence it was the first of the great lake pueblos to be entered by the conquistadores, in whom its appearance and population—estimated at from 10,000 to

¹ See vol. i. p. 544. According to Pomar, *Relacion de Tezcuco*, p. 23, the worship of 'Intloquë-innahuaquë' was popular with all classes in Tezcuco.

² Bernal Diaz, cap. 87, 88.

12,000 households¹—and the stately house of its chief, surrounded by luxuriant gardens, awakened unbounded astonishment. From the high road of Iztapalapan, moreover, they first beheld the pueblos of the inner basin within the causeway—Atlacuihuayan, Mixcohuac, Coyohuacan, Huitzilopocheo, and Mexicaltzineo, each with its chiefs' houses and teocallis built on the land, while the huts of the people, built on dykes and approached by canals, stretched far into the waters. Mexico at the north, and Iztapalapan at the south end of the causeway, each extending similarly into the lake itself, completed a scene unparalleled in the New World; the invaders were irresistibly reminded of the castles of giants and enchanters described in contemporary romances². Cuitlahuatzin, the sovereign chief who received the Spaniards at Iztapalapan, was a nephew of Montezuma II. Chosen by the Mexican warriors as their commander when their own chief was seized and imprisoned by Cortes, Cuitlahuatzin drove the Spaniards from Mexico along the causeway of Tlacopan, pursued them through Azcapozalco, Tenayucan, and Quauhtitlan, expelled them from the Valley, and forced them to take refuge at Tlaxcallan. The brave Quauhtemoctzin, the successor of Cuitlahuatzin in the chieftaincy of Iztapalapan, succeeded him also as general commander of the Mexican warriors; this pueblo thus furnished two among the seven 'kings of Anahuac' whose heads Cortes bore on his armorial shield in token of his conquest³.

¹ This estimate, like most of those made by the conquistadores, is certainly exaggerated, although Bernal Diaz describes it as a very large town (*muy gran pueblo*).

² 'Desde que vimos tantas ciudades y villas pobladas en el agua, y en tierra firme otras grandes poblaciones, y aquella calzada tan derecha per nivel como iba a Mexico, nos quedamos admirados, y deciamos que parecia á las casas de encantamento que cuentan en el libro de Amadis . . . Y aun algunos de nuestros soldados decian que si aquello que veian si era entre sueños.' Bernal Diaz, cap. 87.

³ Bernal Diaz, cap. 204. The others were Montezuma himself, Cacamatzin of Tezucuo, the chiefs of Tlacopan and Coyohuacan,

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 Aboriginal
 America.
 Agricul-
 tural
 pueblos of
 Anahuac—
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 tion of
 the land.

While the ruling class was thus concentrated in a few large pueblos in the Valley, the peasantry by whose labour they were supported dwelt in scattered villages of varying size, mostly on the plateau of Anahuac, though some were in the Mexican Valley, a considerable number in the richer tracts bordering on the Pacific, and a few groups near the Mexican Gulf. The total number must have exceeded 500: there were 358, distributed, for the purpose of levying the tributes, into thirty groups, in the separate dominion of Mexico. The organisation of the agricultural pueblo was minutely investigated by the Spaniards after the Conquest; and by the aid of official and other accounts it is easy to trace its main features, and to form some idea of its historical development¹. Fundamentally it was identical with the village community of the Old World: and the name Calpulli (Great House) usually applied to the free peasantry of the village (altepetl) as a body of landholders, indicated that the Nahuatlacâ had once dwelt in large buildings, each affording shelter to several families, and one such building forming the natural unit of social life. Although the great tribal house was still occasionally found², this primitive arrangement seems to have been generally abandoned. As the division into a warrior and an industrial class became general, the Great House was superseded as the principal feature of the village by the Tecpan, or House of the Chiefs, around which the peasantry dwelt in huts of slight construction; and a distinction was made between the lands assigned to the chiefs and compulsorily cultivated by the villagers (tecpantlalli), and those left to the villagers for their own use (altepetlalli or calpullalli). With the extension of conquest, and the development and a near relative of Montezuma who held a fief in the district of Matlatzineco, near Toluca, and was regarded in Montezuma's time as his probable successor.

¹ Zurita, *Rapport sur les Chefs de la Nouvelle Espagne* (ed. Ternaux-Compans, pp. 45-69); Torquemada, vol. ii. p. 545.

² Gomara, *op. cit.*, cap. 233.

of the military and religious systems, lands came to be set apart for new purposes. Conquest, whether it spared or suppressed the local *teopan*, often brought with it an assignment of land to the *Hueyteopan* of the dominant *pueblo* (*tlatocatlalli*), or as the fief of some distinguished warrior (*pillalli*), or to the *teopan* of some deity (*teopan-tlalli*); other lands (*yaotlalli*, *chimalmilli*) were set apart to furnish stores of clothing and provisions for use during campaigns. Together with these new elements in the *pueblo* there came into existence new classes of labourers, for to cultivate these additional lands was beyond the capacity of the original village community. Hence the lands of the fief-holders were either entrusted to free settlers who rendered to the owner a fixed portion of the produce by way of rent, or tilled by labourers standing in the same relation to the fief as that of the original peasantry of the *pueblo* to the *teopan*. These labourers, who appear to have been for the most part drawn from the native tribes of the tributary districts¹, were practically the serfs of the fief-holder. The *Calpullé*, or head-man of the *pueblo*, had charge of a *lienzo*, on which all its lands were carefully drawn and distinguished, the *pillalli* being coloured light red, the *tlatocatlalli* dark red, and the *calpullalli* yellow. The outward aspect of these *pueblos* is easily reconstructed. The *teopan*, where this survived, the tribute-houses, with the residences of the *calpixquê*, and one or more *teopans* according to its size, formed the nucleus; around were the huts of the peasantry, scattered among cultivated patches of maize, pepper, cotton, and plantations of aloes. Trails, following those lines by which burdens could most easily be transported, led from one *pueblo* to another, connecting each with one of the thirty centres at which the tributes were collected, and ultimately linking the tributary districts in a general system of communication converging in the Valley.

¹ Sahagun, lib. iii. sec. 2.

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 Aboriginal
 America.
 Tendency
 of change
 at the
 Conquest.

It is clear, from what has preceded, that the existing condition of things in Anahuac at the Conquest was largely due to comparatively recent changes; nor can we doubt that the energy which produced those changes still subsisted in undiminished vigour. In what direction, and with what prospective effect, was this energy working? The answer to this enquiry is too plain to be mistaken. Anahuac was becoming a military despotism—a small barbarous kingdom with Mexico as its capital, and the Mexican Tlatohuani as its sovereign; Tlacopan and Tezeuco were becoming mere dependencies of Mexico. We read this in the steady growth of the latter pueblo, due to the circumstances of its situation and history: in its practical annexation of the Tecpanec pueblos on the shore by the construction of the causeways; in the absorption of Tlatelolco, and the foundation of Iztapalapan; in the conviction impressed on the Spaniards, at its discovery, that the whole country was the dominion of the mighty Montezuma, and in the general recognition, by the chiefs of the dependent and tributary districts, of Montezuma as their absolute master; in the stationary or decaying condition of Tezeuco and Tlacopan, while the dominions of Mexico had increased in a proportion corresponding to the growth of the pueblo by the concentration of the warrior class within it; in the wealth and luxury of the Hueytecpan; in the extravagant personal pretensions of the Tlatohuani, and the abject homage received by him from his subjects¹; and in the

¹ The most characteristic proof of this is the Teoicpalpan (see p. 531), a structure, as the name implies, exactly resembling a teoalli, beneath which the Tlatohuani sat when he assumed his highest state. This is probably alluded to in Montezuma's discourse to Cortes (Cortes, Carta Segunda, Bernal Diaz, cap. 90): 'These people (the Tlaxcaltees and tribes of the coast) have told you that I was a god, or made myself one. . . . You see (opening his robes, and pinching his arms and body) that I am made of flesh and bone as you are. . . . See how they have deceived you.' Montezuma was usually carried in a sumptuously ornamented litter, borne by several chiefs; when he walked four chiefs supported his arms, a canopy was held over

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speedy subjection of the whole country when once the power of the Mexican warriors had been broken. There was apparently little or no tendency to territorial enlargement; a fact partly due to the situation of the district, bounded on two sides by the sea, on another by the territory of the warlike Tarascá, and on the fourth by the isthmus of Tehuantepec—and partly to the necessity, imposed by the Mexican scheme of life, of having hostile countries within a convenient distance as sources of the supply of human victims. The latter reason notoriously compelled the allied pueblos to keep Tlaxcallan and Huexotzinco as a preserve of human game in the very midst of their own territories. The inhabitants of the tract thus enclosed were themselves skilled warriors; and to have engaged in enterprises of conquest far away in the region to the northward and westward would have exposed the heart of the dominion to serious danger. There was, on the other hand, ample room for further development within the limits which the dominion had already reached. A considerable number of the 358 tributary pueblos were of recent formation. Having regard to their distribution, it is clear that many more might easily have been formed: the aggregate of the tributes, and the number of warriors supported by them, might in this way have been greatly augmented.

him, and cloths were spread on the ground before him. Only the chiefs who supported his arms were allowed to look in his face. Those who had interviews with him laid aside their usual costume, and appeared in plain coarse dresses, and barefooted. On admission each made three prostrations, saying at the first 'Tlatohuani!' at the second 'Notlatohuatzin' (my-revered-chief)! at the third 'Hueytlatohuani' (great-chief)! All were expected to show themselves for a considerable time previously outside the chamber. Their communications were made with downcast eyes, and in the fewest possible words, and they walked backwards when retiring. Montezuma took his meals alone, those who served him retreating behind a screen and leaving him to eat in absolute privacy. Four councillors were admitted when he had finished, and it was considered a great honour if he offered them some of the remains of his meal.

BOOK II. The economic development which had commenced had already found an outlet in an inchoate maritime trade. This trade would in time have increased, and perhaps extended to the entire circuit of the Carib voyages; and Mexico might in this way have become, on a rudimentary scale, a maritime power. Neither in the arts of life, in religion, nor in general mental progress can we suppose that any important change was impending in the near future; in these respects, indeed, the later Nahuatlacâ had fallen below the level attained by the Toltecs, and the development which the Conquest interrupted appears to have been a purely material one.

Summary
of Mexican
advance-
ment.

Such, in its main outlines, was the Mexican advancement as it existed at the Conquest; an unique example of barbarism, remarkable alike as the nearest approximation to civilised life among the American aborigines, and the highest culture attained in any community whatever without the aid of large domesticated animals. It presents incongruities which at first sight are startling and perplexing; these, however, do not arise out of its essential elements, and can be explained by the circumstances in which it was produced. The essentials of advancement—an artificial food-supply, and a system of defence—are everywhere the same; here both were adequately if not abundantly provided. The food-basis comprised all indigenous food-plants capable of being artificially produced, besides the few indigenous animals amenable to domestication; and in a district peculiarly liable to the failure of crops through cold, drought, and destructive insects, a land-system which secured the bulk of the produce to the governing class ensured the storage of grain in sufficient quantities to feed the whole population during several years. At the Conquest nearly seventy years had elapsed since the last serious famine¹. Although new-comers of other stocks

¹ This famine, which happened in the time of Montezuma I, lasted five years (according to Chimalpahin, 1450-1454, according

had been allowed to establish themselves in the district, and the two great dominant pueblos of Mexico and Tezcuco alike owed their origin to tribes which had thus intruded, hostile invasion was unknown, and the settlement effected by the Nahuatlacan immigration had not been materially disturbed¹. The defensive organisation secured at the same time the cultivation of the soil, the worship of the gods, and the general order of the community. Chiefly based, as the dominion expanded, on the feudal principle, though the ancient tribal system partially survived, this organisation fostered agriculture, favoured the increase of wealth and population, and promoted general industry; social and family discipline were firmly established; a customary

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to Clavigero, 1449-1453), and probably led to the accumulation of larger reserves of grain. In 1446, according to Chimalpahin, there was a visitation of locusts. In 1450 the young corn was cut off by frost, and the scarcity continued during 1451, 1452, and 1453. In 1454 there was a drought, and large numbers sold themselves into slavery for food. 1455 was a year of abundance. See also the Codex Tellerio-Romensis, Part IV, lam. 7, where the effects of the famine are vividly depicted. According to the same authority there was a famine in 1505.

¹ As an illustration of this it may be mentioned that according to the popular ethnology at the Conquest the first occupants of the island of Mexico were Nahuatlacá, being the last of seven nations who had successively migrated southward from the 'Seven Caves' (Chicomoztoc). These were (1) the Xochimilcá, (2) the Chalcá, (3) the Teepances, (4) the Culhuaqué of Culhuacan, (5) the Tlahuicá of Quauhnahuac, (6) the Tlaxcaltees, (7) the Aztecá, who founded Mexico. This enumeration of the seven peoples as members of a single stock, which is given by Clavigero (lib. ii. sec. 15), and is repeated by many writers, is evidently of comparatively recent date, though the order in which they are arranged may be historically correct. The Xochimilcá and Chalcá, if our conclusions are right, were of Otomi race, and preceded the Nahuatlacá; the Aztecá, who belonged to some alien stock, arrived in the valley when it was fully settled. That Tenayucan, Xaltocan, and Tezcuco were of Otomi or 'Chichimec' origin was always understood. The poems attributed to the Tezucan Tlatohuani Nezahualcoyotl (Ixtililxochitl, op. cit., vol. i. Appendix) are in the Otomi language. Their authenticity appears open to considerable doubt.

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law was regularly administered by qualified officials, and a general code of duty was even recognised, binding the ruling and the industrial classes together as a single people, who derived from it their distinctive name. In these favourable circumstances property had increased, and trade had naturally followed the accumulation of property. Not only had the exchange of commodities become common, but there was a large inland commerce, an export trade was springing up which might possibly have led to a great widening of the field of knowledge and enterprise, and there were several recognised standards of value¹. Habits of life had reached some degree of refinement; the useful arts were well understood, and the preparation of food and drink, the manufacture of clothing, and the internal decoration of houses, had attained the stage of positive luxury². The various forms of craftsmanship were separately taught and practised; they were hereditary in families, and specially cultivated in different pueblos; at the Conquest, Cholula was famous for its potters, Azeapozalco for its goldsmiths³. Arithmetic, the foundation of the sciences, was in general use for many purposes, though its application was greatly impeded by the cumbrous processes involved in the vicenary system. Although there was no standard of measurement in space⁴, the course of time

¹ Packages containing 20 pieces of cotton cloth, 400 ears of maize, or 8,000 grains of cacao, were chiefly used. Gold, copper, and tin, in small quantities, were also in use, but there was no other standard of weight than the 'burden,' or load carried on human shoulders. According to Cortes (Carta Cuarta), the people of the Tasco valley, on the Pacific side, used small pieces of tin as a currency (ciertas piecezuclas . . . a manera de moneda muy delgada . . . Hallé que en la dicha provincia, aun en otras, se trataba por moneda).

² As to cookery see the description of Montezuma's meal, Bernal Diaz, cap. 91. Thirty sorts of stews (guisados) were served up, each kept hot by a small chafing-dish of clay, containing burning charcoal. Fruits were eaten as a second course, and the drink was chocolate.

³ Bernal Diaz, cap. 91.

⁴ The Tezeucan standard of length alleged by Ixtlilxochitl (vol. i.

was continuously reckoned in days, on the basis of 365 to the year, and divided into periods of 20 marking the sequence of religious and civil duties; annual calendars, inscribed on paper or skins, were in common use, and chronological records carried the knowledge of events back through the historical past far into the region of fable. Such documents, when intended to be permanently kept, were often executed with extraordinary care; they exhibit great skill in drawing, and some sense of harmony in colouring¹: the Mexican draughtsmen were undeniably inspired by the true genius of their art, though originality was checked by the conventional forms which they commonly adopted. Pinturas of ruder execution served to describe matters of minor or temporary importance; pictographic symbols, denoting the vicenary series of numbers, assisted in calculation². Lastly, together with the species and quantity of the tributes payable by the pueblos, the proper name of each pueblo was pictorially recorded, though only in a rude and tentative fashion³; the pictographic art had

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p. 247), and stated to have been equal to three Spanish varas, or about 8 feet 3 inches English measure, may be dismissed as mythical.

¹ See especially the Dresden Codex, the original Vatican Codex (No. 3773), and the Bodleian Codices, No. 678 (Laud) and No. 2858 (Bodley). Aglio's course reproductions of these, given in Lord Kingsborough's work, very imperfectly represent the originals. The accuracy of line, the finished drawing, and the clearness of colouring exhibited in these works recall the illuminated manuscripts of mediæval Europe; the Laud MS. is especially noteworthy for its execution.

² Numbers up to 4 were denoted by as many dots; 5 by a straight line; numbers from 6 to 9 by a line drawn beneath the number of dots by which 5 is exceeded; 10 by two parallel lines, 15 by three parallel lines, &c. 20 was denoted by the pictograph of a flag (pantli), 400 by a feather (quetzalli), and 8,000 by a bag tied with knotted cords, representing a package of 8,000 cacao grains (xiquipilli). The flag was an ordinary oblong piece of cotton cloth; these were made up in packages each containing 20 (see note 1, p. 308).

³ Most of the elements incorporated in the pictographic symbols for place-names correspond with the actual things to which the names

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thus been pursued to the threshold of its final stage, in which it turns from the representation of things to the representation of the words by which things are denoted. At this point its progress was arrested. The Nahuatlacá had nothing in the nature of a general syllabary, much less an alphabet; analysis of the phonetic elements was unknown, nor had they any means of visibly recording the simplest grammatical sentence.

Its incon-
 gruities
 explained.

In vivid contrast to these remarkable proofs of progress, nothing can be clearer than the fact that substantially the advancement of Mexico rested for support on a system of perpetual extortion from defenceless tributaries, and a system of perpetual war, remorselessly maintained against neighbouring peoples, ostensibly to procure victims for sacrifice, but really to provide animal food for consumption by the privileged class engaged in it; and the religious ritual had been so expanded as to ensure for them, by a sacred and permanent sanction, an almost continuous cannibal carnival. This last feature throws a deep shadow over the latest Nahuatlacá advancement, and seems painfully incongruous with its high grade of general progress. But Anahuac, it must be remembered, was devoid of large animals capable of furnishing a regular supply of labour-power and food; and in both respects man had here to fulfil an economic function assigned elsewhere to the brutes. Hence human energy, in Mexico alone among advanced communities, was largely sustained by feeding on human flesh, and relied on

allude. There are, however, a few purely phonetic symbols. The locative particles *-pan* and *-tlan* are represented by the symbols of a flag (*pantli*) and a tooth (*tlantli*; both words lose the final syllable in composition); this use of the former symbol was probably suggested by its employment as a numeral (see last note); the latter followed as a natural imitation of it. The locative particle *-ixco* is represented by an eye (*ixtli*=face). As to the diminutive particle *-tzinco* see footnote 2, p. 484 ante. Both *-ixco* and *-tzinco*, like *-tlan*, were represented by parts of the human body. We have here the rudiments, but the rudiments only, of a syllabary.

forced human labour as its necessary auxiliary. If the more revolting of these facts is usually absent from nascent civilisation, it is because nature had elsewhere provided cheap and abundant substitutes for human flesh as an article of food. That this organised cannibalism, fortified by its religious sanction, was in fact a natural if not a necessary outgrowth of circumstances is indicated by the fact that from Mexico, where it was admittedly first developed, it spread to all the great dominant pueblos of Anahuac. It was introduced, as we have seen, into Tezcuco against the will of a Tlatohuani who personally adhered to the more rational and less sanguinary religion of his forefathers. It was adopted in Huexotzinco, Tlaxcallan, and Cholula, where the ancient Toltec god Quetzalcohuatl, who had once refused human sacrifices, was worshipped at the Conquest with rites borrowed from the religion of Tezcatlipoca: and there is little doubt that it existed among the warlike Tarascâ of Mechoacan, whose resistance checked the extension of the Mexican dominion on the west. To the eastward, beyond the isthmus of Tehuantepec, among the descendants of the Toltecs in the interior of Yucatan, it seems never to have penetrated, though it was found in the more recent Nahuatlacac settlements on the coast¹. The Mexicans, indeed, were uneasily conscious that Yucatan was the seat of powerful tribes who still obeyed the ancient Toltec deity whom Tezcatlipoca had supplanted; and a belief was current among them at the Conquest that he would one day return, at the head of his followers, to destroy the dominion of the Lake pueblos, together with the odious religion by which it was supported². The same belief was cherished by the

¹ Bernal Diaz, cap. 3.

² Cortes, Carta Segunda; Bernal Diaz, cap. 89. Yucatan, which lies due east from Mexico, was undoubtedly the country indicated by Montezuma as 'the land where the sun rises,' from which the invasion was expected. The Spaniards had actually arrived in Mexico from Yucatan, and it was natural to suppose them to be Quetzalcohuatl's emissaries.

BOOK II. Totonacs of the coast, who groaned under the Mexican
 Aboriginal yoke¹; and both these and their Mexican masters at first
 America. recognised the Spaniards as the long expected new-comers
 who would overthrow the hateful system of extortion and
 cannibalism which Anahuac impatiently endured, and restore
 it to freedom and the worship of Quetzalcohuatl.

Character
 of Peruvian
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 ment.

The worst features of Mexican life—its cannibalism, and its perpetual war, waged for the sole purpose of capturing prisoners to be sacrificed and eaten—are happily absent in Peru, where the huanaco and vicuña abounded both in the wild and the domestic state, and furnished a sufficiency of animal food for a relatively sparse population; and for the same reason famines were here unknown, although in the colder districts it was not uncommon for the crops to fail in three years out of every five². Herdmanship, always more favourable to material than to intellectual progress, here had a peculiar effect in determining the course of advancement. Trained to habits of command and foresight by the domestication of the llama, the invading tribes from the south beheld in the stolid aborigines of the Peruvian cordillera an inferior species of man, over whom a similar dominion could be exercised. Easily reduced to submission, these were thenceforth treated as animals, destined, like the llama, to labour in herds under the direction of their masters³. The camayocs, or supervisors to whose care they were committed, numbered them, classified them, and registered them according to their age and consequent capacity for work⁴; like the llamas, they were divided into male and female flocks, some set apart for the service of the huacas—among whom the Sun ranked first in importance—

¹ See vol. i. p. 596.

² Polo de Ondegardo, apud Markham, 'Rites and Laws of the Incas,' p. 159.

³ 'Llankkan' (= he labours), the verb denoting human labour (see note 2, p. 242 ante), is apparently derived from 'llama.' Von Tschudi spells the word 'llamkan.'

⁴ See Santillan, *Relacion*, cap. 11.

others for the Ccapac-Inca ; provision was made for feeding and clothing them ; their sexual alliances were regulated by the governing authority ; like llamas, they were transported in large numbers, whether permanently or for some temporary purpose, from one district to another—a practice facilitated by the vast extent of the Inca dominion. The dominant people itself patiently conformed to a similar system of regulation, directed by the chiefs in whom the supreme command was vested. The warriors, who here necessarily formed a larger body than in Mexico, were largely drawn from the peasantry ; and the organisation by which the dominion was extended supplied the labour employed in the works by which it was consolidated. As conquest advanced roads and bridges had to be made, to render the new territories accessible ; terraces and acequias to be formed, to make them available for agriculture ; groups of buildings had to be erected in each, known as Inca-tampus, or Inca-houses, consisting of storehouses, dwellings for the garrison and the Ccapac-Inca, houses for the Sun, and for the women assigned to his service. The existing monuments of the Inca dominion bear witness to an energy and command of labour equal to that of some early civilisations of the Old World, and far more than adequate to the requirements which called them forth. Shortly before the Conquest, Huaina Ccapac caused stones for building the Inca-tampus of Quito and Tumipampa to be brought from the quarries of Cuzco, a distance of 1000 miles along one of the most difficult routes in the world, and often boasted that when nothing remained to employ his subjects he would remove a mountain from its seat and rebuild it elsewhere¹.

A despotism thus prematurely developed probably tended

¹ Cieza de Leon, Part II, cap. 64 : 'Decia muchas veces Guayna Capac, que las gentes destes reinos, para tenellos bien sojuzgados, convenia, cuando no tuviesen que hacer ni que entender, hacerles pasar un monte de un lugar a otro.'

BOOK II.
 Aboriginal
 America.
 Checks on
 advance-
 ment in
 Peru.

to check mental advancement in its beginnings; and the South American stocks in general appear to have been less capable of improvement than their northern neighbours'. These considerations, however, scarcely explain the fact that a people who put forth the immense material force evinced by the Inca dominion and its monuments remained intellectually at a level far lower than that reached in Mexico, and scarcely surpassing the higher savagery of North America. The chief reason is probably to be found in the comparatively short time—scarcely more than a century—which had elapsed since the foundation of the enlarged Inca dominion. Vast as was its extent, it was still in its infancy, having been founded by the grandfather of Huaina Ceapac, who died only a few years before the Conquest. The intellectual progress of Mexico was principally based on the combined application of arithmetic and pictography to the practical purposes of life. Each of these elements existed in Peru, but in a less developed form, nor had any steps been taken to combine them. Reckonings such as those above described—in practice the only ones known—were registered by the quipu or knotted cord. Pictography was limited to rude decorative carvings and paintings, and was chiefly used in the ornamentation of pottery. There was no commerce, and therefore no standard of value. Even pottery and metal-working scarcely ranked as special forms of craftsmanship: every Indian, male or female, practised all the various arts of life, as occasion might require². Like many other pastoral peoples, the Peruvians of the sierra retained the general character of hunters: the very conditions, indeed, of herdsmanship here prevented a total abandonment of the hunter life. Long after herds of llamas

¹ Such was undoubtedly the impression made on the Spaniards, who commonly speak of the Peruvian Indians as 'gente de bajo ententimiento' (Santillan, *Relacion*, p. 36), while the Mexicans are commended for their brightness and vivacity (ante, p. 212, note 1). See p. 426, ante.

² Garcilasso de la Vega, *op. cit.*, lib. v, cap. 9.

and pacos had been formed, the wild huanaco and vicuña still multiplied in the higher and remoter parts of the mountains; and as the tame herds increased rapidly, and were kept in open pastures, the wild stock was continuously recruited by animals which had escaped from captivity and became feral¹. The tame and the wild herds were alike treated as tribal property²; deer and small game still contributed to the food-supply; hence the Peruvian herdsman remained to some extent a hunter, and the tribal district retained the scale necessary in the hunter state. Although the pueblo, here as elsewhere, was the unit of social life and history, it remained for the most part undeveloped, and the sierra was territorially divided among many different tribes, each occupying an extensive district and known by a collective name. Such peoples, after a period of war, in which their strength is tested, form alliances, and unite in larger groups; finally the sway of some powerful tribe, centralised in a fortified pueblo, is extended over a considerable area. To such causes, apparently, the fact is due that a people far below the Nahuatlacà in general advancement here established, in a short time, and over a district presenting formidable obstacles, the most extensive and highly-organised dominion of the aboriginal New World.

When the conquering race entered Peru from the south, both the sierra and the coast valleys had long been peopled in every part; and down to the Spanish Conquest great numbers of 'hahuasimi,' or 'foreign languages,' so called in contrast to the Quichua and Aymara of the invaders, are said to have been still spoken among these aboriginal tribes, almost every valley having a language of its own³. Many

¹ Xerez, *Conquista del Peru* (p. 115, ed. Ternaux-Compans); 'En toda esta tierra hay mucho ganado de ovejas; muchas se hacen monteses, por no poder sostener tantas como se crían.'

² The wild stock was periodically hunted in each district, and accounts of the animals taken were regularly kept (*Ondegardo*, ubi sup., p. 165).

³ Acosta (note 2, p. 59, ante) speaks of 700, apparently in Peru

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population
of Peru—
the Yuu-
capata.

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of these were doubtless mere dialects ; in any case this great variety of languages seems rather to indicate a prolonged isolation of each petty tribe in its own valley than descent from many different linguistic stocks, although the forests from which these tribes had emigrated have always abounded in small groups speaking mutually unintelligible languages. To some extent this primitive population may have represented the movement of man, in the earliest ages, along the Pacific shore¹ ; and tradition alleged that the founders of the northernmost coast pueblos had arrived from the north by sea within historical times². More largely the population found here by the conquering race must have consisted of immigrants from the forests of Brazil, who had followed the Marañon and Ucayali, the parent streams of the Amazon river, to their sources in the sierra, and either settled in its higher valleys, or descended its western slopes and occupied the maritime tract at its base³. Nothing leads us to infer

alone, though his meaning is doubtful. According to Gomara (*Hist. de las Indias*, cap. 193), there were many distinct languages even in the limited district of the coast valleys. Three different aboriginal languages were spoken in the valley of Xauxa alone (*Relaciones Geograficas de Indias*, Peru, tom. i. p. 82) ; and it is possible that Acosta's figure does not greatly exceed the truth, especially when it is remembered that the Inca dominion included Ecuador and a great part of Bolivia, half of Chile, and an indefinite area in the forested lowlands to the eastward.

¹ See ante, p. 385.

² According to Balboa (1576-1586) the people of Lambayeque, the northernmost of the coast valleys, retained in his time a tradition to the effect that this pueblo had been founded by a chief called Naymlap, who arrived by sea with a numerous following, bringing an idol of green stone called Llampallec, from which the settlement took its name. The chiefs who succeeded him are enumerated, and his descendants are said to have founded colonies in the valleys to the southward (*Hist. du Pérou*, ed. Ternaux-Compans, pp. 89-93). Although this tradition is confirmed by no other authority, it may possibly have an historical foundation (see ante, p. 437).

³ Northward of Lambayeque the Indians, according to Balboa, described their ancestors as having come from the mountains. Oliva (*Hist. du Pérou*, ed. Ternaux-Compans, pp. 26-40) mentions a tradition

that these early dwellers in the sierra had appreciably risen above the savage grade; subsistence must have been difficult, and the diversity of languages indicates that each group of settlers, as a rule, was confined to the spot chosen as its dwelling-place. In the coast valleys both subsistence and intercommunication were easier; and monuments of a culture older than and in some respects superior to that of the conquering people of the sierra exist here in abundance. Scattered at intervals along a shore 450 miles in length, wherever the streams descending from the western Andes cross the arid Yuncapata and produce oases of varying extent¹, are the remains of vast adobe-built pueblos; of lofty pyramidal mounds similarly constructed, and used as burial-places; of chiefs' residences, and 'great-houses' once

according to which the earliest inhabitants of Peru were immigrants from Venezuela, and had been guided in their wanderings from the shore of the Caribbean sea by the mountains bounding the fluvial basin of the Orinoco on the north-west. Apart from tradition, everything leads us to suppose that the sierra was originally peopled from the enormous forest district to the eastward; and the fortifications of the valleys near Cuzco and Huanuco indicate that the savages of the montaña sought to make their way into the cordillera in historical times. The Puquina, spoken by the aboriginal Urus of the Titicaca valley (see vol. i. p. 326), has the appearance of a Brazilian language, and is grouped with the Moxa and other languages of the montaña by M. Raoul de la Grasserie, who has recently re-edited the Puquina texts published by Ore in 1607 (Leipzig, 1894).

¹ The most remarkable remains are near Truxillo, in the valley of the Moche river, consisting of the ruins of the vast pueblo called Chimú, with its great pyramidal burial-mounds and its chiefs' residences. Further south are the remains of the pueblo of Santa, covering a space a mile long by half a mile wide, with stone towers and defensive walls; of the pueblo of Chimbote, in a valley having no stream of its own, and supplied with water from the river of the Santa valley, sixteen miles distant, by an aqueduct of aboriginal construction; of the great chief's residence called the Huacatampu, and a large adobe pyramid, at Nepeña; of the fortresses of Casma, Quisque, and Parmunca; of the great pueblos of Alpacote, Caxamarquilla, Pachacamac, &c. These are fully described and illustrated in the works of Squier, Markham, Wiener, and other travellers.

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jointly occupied by clans, planned on a large scale, and capable of housing a numerous population; of irrigation works and terraces, by which the scanty waters of the mountain streams were hoarded, and the soil utilised to the utmost; of rude fortresses surmounting conspicuous hills, and indicating that here, as everywhere else, nascent civilisation stood on its defence¹. In the midst of these are found other monuments, easily recognisable as the work of the stronger race who broke down this defence, and destroyed an advancement earlier and not less interesting than their own. The ruins of the Yuncapata are the chief resort of the antiquary in quest of relics of Peruvian life; and in one of its northern valleys the Muchica, once the language of the great pueblo of Chimu, and the sole survivor of the many languages spoken in northern Peru before the Inca invasion, is still in use². It evinces great cultivation, shows unusual power of analysis, and suggests ancient progress and prolonged isolation.

Life in
 the coast
 valleys.

Few historical events, and scarcely any historical names, are recorded in connexion with this group of peoples. Surviving traditions, collected by the Spanish antiquaries³, represented them as belonging to three or four different

¹ These vary in form, the fortress of Parmunca being quadrangular, consisting of three lines of mud walls, diminishing towards the summit, partly covered with plaster, and painted with figures of birds and beasts (Squier, p. 102). That of Casma consists of three elliptical stone walls, one within the other, enclosing two double towers similarly constructed. The fortress of Quisque, which forms an irregular hexagon, having an enormous square tower at one angle, is probably of Inca construction.

² This unique language has recently been accurately studied by Dr. Middendorf, and is fully described in his work, 'Das Muchik, oder die Chimusprache,' Leipzig, 1892. It is chiefly used in the little town of Eten, a league distant from the port of the same name. It was formerly spoken not only over a large area of the coast, but in many parts of the sierra, extending even to the Condebamba in the upper valley of the Marañon, where, however, its use is attributed to the establishment of a colony of mitmacuna from the coast in Inca times (Middendorf, p. 42).

³ Cieza de Leon, part i. cap. 61.

races, all of whom, however, were alike in manners, customs, and government. The curacas, or sovereign chiefs, whom the Sun, it was said, had specially created¹, were held in the deepest reverence. They had many wives, were constantly attended by buffoons, dancers, singers, and musicians², and occupied spacious dwellings adorned with porticoes, terraces, and columns, and surrounded by open courts, where their vassals danced and drank chicha while the curacas feasted within. Such festivities lasted many days and nights; the curacas themselves, unlike the Mexican chiefs, drank so freely that the goblet seldom quitted their hands—a statement corroborated by their highly ornamented drinking vessels, on which the act of drinking is frequently depicted, its effects being humorously illustrated in the foolish and somnolent expression of the drunkard³. Subsistence was here abundant, the fish and marine animals of the Pacific providing an inexhaustible supply of stimulating food, in pursuit of which the inhabitants fearlessly put to sea on rafts supported by bundles of reeds or inflated sealskins. At the Inca Conquest, according to Garcilasso, the coast pueblos were consolidated into three groups, each under the sway of a powerful chief⁴. They made no effectual resistance to the conquering race of the sierra. In at least one instance treachery, which the Inca warriors unscrupulously practised, was resorted to in reducing them to subjection. The people

¹ See vol. i. p. 512, note 4.

² Besides the flute or pipe of burnt clay, the coast people had the syrinx or Pan's pipe, and a diminutive drum. These instruments seem to have been borrowed from them by the people of the sierra.

³ In the Peruvian pottery alone do we find any trace of humour in art among the American aborigines. Some specimens, however, may possibly be later than the Conquest, and have been produced under Spanish influence.

⁴ Besides 'Chimu-Ceapac,' who ruled in the group of valleys of which Truxillo is the centre, Garcilasso mentions 'Cuys-Manco' as the supreme chief of the four valleys of Pachacamac, Rimac (Lima), Chaucay, and Huaman, and 'Chuqui-Manco' as the supreme chief of Runahuanac, Huarco (Cañete), Mola, and Chillea.

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of the Huareco valley refused to submit to Pachacutic, who made a pretended peace with them, and consented to be entertained by them at a feast. To procure the material for this they put to sea in large numbers; on their return the Ccapac-Inca posted his warriors in ambush and massacred them¹. At the Spanish Conquest the population of the coast pueblos, excepting a few places of religious pilgrimage, such as Rimac and Pachacamac, had greatly diminished. Fifty years later it had almost disappeared, and it was estimated that the Yuncapata contained not more than a thirtieth part of the inhabitants it had formerly supported².

Dominant
 race from
 the south-
 east.

While the northern and middle sections of Peru, including both the sierra and the coast valleys, were thus overspread in early times by immigrants from the forested basin of the Amazon river, the Quichua-Aymara race, ultimately destined to dominate it in its whole extent, approached it, at a comparatively recent date, from the south-east. The previous home of this race appears to have been the Altaplanicie, or highland district of Bolivia³—the great counterfort of the Andes which once separated the Moxos lake from the ancient Argentine sea, and now stretches eastward from beneath the lofty summits of the eastern cordillera, gradually decreasing until it disappears in the plain where the Mamoré river flows northward to the Amazon and the Pilcomayu southward to the Paraguay; it included also the mountainous north-west region of Argentina—a district known to the Quichua-Aymara by the name of Tucuman, or the 'World's End,' long after they had established themselves as the dominant people of Peru. Originally they must have

¹ Acosta, lib. iii. cap. 15 (but see post, p. 592). ² Id. lib. iii. cap. 19.

³ The tradition, as reported by the Indian author Salcamayhua (*Tres Relaciones*, p. 234), was that 'in the savage times (*purunpacha*) all the nations of *Ttahuantín-suyu* came from beyond Potosi in three or four armed companies' (*venieron de hazia arriba de Potosi tres ó cuatro exercitos en forma de guerra*).

come from the neighbouring lowlands; and our inference as to the origin of the great stocks which spread over North America from the north-west coast suggests that they may have been descended from a fishing population inhabiting the margin of the Argentine sea. In their next stage, they appear to have been hunters, who pursued the huanaco and vicuña on the slopes of the Andes, throughout which, from Patagonia to the equator, these animals once abounded. The valley of Lake Titicaca invited them to permanent settlement; this, according to a tradition universally accepted and perfectly credible, was the principal centre and earliest seat of Peruvian advancement. Here the Sun emerged from his hiding-place—the sacred rock of Titicaca—after the Deluge; here, in the ancient pueblo of Tiahuanaco, Pachacamac had fashioned man from clay¹. The fish and water-fowl of the lake were obvious attractions to a wandering people; the potato and quinoa bean, already, perhaps, cultivated by the immigrants in their original home, yielded ample crops when planted on the shores; from the wild huanacos and vicuñas, by a process elsewhere described², herds of llamas and pacos were in due time formed, and were carried with them by the conductors of subsequent migrations. From the lake basin as a centre the settled life thus established spread northwards and westwards; wherever the wild huanaco and vicuña, and the domesticated llama and paco, found pasture, these hunter-herdsmen wandered forth in well-armed companies, subjugating the lower tribes already settled in the valleys, reclaiming them from a gross fetishism, and introducing among them the worship of the Sun. Such, at least, was the account furnished by their descendants to the Spaniards. Agriculture was already known, in some limited degree, to this early population. The new-comers organised it on a more ample basis, and perfected, if they did not invent, the arts of irrigation and

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*Aboriginal
America.*¹ See vol. i. pp. 325, 513.² Vol. i. p. 322.

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terrace-building. Thus came into existence the composite advancement of the Peruvian sierra; unique in the New World through its combination of agriculture and herdsman-ship, and incapable of extension in the hot valleys of the coast and montaña, where the climate and the lack of pasture absolutely excluded the paco, and the hardier llama only appeared as an occasional and temporary visitant.

Aymara
 group—
 Colla-suyu
 and Conti-
 suyu.

By what general name, if by any, the dominant race who overran the sierra were known among themselves, we are ignorant. Modern usage divides them into the 'Aymara' and 'Quichua' groups, so named from the two closely allied languages spoken by each respectively¹; and the areas within which each language prevails approximately represent the distribution which existed at the Spanish Conquest, though the boundary of the Aymara language has retreated as that of the Quichua has advanced. Apparently this process had begun in the century preceding the Conquest; and from the frequent occurrence of Aymara elements in the place-names of the Quichua district², and the predominance

¹ The Aymara and Quichua have a common phonetic basis, substantially the same grammatical structure, and an immense number of common words. Having regard to the ease with which the substance of American languages has been changed, they may probably be regarded as varying forms of a fundamental type, from which the Aymara has diverged less widely than the Quichua. By the aid of the admirable grammars of Middendorf ('Das Runa Simi oder die Keshua-Sprache,' 1890, and 'Die Aymara-Sprache,' 1891) the student can now easily compare them for himself.

² Dr. Middendorf argues that the present Aymara people once occupied the whole district as far as the eastward bend of the Marañon, and concludes from the prevalence of Aymara elements in place-names, and the similarity between the ruins of Cuelap and Chavin, near Chachapoyas, and those of Tiahuanaco, in the Titicaca valley, that the Aymara were in fact immigrants from the north. The place-names seem rather to point to a time when the two languages had not yet completely diverged. The suggestion of the northern origin of the Aymara is inconsistent with the general history of the dominant race, which has advanced from south to north, in the direction of the equator, as the dominant tribes of North America have advanced from north to south.

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of the Aymara in the tracts which must have been earliest settled, we infer that this rougher and more archaic language best represents, though now greatly modified, the speech of the original immigrants, while the Quichua was a northern dialect, which a prolonged separation substantially converted into a different language. The Aymara-speaking stock, it would seem, advancing from the Bolivian highlands, first occupied the Titicaca valley; the Charca, between the mountains of Cochabamba and the Pilcomayu river, the Quillaca and Caranca, to the south and west of Lake Paria, and, around the Titicacan lake itself, the Pacasa on the southern and eastern shores, the Lupaca on the south-west, and the Colla on the north-west, serve to indicate the stages by which the advance was made. The last-named tribe, which included the inhabitants of the important pueblos of Hatun-Colla, Paucar-Colla, Chucuito, and Sullaca, was in Inca times more powerful and better known than the rest; hence it gave name to the whole district, which contained the greater part of the Aymara-speaking population. Beyond the Titicaca valley the tide of migration spread into the upper valleys of the Apurimac and Huilcamayu rivers and their tributaries, the dwelling-place of the Cana, Canche, and Cahuina tribes, and at length reached the mountain ridges which surround Cuzco. From this point south-eastwards to the remote end of the Titicaca valley, the Aymara-speaking tribes were distributed along a route leading directly from the principal head-waters of the Amazon river to the most elevated parts of the Andes. South and west of the Titicaca valley, they spread more sparsely over the wild mountain district which terminates in the slope of the western cordillera towards the Pacific, near Arequipa and Moquehua. This district was known to the Colla as *Conti-suyu*¹; together with the *Colla-suyu* it constituted the area occupied by the Aymara-speaking people. Originally,

¹ Probably so named from the pueblo of Hatun-Conti, the 'Atun-Conde' of Salcamayhua (*Tres Relaciones*, p. 279).

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perhaps, not less versatile and adventurous than the other, this branch of the race has become, by long residence in the coldest tracts of the sierra, almost incapable of living elsewhere, and has acquired a settled dulness of character contrasting strongly with that of the vivacious Quichua, who occupied the warmer valleys beyond the Apurimac.

Quichua
 district, or
 Chinchay-
 suyu—the
 Ttahuan-
 tin-suyu.

The country inhabited by the Quichua-speaking branch of the race lies north-west of the Aymara-speaking district, and forms the middle section of the present Peruvian Republic. The two districts are divided by no physical boundary, the higher part of a valley being some times included in the one, and the lower in the other; and the distinction, as the word 'Quichua' implies, is founded on a difference of climate. The name denotes a moderately warm or temperate valley in the sierra, as contrasted with the 'yunca' or intensely hot valleys of the coast and the montaña—a valley in which maize, pepper, and cotton could be cultivated, but which was nevertheless in close proximity to mountain pastures where the paco and llama could feed and thrive, and therefore united the advantages of the bleak highlands and the torrid lowlands. Such is the character of the valleys of middle Peru, from Cuzco in the south to Cerro de Pasco in the north—the broadest and most accessible section of the sierra, where the mountain-ridges are less lofty, and the deep valleys formed by the long and deviously-winding tributaries of the Apurimac and Mantaro rivers, at once more numerous, extensive, and fertile. From Xauxa and Tarma in the north, to Andahuayllas and Abancay in the south, these valleys form a chain of healthy and delightful spots, unrivalled in the world, perhaps, in suitableness for human habitation. Protected from the savages of the montaña on the north-east by the lofty ranges of the Andes, where the Apurimac and Huillemayu rivers force their way through deep and inaccessible gorges, communication with the populous valleys of the Pacific was comparatively easy; north-westwards,

beyond the lake of Chinchay-cocha and the knotted ridges of Cerro de Pasco, lay the valley of the Marañon. By the Aymara-speaking people of the highlands to the south-east the district was called the Chinchay-suyu, or Western Land¹. The tribes of the southern valleys, formed by the tributaries of the Apurimac, were known to their neighbours as the Chanca; those of the northern ones, formed by the tributaries of the Mantaro, as the Huanca; still farther northward, beyond Cerro de Pasco, were the Rucana². Eastward of the Andes was the hot montaña called the Anti-suyu³. Thus were constituted the Four Districts (Ttahuantin-suyu) into which the inhabitants of Cuzco considered the country to be divided: (1) the Colla-suyu, from the Bolivian highlands to Cuzco, having the valley of Titicaca as its central and most important part; (2) the Conti-suyu, between the Colla-suyu and the Pacific; (3) the Quichua-speaking Chinchay-suyu, originally comprising the districts of the Chanca and Huanca, afterwards extended along the sierra towards the north-west; and (4) the Anti-suyu or montaña, which the dominant race never permanently subdued, although in the period immediately preceding the Spanish Conquest a few settlements had been founded there, chiefly for the purpose of forming coca plantations⁴.

¹ Literally 'Land of the Evening Star' (cheque-chinchay). The word is now obsolete, but it is explained in the diagram in Saleamayhua's Relation (Tres Relaciones, p. 257).

² The meaning of these names is not certainly known, and they appear to denote merely local sub-divisions of the Quichua-speaking population of Chinchay-suyu.

³ Probably derived from some obscure tribe of the montaña, which has thus accidentally given its name to the great mountain-range of South America. The derivation of 'Andes' from the Quich. anta = 'copper' is untenable.

⁴ A similar fourfold distribution of the country appears to have been recognised by the tribes of Lake Titicaca, who had the Anti-suyu on the north and east, the Conti-suyu on the south and west. According to Gareilasso (lib. i. cap. 18) the Colla believed the Creator to have divided the world, from the valley of Titicaca as a centre, into

BOOK II. The impression of past events prevalent at the Spanish
 Aboriginal Conquest, at which time Peru had been dominated for
 America. a century by the Ccapac-Incas of Cuzco, was that each valley,
 Ancient throughout the sierra, had been separately governed by its
 dominion of own curaca until the Inca warriors, suddenly crossing the
 Chinchay- boundaries of their narrow canton, spread their rule with
 suyu. great rapidity, and without sustaining any serious check,
 southwards to Chile and northwards to the equator, over a
 mountainous tract throughout which no extensive dominion
 had previously existed¹. Such a conquest, if not wholly
 incredible, would be without a parallel in history. Garcilasso
 de la Vega, when compiling the specious but untrustworthy
 narrative by which the Inca history is still best known,
 perceived this difficulty, and ingeniously solved it by suppos-
 ing the growth of the dominion to have taken place step by
 step, concurrently with the succession of the Ccapac-Incas,
 each of whom marked a stage in its extension. Manco
 Ccapac, according to his account, conquered the original
 Inca-suyu, between the Apurimac and the Paucartampu
 rivers; Sinchi Roca, the upper valley of the Huillecamayu;
 Lloque Yupanqui, the shores of Lake Titicaca; Mayta Ccapac,

four parts, giving the north to Manco Ccapac, the south to Colla Ccapac, the east to Tocay Ccapac, and the west to Pinalhua Ccapac. According to Salcamayhua (*Relacion*, p. 244), the two last-named chiefs were conquered by Manco Ccapac, according to Balboa (*Hist. du Pérou*, ed. Ternaux-Compans, pp. 41, 43) by Pachacutic.

¹ Cieza de Leon and Betanzos mention no permanent conquest beyond the limits of the Inca district until the time of Pachacutic (see post, p. 583). Santillan (*Tres Relaciones*, p. 15) and Ondegardo (*Markham, Rites and Laws*, p. 152) explicitly state that the Inca conquests began with Pachacutic. Salcamayhua (*Tres Relaciones*, p. 264) makes Ccapac Yupanqui advance southward as far as Huillecañota, although, according to his own account, the Cahuina, Cana, and Canche tribes were still independent in the time of Huiracocha (*id.* p. 269). Balboa describes the Ccapac-Incas down to Huiracocha, Pachacutic's predecessor, as engaged solely in reducing the people in the immediate neighbourhood of Cuzco; and this is evidently the truth of the matter.

the southern parts of Colla-suyu, and much of Conti-suyu ; Ccapac Yupanqui crossed the Apurimac, and invaded the Chinchay-suyu ; Inca Roca enlarged the conquests of his predecessor ; and the invasion of the Cuzco canton from Chinchay-suyu in the time of Huiracocha originated in a mere rebellion of tribes long since subjected to the Inca power¹. A scrutiny of the authorities convinces us that this alleged progressive extension of the Inca conquest, from the earliest times, is devoid of foundation, and that the Inca dominion was in fact founded, not more than a century before the arrival of the Spaniards, on the wreck of a more ancient power which once existed in Chinchay-suyu. The territory dominated by this power antecedent to the Inca appears to have comprised most of the middle section of Peru, from the lake of Chinchay-cocha in the north to Abancay in the south, and to have extended to the Pacific at the valley of Chinchay. Our authorities agree that such a power once existed ; that it was constituted by an alliance of tribes under the leadership of the chief of Pucara, in the Huanca country ; and that the allied chiefs had spread their conquests southward through the Quichua-speaking districts as far as the Apurimac, the boundary of the Inca canton, in times immediately preceding their invasion of Cuzco. The branch of the alliance by whom the last-named districts had been conquered was the Chanca ; and to this tribe, in a general movement further southward, was assigned the task of invading the Colla-suyu, of which the Inca canton formed the northernmost part. The invaders unexpectedly encountered a determined resistance, organised by the youthful Pachacutic, and were decisively defeated by him, in a battle fought at no great distance from Cuzco. In consequence of this defeat the Chanca deserted their former allies, and made common cause with the Inca. Joining their

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¹ See Sir Clements Markham's valuable Map of Peru, issued with his edition of Acosta, by the Hakluyt Society (1879), which shows the progressive extension of the dominion according to Garcilasso.

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forces in the Chanca country, the Inca and Chanca turned the tide of invasion, broke up the Huanca alliance, and conquered the northern parts of the Chinchay-suyu; and all middle Peru was thus incorporated with the Inca dominion. With such facts as a foundation the history of the Inca assumes for the first time a credible aspect. Viewed in this light, their achievements lose something of their legendary grandeur and originality: in each respect whatever belongs to the founders of the Chinchay-suyu dominion is so much in reduction of the credit due to their Inca successors. The former people must have begun, and carried on to an advanced point, the work of missionary civilisation with which the Inca are associated; they must have made middle Peru accessible from north to south by roads and bridges; to them is due the first conquest in the region of the coast valleys, and the first idea of a combination of the Quichua-speaking and Aymara-speaking tribes throughout the sierra as a single dominion; and the use of Quichua as the common language of the Inca dominion is probably due to the fact that it was the language of Chinchay-suyu, having already been introduced among the aboriginal tribes consequently upon the conquests of the Quichua chieftains. The Cuzco canton was within the Aymara-speaking district, and we have little doubt that this language was the original language of the Inca.

Indirect
 evidence
 of the
 Chinchay-
 suyu do-
 minion.

Throughout the middle section of Peru the traveller still encounters remains of ancient fortifications and other buildings, obviously older than the Inca occupation, and popularly ascribed to a powerful race who preceded the Inca as the dominant people of the district. The cyclopean walls of Curampa and Huiñaque are well-known examples; and other buildings of the same description were perhaps destroyed to make room for Inca-tampus, as at Xauxa, Huilcas, and other places, which ranked in the times of the Inca among their principal strongholds. Huilcas, with its seven hundred buildings, was commonly but erroneously

regarded as the geographical centre of the Inca dominion ; and either here, or at Huamanca, the site of the present city of Ayacucho, the antiquary would be probably disposed to look for the seat of the ancient Chinchay-suyu dominion, but for the fact that tradition placed it at the natural stronghold of Pucara, in the valley of Ancasyacu. Other evidence confirming the inference that a power ruling far and wide was seated in the Chinchay-suyu in times preceding the Inca dominion, is afforded by the traditions of the coast valley of Chinchá, collected after the Spanish Conquest by Cieza de Leon, and repeated, apparently from independent sources, by Garcilasso de la Vega. This valley, it was said, had been conquered in comparatively recent times by an immigrating people. These immigrants, increasing in numbers and power, invaded or re-invaded the sierra, while the Inca were as yet confined to the valley of Cuzco, plundered the Sora and Lucana tribes, and penetrated as far as the Colla-suyu, where they obtained many victories over the inhabitants, and returned laden with booty¹. Garcilasso, in repeating this legend, summarily rejects it as inconsistent with the timid character and luxurious habits of the existing inhabitants of the Chinchá valley². This very inconsistency appears to attest the substantial truth of the story, when understood in its proper connexion. That an isolated people of the coast should not merely attack the dominant race in the sierra, but carry their victorious arms as far as the Collao, is almost incredible. But that the people of the Chinchá valley should identify themselves with a people of the sierra with whom their local name associated them, and of whose dominion their valley formed part, is likely enough. Nothing could be more natural than that they should join in the wars waged by the chiefs of the sierra, and should popularly claim the successes gained in those wars as achievements of their own.

¹ Cieza de Leon, Part I. cap. 74.

² Lib. vi. cap. 19.

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 Aboriginal
 America.
 The Inca
 district.

The small canton where the Inca power originated forms a narrow oblong, 60 miles in length by about 30 miles in mean breadth, at the northern extremity of the Aymara-speaking district, bounded on the north and east by the mountains through which three of the four rivers which unite to form the Ucayali, the parent stream of the Amazon river, force their way in deep and scarcely accessible gorges. From the Chinchay-suyu, on the west, it is cut off by the Apurimac. The Huilcamayu, after passing through the district of the Aymara-speaking Cana and Cahuina tribes, flows through its midst; and the valley of this river is its natural approach from the rest of the highlands. Geographically, therefore, the Inca district forms part of the Colla-suyu; and there are other indications that it was originally occupied by the Aymara-speaking branch of the dominant race. Its place-names still retain an infusion of Aymara elements¹. A few personal names among the early Apu-Ccapac-Incas, such as Manco and Mayta, which in Quichua are meaningless, are explained by reference to the Aymara vocabulary²; the principal places of religious pilgrimage frequented by the people of Cuzco at the Spanish Conquest are situated in the Aymara-speaking district³; and every incident recorded in the Inca traditions, down to the time of Huiracocha, a century or thereabouts before the Spanish Conquest, is connected with the same limited area. Everything indicates that the Inca canton long remained the

¹ Middendorf, *Keshua-Sprache*, p. 24; *Aymara-Sprache*, p. 34.

² Manco = modern Aym. malleo (chief); see p. 559, note 4. It is curious that Garcilasso, while in one place using the word Manco in a connexion which leaves no doubt of its meaning, should elsewhere profess himself unable to explain it (*lib. i. cap. 24*). Mayta = modern Aym. maeta (young); see post, p. 576.

³ According to Cieza de Leon (*Part II. cap. 28*) the most venerated spots, after the Ceoricacha of Cuzco and the mountain of Huanacauri, were Huilcañota, Ancocagua in Hatun-Cana, and Coropuna in the Conti-suyu. All these, besides the great huaca of Titicaca, were in the Aymara district.

northernmost part of the Colla-suyu ; probably it owed its prominence to the fact that the great natural highway of South America, leading from the Bolivian highlands and the Titicaca valley to the upper tributaries of the Amazon river, here quits the sierra, descending rapidly through the gorges of the eastern cordillera to the various points on those tributaries where canoe navigation becomes practicable¹. Hence, also, it was one of the meeting-places of the pastoral life of the mountains and the maize-agriculture of the warm valleys. The white maize of Yucay, in the Huillecamayu valley, only a few miles distant from Cuzco, but 2,000 feet lower in level, is the finest known variety of the corn ; and it is scarcely doubtful that it was already cultivated by the aborigines when the Inca canton was discovered and settled by the dominant race who made it the seat of their dominion.

Considering that the Inca preserved neither any continuous reckoning of years, nor graphic memorials of any description, the traditions of their history current at the Spanish Conquest are remarkably full and consistent ; nor can we doubt that they represent the facts and events of the past with reasonable fidelity. It was understood that the ancestors of the Inca had settled at Cuzco in comparatively recent times ; that an aboriginal tribe was already in possession of the district² ; and that from Manco Ccapac,

¹ The Indians of the Ucayali ascend the river in canoes from great distances to a point not far from Cuzco, where they go to exchange rare birds and animals for beads, fish-hooks, and silver ornaments (Herndon, *Exploration of the Valley of the Amazon*, p. 200).

² Betanzos (cap. 25) describes the original pueblo as consisting of thirty huts inhabited by Indians who acknowledged Allcahuisa as their chief, and Manco Ccapac as having settled among them without expelling or disturbing them. From an investigation made under the direction of the Viceroy Francisco de Toledo, in 1572, with the object of justifying the Spanish Conquest by proving the Inca to have been wrongful intruders, it appears that at this date no less than ten ayllus in or near Cuzco claimed to be descended from the aboriginal inhabitants ; one of these, called Ayaruchu, was identified with the tribe of Allcahuisa. Probably these ayllus had immigrated from the country

Book II.
Aboriginal
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Beginnings
of Inca
History.

Book II. the founder of the pueblo, to Huaina Ccapac, who died
 Aboriginal shortly before the Spanish Conquest, the Inca people had
 America. been governed by a succession of eleven sovereign chiefs'.
 In the absence of chronological data it was difficult to
 calculate even approximately the period over which the
 rule of the eleven Ccapac-Incas extended; and the usual
 Spanish estimate of 350 to 400 years probably somewhat
 exceeds the truth. According to a popular legend, 'Manco
 Ccapac' (Great Chief) and his wife 'Mama Ccoya' (Mother
 Maiden) were children of the Sun, who had descended
 from the sky to the rock of Titicaca, whence they travelled
 northward along the sierra, fulfilling the task, imposed by
 the Sun, of civilising the human race². A more credible

districts about Cuzco. See Toledo's *Relacion*, edited by De Espada.
 the substance of which is given by Brehm, *Das Inka-Reich*, p. 759:
 Betanzos, cap. 16; Santillan, *Relacion*, p. 12.

¹ According to the worthless fabrication known as the Chronology
 of Montesinos, Peru was populated by Ophir, a descendant of Noah,
 about 500 years after the deluge, from which time to the Spanish
 Conquest a succession of 101 Ccapac-Incas is traced, beginning with
 'Pirhua Manco,' father of Manco Ccapac, and ending with Atau-
 huallpa. The age of each chief, and the length of his reign, are
 specified. The earliest Peruvians, we are told, practised astronomy
 and chronology, as well as reading and writing, for which latter
 purpose they used stones and banana-leaves; the former arts, however,
 fell into disuse until they were restored by Inti-Ccapac, who lived
 about 1000 years after the deluge. He ascertained the length of the
 year to be 365 days 6 hours, and established chronological cycles
 of 10, 100, and 1000 years; the last-named period being a 'cchapac-
 huata' (great year) or 'intip-huata' (solar year). This list of fictitious
 names and events, evidently fabricated by some native in the sixteenth
 century, appears to have been known to Blas Valera (Oliva, *Hist. du*
Férou, p. 66). The Visitador Fernando Montesinos, who wrote about
 1652, and incorporated it in his work (*Mémoires Historiques sur*
l'Ancien Pérou, ed. Ternaux-Compans, 1840), was fully convinced
 of its authenticity. All other antiquaries, he argues, have by mistake
 counted hundreds instead of thousands; hence the common error
 of reckoning only 450 years of Inca history instead of 4,500, which is
 evidently the true number, as it corresponds exactly with the period
 which has elapsed since the deluge!

² Garcilasso, lib. i. cap. 5.

tradition represented them as members of a joint family, consisting of eight persons, or, according to some authorities, of six, who immigrated from the southward, and whose first settlement was in the Paucartampu valley, at or near the cave of Paccaritampu, venerated in after-times as the Inca paccarisca or place of origin; thence they had proceeded to Matagua, near the foot of the Huanacauri mountain, a spot held scarcely less sacred than Paccaritampu itself'. From Matagua they had removed to Cuzco, settling near the little stream now called Almodena, on the site of the present suburb of Cayaucachi². As the settlement extended, it gradually covered the lower quarter of the present city (Hurin Cuzco) and the rising ground near the Sacsahuaman fortress (Hanan Cuzco). If we assume for the eleven Ceapac-Incas a total period of three centuries, the first two of these would naturally have been occupied in extending and consolidating their power in the immediate neighbourhood of Cuzco.

Mere oral tradition, unsupported by actual monuments, could scarcely have carried back the Inca history through so long a period as three hundred years; and the succession of the eleven Ceapac-Incas, which constitutes the framework of Peruvian history, was in fact recorded by positive evidence of a unique description. The bodies of these chiefs, carefully preserved, received the same daily service which they had enjoyed when alive. Their private lands, herds of llamas, male and female serfs, were still understood to belong to them; food and chicha were regularly set before them; new clothing was made for them, and they were carried about, as if for daily exercise, in the richly ornamented litters used

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America.

Evidences
of Inca
history.

¹ Cieza de Leon, Part II. cap. 6. 7; Garcilasso, lib. i. cap. 18; Betanzos, cap. 3-5.

² Santillan, Relacion, p. 12. According to Garcilasso (lib. vii. cap. 8) one of the motives to the settlement at Cuzco was a salt spring, out of which in historical times large quantities of salt were still made. (Compare the salt supply of the Mexican lake, ante, p. 500.)

BOOK II. *Aboriginal America.* by them when living. The descendants of each constituted a species of corporation or company, who feasted periodically on the produce of their ancestor's estate, his dried body being ceremoniously brought out, seated in the midst, and supplied with food and chicha as the principal guest. Each Ccapac-Inca was thus permanently commemorated in three ways: (1) by the Ccapac-ayllu, or clan, descended from him; (2) by the lands, herds, and male and female serfs dedicated to his service; and (3) by his body, religiously guarded in an apartment consecrated to its preservation, and surrounded by the gold and silver effects which had belonged to him¹. On ordinary public occasions the huanque, or wooden image, of each Ccapac-Inca was borne in procession; particular buildings in Cuzco were associated with different Ccapac-Incas as their founders; the remarkable deeds of each were remembered by his descendants, and often formed the subject of popular ballads. Another circumstance contributed to keep the order of the Ccapac-Incas from becoming confused or forgotten. The first five belonged to the original pueblo of Hurin Cuzco, the last six to the more recent quarter of Hanan Cuzco. Usually the division of a Peruvian pueblo into an upper and a lower quarter represented a distinction between a superior and

¹ Santillan, *Relacion*, p. 34: 'A los cuerpos muertos de los señores pasados honraban y guardaban en grand veneracion, y cada uno estaba en su casa con el mismo servicio que tenia siendo vivo, que no se tocaba en ello; y asi tenian sus chacaras, yanaconas, ganados y sus mujeres, las cuales los estaban sirviendo y dando de comer y chicha como si estuvieran vivos, y los llevaban en andas a muchas partes.' The 'ayahuasi,' or houses of the dead, were carefully concealed from the Spaniards; and when Cieza de Leon wrote (*Part II. cap. 36*) none of the bodies had been found. In Acosta's time the bodies of all the Hanan Cuzco Ccapac-Incas had been identified: Inca Roca at some place not specified (*Acosta, lib. v. cap. 6*); Yahuar-huaccae at Paulo, and Huiracocha at Xaquixahuana (*id. lib. vi. cap. 20*); Pachautic at Patallaeta (*id. lib. vi. cap. 21*); Tupac at Cuzco, where Garcilasso saw the body in 1559 (*Garcilasso, lib. viii. cap. 8*); Huaina Ccapac also at Cuzco (*Acosta, lib. vi. cap. 22*). The bodies of the Ccapac-Incas of Hurin-Cuzco seem not to have been discovered.

an inferior class in the population¹; and according to one authority this was the case in Cuzco itself, the inhabitants of Hurin Cuzco, the lower quarter, not being of pure Inca race, but descendants of alien women by three chiefs who had rallied to the assistance of Pachacutic at the Chanca invasion². According to another writer, Hurin Cuzco represented the original Inca settlement, and Lloque Yupanqui, the third Apu-Ccapac-Inca, having married the daughter of a chief from the neighbouring pueblo of Sañu, prevailed on the latter to settle on the rising ground between Hurin Cuzco and the Sacsahuaman hill, and thus began the upper quarter of the pueblo, which by the necessity of its position became in course of time the more important³. The two accounts are by no means irreconcilable. The original Inca pueblo of Hurin Cuzco may well have gradually shifted its place to the higher ground near the fortress, and the site thus left partially vacant have been reoccupied in later times, when new settlers were flocking into the pueblo after the conquest of the Chinchay-suyu by Pachacutic. Popular opinion, disregarding all historical fact, ascribed the foundation of Hanan Cuzco to Manco Ccapac, that of Hurin Cuzco to his wife Mama Ccoya⁴.

Whether the five chiefs from whom the five Ccapac-Ayllus of Hurin Cuzco claimed descent should be regarded as Apu-Ccapac-Incas of Cuzco, in the full sense of the title, is somewhat doubtful. Their bodies, so far as is known, were never discovered by the Spaniards; some of the best authorities wholly disregard them⁵; their names appear not

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Apu-Ccapac-Incas
of Hurin
Cuzco.

¹ See vol. i. p. 489, note. ² Betanzos, *Suma y Narracion*, cap. 16.

³ Cieza de Leon, Part II. cap. 31.

⁴ Garcilasso, *ubi sup.* Hence, probably, the building on the Collampata, at the foot of the Sacsahuaman fortress, and on the highest ground of Hanan Cuzco, acquired the name of 'Manco Ccapac's palace.'

⁵ Santillan, Ondegardo, and the author of the *Relacion Anonima*. Perhaps Blas Valera should be added, although we know this writer only by the fragments preserved in the work of Garcilasso. Santillan

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to be true proper names, but rather to represent some common name customarily employed by each ayllu to designate its ancestor as the 'great-chief' or 'wise-chief' from whom descent was claimed; and only the last of the five is connected on good authority with any incident deserving to be recognised as historical. The fact remains that the clans descended from them ranked as Ccapac-Ayllus at the Spanish Conquest; and we can scarcely doubt that each was founded by some chief who once inhabited Hurin Cuzco, though he may not have wielded the sovereignty vested in the single Apu-Ccapac-Inca of later times. After 'Manco Ccapac' (Great-Chief) the founder of Cuzco, and 'Sinchi Roca' (Wise-Chief¹) his successor, our authorities place 'Lloque Yupanqui' as third in the series. To the former word no satisfactory meaning is ascribed²; the equally doubtful title 'Yupanqui' was used as a species of surname by later Apu-Ccapac-Incas, and even by their descendants after the Conquest³. Mayta Ccapac, the fourth name, signifies 'Young-Chief,' and is equivalent to the 'Huaina-Ccapac' of a later time or the Mexican 'Topiltzin'; according to our earliest and best authority Lloque Yupanqui died while Mayta Ccapac was still a child⁴. In 'Ccapac Yupanqui,' the title of the fifth and last Ccapac-Inca of

only admits the Hanan Cuzco line, and assigns it a duration of rather more than 200 years. Acosta (lib. vi. cap. 20) mentions the Hurin Cuzco line, but excludes its chiefs from the succession of Apu-Ccapac-Incas. The use of the title 'Sinchi' in connexion with the second appears to distinguish him from the chief of the same name who begins the Hanan Cuzco line, and is described as 'Inca' Roca.

¹ Garcilasso (lib. ii. cap. 16), following Blas Valera, thus explains the word 'Roca,' which has no meaning in Quichua. 'Sinchi' is a common name meaning 'chief' or 'curaca.'

² 'Lloque' in Quichua = 'left hand'; hence Garcilasso and others suppose this chief to have been left-handed. Probably the name is of Aymara origin, and its meaning lost.

³ 'Yupanqui' in Quichua means 'thou countest' (yupan = he counts). Possibly the word is connected with the Aym. 'yamqui' = 'chief.'

⁴ Cieza de Leon, Part II. cap. 32. See ante, p. 570.

Hurin Cuzco, we again have a common name, converted by usage in the ayllu into a distinctive designation. In his time the growing power of Cuzco aroused apprehension among the tribes of Conti-suyu, who twice assailed it, and were twice defeated. On the first occasion Ccapac Yupanqui and his warriors were attacked when about to offer sacrifice to the huaca of Huanacauri. Enraged at their repulse, the enemy invaded the Inca-suyu in a larger body, purposing to destroy the pueblo of Cuzco, massacre its inhabitants, and divide among themselves the women of the great Ccoricancha. Ccapac Yupanqui encountered them at Huanacauri, defeated them with great loss, pursued them into their own territory, and returned bringing back for the service of the Ccoricancha a number of female captives from Conti-suyu¹. With him the line of Hurin Cuzco terminates; and its connexion with the line of Hanan Cuzco, which succeeds it, is somewhat obscure. Most writers, including Cieza de Leon, consider the two lines as continuous, ranking Inca Roca, the first Ccapac-Inca of Hanan Cuzco, as the son of Ccapac Yupanqui, the last of Hurin Cuzco. Acosta, who investigated the matter at a later date, admits no connexion between the two groups save a common descent from Manco Ccapac. The line of Hurin Cuzco, according to him, was independently continued by a series of chiefs who were never Apu-Ccapac-Incas, although they retained the titular chieftaincy of the lower quarter, and the descendants of each were incorporated as a Ccapac-Ayllu²; the line of Hanan Cuzco, with which the conquests and the historical fame of the Inca nation are exclusively associated, had an independent beginning in the person of 'Inca Roca,' of whose origin nothing is related except that he claimed descent from Manco Ccapac. Acosta's account appears to be more consistent with all the circumstances; and it is partially

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¹ Cieza de Leon, Part II. cap. 34.

² Hist. Natural y Moral, lib. vi. cap. 23.

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Apu-Ccapac-Incas
of Hanan
Cuzco—
Inca Roca
and
Yahuar-
huaccac.

confirmed by Cieza de Leon himself, who mentions that some traditions recognised two contemporary chiefs of the Inca race, one in Hanan Cuzco, the other in Hurin Cuzco¹.

The establishment of the new line of chiefs in Hanan Cuzco might be expected to mark some change in the circumstances and policy of the pueblo; and evidences of such a change are not wanting. Twice had the last chief of Hurin Cuzco been attacked by the tribes of Conti-suyu within his own territory. Inca Roca, the first Apu-Ccapac-Inca of Hanan Cuzco, marched at the head of his warriors into the enemy's country, defeated them at Pumatampu, compelled them to yield him tribute, and established the right of the Inca people to visit those sacred places from which it was sought to exclude them². Yahuar-huaccac, his successor³, determined to follow up this victory by a campaign made with a similar object in the Colla-suyu, the sacred land of Pachacamac and the Sun. Availing himself, as a pretext, of an alleged intention on the part of the warriors of Hatun Colla to invade the Inca territory, he summoned his tributaries of Conti-suyu to his aid, and prepared for the conquest of the Titicaca valley. At a feast held in Cuzco, before the expedition set out, Yahuar-huaccac was treacherously attacked by his allies. Vainly seeking the shelter of the Ccoricancha, he fell, together with many of his wives, under the clubs of his assailants. About the same time danger began to threaten the pueblo from another quarter. The allied warriors who had conquered middle Peru advanced southwards, added to their dominion the southern Quichua valleys, and established themselves

¹ Part II. cap. 32: 'Y aun algunos indios quisieron decir que el un Inca habia de ser de uno destes linajes, y otro del otro; mas no lo tengo por cierto,' &c.

² Cieza de Leon, Part II. cap. 35.

³ Id. cap. 36, 37. Cieza calls him simply Inca Yupanqui. The name Yahuar-huaccac, assigned to him by other writers, means 'he who sheds tears of blood,' and recalls the sculptured weeping Sun of Tiahuanaco.

at Antahuayllas. The Inca pueblo was now at the crisis of its fortunes. Had the victorious chiefs of Chinchay-suyu promptly pursued their advantage by crossing the Apurimac the power of Cuzco might probably have been crushed, the future dominion of all Peru been centred at Huilcas, Pucara, or Xauxa, the Inca name been forgotten, and a few ruined walls at the foot of the Sacsahuaman hill remained as the monuments of a vanished people. Events had another course; the warriors of Cuzco chose as Yahuar-huacac's successor a chieftain who prudently conciliated the natural allies of the Inca, the people of Conti-suyu and Colla-suyu, and thus established a league which in the end not merely arrested the impending invasion, but wrested the Chinchay-suyu itself from its conquerors. This was Huiracocha or Huiracochampa-Inca, the first of the four great chiefs to whom the Inca dominion owed its extension, consolidation, and historical celebrity.

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With Huiracocha-Inca, the successor of Yahuar-huacac, begins the series of great events by which the Inca dominion was extended to the dimensions, and acquired the character, of a state or kingdom. Something of this is intimated by the name itself, which appears to be a title of honour, and should probably be interpreted 'great' or 'god-like'¹; and although the achievements of Huiracocha-Inca were eclipsed

The great
Apu-
Ccapac-
Incas—
Huiracocha-Inca.

¹ 'Huiracocha' (see vol. i. pp. 438, 456) was a title implying superiority, given to the greater huacas, and especially associated with the creator-god Pachacamac or Pachayachachic. Europeans were at the Spanish Conquest described as 'huiracochas,' and were so addressed as a mark of respect: the word is still used in the same sense by the Aymara Indians. Notwithstanding the story given by Betanzos (cap. 5) in which Huiracocha-Inca's assumption of the name is attributed to a vision of the creator-god, the true explanation is to be sought in the general usage above indicated: this view is confirmed by the parallel story in Garcilasso (lib. iv. cap. 21), in which Huiracocha-Inca has a vision of an uncle who had borne the same title in a previous generation. Salcamayhua uniformly calls Huiracocha-Inca 'Huiracochampa-Inca' (Huiracocha's Inca): this suggests that he accepted the story of the vision as told by Betanzos.

BOOK II. *Aboriginal America.* by those of his son and successor Pachacutic, the former, perhaps, is better entitled than the latter to rank as the true founder of the enlarged Inca dominion. Garcilasso, pursuant to his arbitrary re-arrangement of the Inca history, even attributes to Huiracocha-Inca the defeat of Hastu-huaraca and the re-conquest of Chinchay-suyu¹. Betanzos, on the contrary, would magnify Pachacutic by representing Huiracocha-Inca as an indolent and cowardly ruler, who advised submission to the invaders, and even plotted the assassination of the patriotic youth who roused the people of Cuzco to a successful resistance². Cieza de Leon, our earliest and best authority, gives a more probable and perfectly consistent account of the first great Inca chief. Elected Apu-Ccapac-Inca on his personal merits, he carried the Inca people safely through the dangerous crisis produced by the jealousy of their southern neighbours, secured, and to some small extent enlarged, the frontiers of the Inca territory, made the influence of Cuzco predominant in Conti-suyu and Colla-suyu, and built in the latter district the 'temple of Huiracocha' at Cacha, some remains of which still arrest the traveller passing between the Inca capital and the valley of Titicaca³. In old age Huiracocha-Inca sought relief from the cares of the chieftaincy in the retirement of his country-houses at Yucay and Xaquixahuana, leaving the conduct of affairs to Urco-Inca, his eldest son and presumptive successor. Urco hated warfare, neglected the duties devolved upon him, and left behind him the reputation of a shameless drunkard and profligate. When the long-foreseen invasion of the Inca territory came to pass, he ridiculed the impending danger as imaginary, and made

¹ Lib. iv. cap. 21-24; lib. v. cap. 17-25.

² Suma y Narracion, cap. 6-9.

³ See vol. i. p. 396. Garcilasso (lib. v. cap. 22) is our authority for the dedication of this temple to Huiracocha-Inca's uncle of the same name. Probably the expression 'temple of Huiracocha' simply means 'temple built by Huiracocha-Inca.'

no preparations for defence ; and the Inca warriors found a leader in his younger brother, then only known by the common title of 'Inca Yupanqui,' afterwards famous in Inca history by the name of Pachacutic, or 'He who changes the world'.¹

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The invasion which now threatened the Inca pueblo is represented by different authorities under different aspects. Some writers treat it as a simple attack on the Inca territory by the neighbouring Chanca, who had recently conquered the Quichua valleys on the west side of the Apurimac, though Garcilasso represents them as rebels against the Inca rule². According to Betanzos it was part of a project for the conquest of southern Peru, formed by Usco-huilla, the sovereign chief of Pucara in the Huanca country to the northward, and the head of an alliance extending throughout the Chinchay-suyu, in which the Chanca were included³. The warriors of this alliance were divided into three bodies, one of which was to advance on Conti-suyu, one on Anti-suyu, and the third on the Inca canton, the key of Colla-suyu : and the invasion of the Inca district, according to the same authority, was conducted by Usco-huilla himself. More commonly, and with greater probability, the invading force is said to have been commanded by Hastu-huaraca, the chief of Antahuayllas in the Chanca country, who was supported by two subordinate chiefs, sometimes described as his brothers. From Antahuayllas Hastu-huaraca advanced by way of Curampa and Cochacassa to the valley of Amancay. Crossing the mountains, he descended to the Apurimac river, offered the customary

Hastu-
huaraca's
invasion.

¹ Cieza de Leon, Part II. cap. 38-45 : compare Salcamayhua, *Relacion (Tres Relaciones)*, p. 268), where an extremely curious account, evidently borrowed from an ancient ballad, is given of the friendly meeting of Huiracocha-Inca with Chuchi-ccapac, chief of Hatun Colla.

² Cieza de Leon, Part II. cap. 44 ; Garcilasso, lib. v. cap. 17 (see p. 567, ante).

³ *Suma y Narracion*, cap. 6.

Book II. sacrifices on passing it¹, reached the sierra of Huillacunca, and encamped on the hill of Carmenca, which overlooks the Inca city from a short distance. The youthful Inca Yupanqui, who had already summoned auxiliaries from Colla-suyu, held an ineffectual parley with the invading chief. The words which passed between them were soon exchanged for the war-cry, and the opposing lines of warriors furiously fell on each other. The first day's fight was indecisive, but on the morrow the Inca gained a complete victory; the greater part of the invading force were left dead on the field, and Hastu-huaraca retreated with only five hundred followers into the Chinchay-suyu. The battle of Yahuar-pampa (Plain of Blood) marked the turning point in Peruvian history². Warriors from Colla-suyu and Conti-suyu now crowded into Cuzco offering their services to the Inca pueblo. The aged Huiracocha and the incapable Urco henceforth ceased to exercise authority or influence; and the young chief who had saved Cuzco was saluted as Apu-Ccapac-Inca, and received the name of Pachacutic.

Pacha-
cutic-
Inca—Con-
quest of
Middle
Peru.

The events which ensued confirm the view that the Chanca chieftain, in invading the Inca district, was merely executing the ambitious design of a superior power in the northern part of Chinchay-suyu. Convinced, apparently, by its result that the Inca were more formidable enemies, and would prove more valuable allies, than the Huanca, Hastu-huaraca abandoned the Huanca alliance and threw in his lot with the warlike people whom he had been commissioned to reduce to subjection. The Inca now crossed the

¹ See vol. i. p. 499, note.

² According to Betanzos the Chanca rallied after their defeat and a second engagement took place. The invasion and the fight of Yahuar-pampa furnished matter for many native ballads, some of which are evidently incorporated in this writer's narrative. The myth of rocks being suddenly metamorphosed into warriors, to resist the Chanca, is also mentioned by Salcamayhua (*op. cit.*, p. 271) and Garcilasso (*lib. v. cap. 18*).

Apurimac, and joined the Chanca warriors. Their united forces, commanded by Pachacutic, advanced northwards, with the intention of liberating Chinchay-suyu from the yoke of the Huanca, and establishing a new dominion having the Inca pueblo as its centre; and the Inca-tampu erected by him at Huillcas was the first of a long series of such establishments ultimately extending from Paria, south of Lake Titicaca, to Quito, under the equator¹. The cyclopean ruins of Huinaquë, on the western side of the ridge dividing the basin of the Apurimac from that of the Mantaro, mark the beginning of the true conquests of the Inca. Here the allied Inca and Chanca entered the country of the Huanca. In the southern parts of their territory the former masters of Chinchay-suyu are said to have made no effectual resistance. The invaders successively gained Huamanca, Azangaro, Parcos, Pucara, Picoy, and Acos, and at length confronted the Huanca warriors in the vale of Xauxa². After sacrificing to their great huaca of Huarihuillca the Huanca here gave battle to the invaders, and were defeated with great loss. The Inca spared and liberated their numerous captives; nor was any further resistance encountered by them except at Tarma, where their arms again decisively prevailed over the native warriors³. It was not without reason that Pachacutic bore the name which indicated him as having 'changed the world.' The pueblo of Cuzco was now dominant throughout the whole of middle Peru, a district 300 miles in length towards the north-west; to the south-east it exercised an indefinite influence, rather than a positive domination, over a district of about equal extent, if it is assumed to have reached to the ancient pueblo of Tiahuanaco at the south-eastern extremity of Lake Titicaca. This indefinite influence Pachacutic converted, by the aid of his new allies, into actual dominion. In a military progress made throughout the Collao, supported by the Chanca warriors, he broke

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¹ Cieza de Leon, Part II. caps. 47, 48.

² Id. cap. 49.

³ Id. cap. 50.

Book II. down whatever resistance he encountered, and received the
 Aborigine submission of all the Colla pueblos. The allied tribes of
 America. middle Peru, if we are right in the conclusions above
 advanced, had already extended their dominion to the coast
 by the conquest of at least one among its numerous valleys —
 that of Chíncha: and this valley was almost certainly
 included in the earliest conquests of Pachacutic.

Expansion
 of the Inca
 dominion
 north-
 wards.

The conquest of middle Peru by the Inca removed an
 obstacle which had long checked the stream of northward
 migration. It fused into one people the Aymara-speaking
 tribes on the right bank of the Apurimac and the Quichua-
 speaking tribes on the left bank; and as the latter exceeded
 the former both in numbers and territory the Quichua
 apparently became the common language of both, and was
 carried farther northward on the new wave of migration
 which followed'. We are ignorant whether the tribes of
 middle Peru had already pushed beyond Cerro de Pasco
 before their incorporation with the Inca dominion. After
 this event, the united tribes of southern and middle Peru,
 led by Inca chieftains, advanced in this direction with a
 rapidity which indicates that they met with no substantial
 opposition; and henceforth until the annexation of the coast
 valleys the movement of the Inca people assumed the
 character of colonisation rather than conquest. The pent-
 up energy of a population which had been increasing for
 two centuries, a climate which became progressively more
 genial as the equator was approached, the sparseness and
 low condition of the aboriginal population and the facilities
 afforded by the country, which everywhere abounded in the
 wild huanaco and vicuña, for combined herdsman-ship and

¹ This seems the most probable explanation of the change of language
 which had taken place, if our inferences are correct, in the Cuzco dis-
 trict. The change, however, may possibly be of older date: and at the
 Conquest the fact, if we are right in regarding it as such, that the
 original language of Cuzco had been the Aymara, was completely
 forgotten.

agriculture, all united to make the advance an easy one. Astonishing as it may at first sight seem, we cannot but conclude that the same Apu-Ccapac-Inca who roused the warriors of Cuzco to resist Hastu-huaraca's invasion lived to be master of a dominion extending along the sierra for a thousand miles to the northward, and founder of a great Inca colony under the equator—a colony which still survives, in nearly its original territorial outline, as the Republic of Ecuador. Henceforth the Inca people were geographically divided into two branches, having their respective centres a thousand miles apart; the centre of the northern district being first fixed at Tumipampa, then at Riopampa, and finally at Quito. The relative situation of these districts was such that their political separation was only a question of time; such a separation was in fact foreshadowed by a civil war which took place, soon after the death of Huaina Ccapac, about a century after the northern colony had been founded.

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This division of the expanding Inca dominion into two sections resulted directly from the physical conditions of the district. Southern and middle Peru, as far northward as Cerro de Pasco, form a broad gathering-ground for the waters which unite to compose the Ucayali, the easternmost of the great western parent streams of the Amazon river. The knot of Cerro de Pasco separates this gathering-ground from that of the parallel streams of the Huallaga and Marañon, the westernmost head waters of the Amazon river. Here the watery forces which wear away the great wall of the Andes vigorously recommence their work from new starting-points; and as all the affluents of the Amazon necessarily have the same direction at their higher levels, being enclosed by mountain ranges stretching from south-east to north-west, the elevated area available for human occupation is reduced accordingly. The explorers who crossed the ridges separating the tributaries of the Ucayali from those of the Huallaga and Marañon found the plateau narrowed to a fraction of its breadth in middle Peru by the

Isolation
 of the
 northern
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deep valley of the Marañon, which skirts it continuously for four hundred miles before bending eastwards; this valley, moreover, was the haunt of irreclaimable savage tribes, the northernmost of which was well known in Inca history under the names of the Chachapoyas and Pacamoros. Only when the Marañon has taken its great sweep to the eastward, and receives the waters descending from the cordillera of Cotopaxi, does the plateau regain an aspect suitable for continuous human occupation; and this character is maintained throughout the district forming the northern colony of the Inca race. Here numerous large pueblos from Loxa northwards—Cañaripampa, Tumipampa, Hatun Canar, Achupallas, Pumallaeta, Riopampa, Ambato, Llactacunca, Quito, Cayambe, and many others, succeeding each other in quick succession—testified the popularity of the northern plateau as a place of settlement—a popularity accounted for by the more equable climate and the greater certainty of the crops. No part of the dominion, one area being compared with another, could rival the attractions of this district; nor is it surprising that it speedily became the favourite residence of the Apu-Ccapac-Incas, although it was separated from middle and southern Peru by a sparsely populated interval 400 miles in length, throughout which communication was chiefly maintained by the system of 'chasquis,' presently described.

The
 northern
 colony
 founded
 under
 Pachacutic.

Spanish writers appear to have found some difficulty in believing that this immense tract could have been added to the Inca dominion in the lifetime of the chief by whom that dominion was substantially created; and Santillan accordingly supposes this extension to have taken place by a process of gradual and tentative advance, similar to that invented by Garcilasso to account for the extension of the dominion of Cuzco under the early Ccapac-Incas. According to this writer Pachacutic did no more than conquer middle Peru, the original Chinchay-suyu; Tupac-Yupanqui, his son and successor, advanced as far as the

Chachapoyas country, in the bend of the Marañon; the northern plateau, the jewel of the Inca dominion, was first reached and conquered by Huaina Ccapac, son and successor of Tupac-Yupanqui¹. The itinerary of Cieza de Leon, who visited every part of the country, gathering his information directly from the people of each district, makes it clear that the entire sierra was overrun by Inca colonists in Pachacutic's lifetime. Pachacutic was but a youth when he defeated the Chanca invaders at Yahuar-pampa. He is known to have died in advanced old age; and of the two estimates which allot fifty and seventy years respectively to his chieftaincy the latter is probably nearer the truth than the former². Tupac, if our calculations are approximately correct, survived Pachacutic about twenty-two years; but in the latter part of Pachacutic's period he undoubtedly acted as his father's lieutenant, and much that is rightly ascribed to him may well have been effected in Pachacutic's lifetime. There is, in any case, no good reason for doubting Cieza's statement that the northern plateau was reached before Pachacutic's death, and that Tumipampa was his favourite residence. Tribes in a far lower state of advancement than the Inca have probably overrun mountainous districts more than a thousand miles in length in less than fifty years, without any such stimulus as was given to a forward movement, in the case of the Inca, by the conquest and annexation of middle Peru.

It may further be argued in favour of the view that the northern colony was founded under Pachacutic that less than half a century would scarcely have sufficed for the development which enabled Tupac-atau-hualpa successfully to invade middle and southern Peru. Even more cogent,

¹ Santillan, 'Relacion,' p. 15.

² Balboa, whose estimates deserve respect, allows Pachacutic a period of thirty-six years (1435-1471); but this evidently dates from the death of Huiracocha, long previous to which Pachacutic had exercised sovereign power, as Tupac afterwards did in the lifetime of Pachacutic.

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perhaps, as an argument to the same effect is the statement made by our best authority that its foundation preceded the conquest of the coast valleys, and that this conquest took place, not by descents at various points from the sierra, but by a southward advance from the northern colony¹. Here, indeed, the Inca were brought for the first time into direct connexion with the coast, which is penetrated for a considerable distance by the gulf of Guayaquil. The difficulties of communication by the mountains between Cuzco and the northern colony perhaps suggested the general conquest of the coast as the means of providing an alternative and easier route. This conquest is ascribed by the best authorities to Tupac, though it probably took place in the lifetime of his father. The most formidable obstacle—the powerful confederacy which had its centre at Chimú—was the first to be encountered. But the allied warriors commanded by Chimu-capac², though brave and well-organised, were unable to resist the more experienced forces of the Inca. They succumbed after a desperate resistance; and thenceforward, until the invaders reached the four valleys immediately north of Chincha, no serious check obstructed the Inca advance. At Chimú a cross-road was carried from the coast plain to the sierra, terminating at Caxamarca, the intermediate station between the northern colony and the original Inca dominion. Here the tributes of the northern coast pueblos were received; and a second cross-route, used for the same purpose, was made from Pachacamac, by way of the Paracaca mountain, to the Inca-tampu at Xauxa. The Chincha valley had long been in communication with the sierra by a route passing through Huancahuilca and terminating at Pucara, the original centre of the Chinchay-suyu dominion.

Institu-
 tions of
 Pacha-
 cutic.

In view of these events it is not surprising that everything remarkable in the outward aspect, economy, and institutions of the extended Inca dominion, should in course

¹ Cieza de Leon, Part II. cap. 57.

² See ante, p. 559, note 4.

of time become connected with the personality of Pachacutic¹. It was he, the Spaniards were told, who designed and built the great Ceoricancha at Cuzco dedicated to the Sun, established within its precinct the Acllahuasi, in which dwelt five hundred maidens set apart for the Sun's service, assigned two hundred male serfs to cultivate the Sun's lands, and devised the sacrifice called Ccapac-cocha, at which maize, fine cloth, and male and female llamas were burnt, and male and female children strangled and buried, in the Sun's honour. Pachacutic instituted the census, under which each local curaca periodically rendered an account, kept by the quipu, of the population of his valley, distinguishing them by their age and consequent capacity for work; established the perennial round of labour, such times of the year as were not occupied with the tillage of the soil and the care of the crop being devoted to the construction of roads and buildings, the repair of irrigation channels, and the maintenance of field boundaries; filled the store-houses of Cuzco with maize, pepper, quinoa beans, and dried llama's flesh, furnished from lands and herds appropriated for the purpose in each pueblo, and provided for such supplies being perpetually renewed; caused similar store-houses to be built at intervals on the roads traversing the Inca dominion;

¹ The name Pachacutic is evidently formed by imitation of 'Pachacamac.' The original name may have been 'Huiracocha Pachacutic' = 'the great chief who changes (or 'changed') the world,' analogous to 'Huiracocha Pachacamac' = 'the great god who makes (or 'made') the world.' This is possibly the explanation of Catari's statement (Oliva, *Hist. du Pérou*, p. 53) that 'Pachacutic was only another name for Huiracocha.' Having regard to the use of the solar epithet Tupac (see post, p. 591), it seems probable that 'Pachacutic' also was originally an epithet of the Sun as the cause of the perpetual alternation of night and day. According to Salcamayhua (*Relacion*, p. 273), who himself bore the name (his full title being Don Juan de Santa Cruz Pachacutic Yamqui Salcamayhua), Pachacutic was originally the name of a chief of Colla-suyu, and was assumed by the Inca-Yupanqui when the Collao was conquered. That such a name should be used in the Collao, the principal seat of Sun-worship, is extremely likely.

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the edifices of Cuzco, in accordance with a model previously designed by him and moulded in clay—lined its water-courses with masonry, and commenced the stupendous fortress on the Sacsahuaman hill ; invented the ceremonial used in admitting adult youths to the status of Auqui, or Warrior, at the Ccapac Raymi, or Great Feast of the Sun, in each year ; named the succession of moons, and erected the solstitial pillars on the hill of Carmenca ; and enacted the laws defining the rights and obligations of the warriors and people, and regulating the punishment of crime, which remained in force at the Conquest. Statements of this kind were so common that it is impossible to regard them as other than true in some limited sense ; nor should there be any hesitation as to what that sense should be. Their meaning evidently is that the existing aspect and arrangements of the Inca dominion, taken in the mass, dated from the time of Pachacutic, and had not been substantially changed or added to by his successors. The fundamental institutions of Inca society must have dated from a much older time. It was natural, nevertheless, that some new practices and rites should be borrowed from the districts which were added in Pachacutic's time to the dominion of Cuzco : and it is perfectly credible that Cuzco itself should have been enlarged and partially rebuilt, a new Ccoricancha and Acllahuasi have been erected in honour of the Sun, by whose favour the dominion had been so greatly extended, and a great fortress have been planned and commenced on the hill overlooking the pueblo, and commanding its principal approach. After making all allowances for exaggeration, it appears probable that the general view above illustrated was substantially correct, and that the Peruvian dominion, as a whole, was one vast monument to Pachacutic¹.

Tupac-
 Inca-
 Yupanqui.

Tupac-Yupanqui, who succeeded Pachacutic, admittedly

¹ Betanzos, *Suma y Narracion*, caps. 11-18 ; Cieza de Leon, *Part II.* caps. 50, 51 ; Garcilasso, *lib. vi.* cap. 36, &c.

had the principal share in its latest extensions, and in its general organisation during his father's lifetime. The name Tupac signifies 'bright' or 'shining'; we believe it to have been a customary epithet of the Sun, assumed by or given to this chieftain in a laudatory sense, implying comparison with the great celestial huaca of the Inca people¹. This use of the term, as a proper name, perhaps borrowed from middle Peru², was repeated in a subsequent generation, when the two sons of Huaina Ccapac whose rivalry caused the civil war with which Inca history terminates received the names of Tupac-atau-huallpa and Tupac-cusi-huallpa. Tupac's activity extended to every part of the Inca dominion. He enlarged the borders of the northern colony, completed the conquest of the coast valleys, repressed a revolt in the Collao, subjugated the Charcas and tribes of Lake Paria, far to the south of Lake Titicaca, and advanced at the head of his warriors as far as the river Maule on the coast of Chile. Cieza de Leon's account of the conquest of the coast-valley of Huareo, which varies from the story quoted from another authority in a previous place³, may be here given as an illustration of Tupac's methods of warfare. In this valley the Inca warriors were repulsed and held in check by the

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¹ The golden staff or sceptre of the Apu-Ccapac-Inca was called 'tupac-yauri': the 'tupac-huanaco' was a llama decked with gold and red cloth for sacrifice in the Ccapac Raymi. That the word was used to denote the Sun is suggested by the fact that 'Inti-cusi-huallpa' appears as an alternative form of 'Tupac-cusi-huallpa' (Garcilasso, lib. ix. cap. 1; Salcamayhua, Relacion, p. 309). Salcamayhua also twice uses 'Inti-tupac-cusi-huallpa' (pp. 299, 308) = 'the bright Sun makes Joy': this, which seems to be the complete form of the name, forms a distich in the ancient Peruvian rhythm, thus—

INTI TUPAC
CUSI HUALLPA(N).

Oliva (Hist. du Pérou, p. 58) gives Huascar's name as 'Tupac-inti-cusi-huallpa.'

² According to Cieza de Leon, Part II. cap. 47, Tupac Huasco, a chief of Middle Peru, married a woman of Inca descent when the Inca first advanced beyond the Apurimac. ³ Ante, p. 560.

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natives, whose pueblo was well fortified and amply furnished with stores of food. Tupac constructed a permanent camp on the slope of a hill in the upper part of the valley, in which the roads, squares, and buildings of Cuzco were reproduced as in a model; here a large body of warriors was permanently stationed, and from this mimic pueblo, to which he gave the name of New Cuzco, the war was carried on during three years. Driven to extremity by want of food, the native chiefs at length capitulated, relying on Tupac's assurance that they should be thenceforth incorporated with the Inca nation, and their daughters become the wives of his sons. Having received their submission, Tupac ordered a general massacre of the warriors and principal inhabitants. Immense heaps of human bones were pointed out to the Spaniards, as monuments of the Inca conquest; and the name Huarco, or 'the Gibbet,' which the pueblo thenceforth bore, was a reminiscence of the time when the walls of the Inca fortress, overlooking the ocean, were hung round with the bodies of the native chiefs¹.

Huaina
 Ccapac.

Tupac died at Cuzco, according to Balboa, in 1493, and was succeeded by his son Huaina Ccapac, or the 'Young Chief.' He is said to have been born in the lifetime of Pachacutic, and would in that case have been more than twenty-two years of age at his father's death. It is probable that he was considerably younger²; for in view of his tender years Tupac is said to have designated Ccapac-Huari—the 'Giant-Chief'—his son by a wife of inferior status, as the next ruler of the Inca dominion³. The claims of Huaina Ccapac were insisted on and recognised; and he continued

¹ Cieza de Leon, Part I. cap. 69; Part II. cap. 59. According to Garcilasso (lib. vi. cap. 29), Huarco was the last stronghold retained by Chuquimanco, and was taken by Pachacutic. Cieza de Leon's account is preferable.

² According to Catari, the authority followed by Oliva (*Hist. du Pérou*, p. 55), he was sixteen years of age when he succeeded.

³ In order to preserve purity of descent in the line of Apu-Ccapac-Incas, each was required to take a sister as his principal wife, and her

Apu-Ccapac-Inca until 1525, the year in which the first Spanish ship reached the Peruvian shore. No events of importance marked his chieftaincy. Under his immediate predecessors the dominion had already been extended far beyond its natural limits; and his attention was mainly directed to improving the system of roads, to rebuilding Inca-tampus and temples, and to perfecting the system of administration. The traditions of the period described him as perpetually engaged in military progresses from one end of the dominion to the other, occasionally diverging from his route for the purpose of attacking the savage tribes who dwelt on the outskirts—attacks in which he sometimes suffered severe disasters¹, and sometimes punished a defeated people with barbarous and unrelenting cruelty². During his chieftaincy the northern colony appears to have grown in population and importance; and it became his favourite place of residence. He rebuilt or enlarged Tumipampa, its original centre, but lived for the most part at Quito, a colony founded by Tupac, and thought to be the most salubrious and agreeable spot in the Inca dominion. Here he had dwelt for several years with a favourite son by a wife of the lower status, named Tupac-atau-huallpa ('The-Sun-makes-good-fortune'), when he was suddenly carried off by an epidemic. His person was well remembered at the Conquest. He is described as stout and well made, of middle stature, handsome countenance, and few words; he was greatly feared by his subjects³. Huaina Ccapac was the last Apu-Ccapac-Inca who exercised an undisputed supremacy over the entire

eldest son was entitled to the succession. She was properly called 'pihui huarmi,' but was popularly known as the 'Ccoya Mama' (see p. 572).

¹ As in the case of the Pacamoros (Jivaros), at the bend of the Marañon river (Cieza de Leon, Part II. cap. 64).

² The slaughter of the islanders of Puna, in the gulf of Guayaquil, and the cruel massacre of all the adult males of a Caranque tribe to the northward of Quito, were familiar instances.

³ Cieza de Leon, Part II. cap. 61.

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 America.*

dominion ; and the civil war which ensued after his death prepared the way for the Spanish invasion which quickly followed. Perhaps the most interesting facts associated with him are his innovations in religion, especially his unsuccessful attempt to abolish the worship of all huacas except the Creator¹.

The Inca
 Civil War
 —Tupac-
 atau-huall-
 pa and
 Huascar.

The circumstances of the war which ensued on his death have been the subject of a misrepresentation which probably originated in a desire to flatter and exculpate the successful rebel Tupac-atau-huallpa, whose assumption of the government in the northern colony was the cause of the war, and to show that this usurpation was founded on a lawful claim. Huaina Ccapac, it was said, had wrested Quito and the surrounding district from a native chieftain, and had married the chieftain's daughter, by whom he had the favourite son who resided with him there in his latter years; and before his death he divided his dominion between this son and the legitimate successor to the Inca chieftaincy, a son commonly named Huascar², but whose real designation was Tupac-cusi-huallpa ('The Sun-makes-joy'), born of his principal wife taken from among his father's children in accordance with custom. This story, promulgated by some early writers, and widely popularised by the work of Garcilasso, has no foundation in fact. Quito was never ruled by any independent chief, nor was it conquered by Huaina Ccapac; it was an Inca colony founded by his father, Tupac-Yupanqui. Tupac-atau-huallpa was not born in Quito, nor was he the son of any native woman of the northern province; he was born in Cuzco of a woman belonging to the original Inca dominion, and accompanied Huaina Ccapac to Quito when a child. Salca-

¹ See vol. i. p. 504.

² Commonly derived from 'huasca' = a rope or chain, from a golden chain which Huaina Ccapac is said to have had made for use in the dances which commemorated his birth (Garcilasso, lib. ix. cap. 1), or from Huascarpata, the place of his birth (De Avila, note to Saicamayhua, *Relacion*, p. 309). More probably = 'the chosen one,' and connected with 'huascareuy' = to single out by lassoing.

mayhua denies that Huascar's mother was sister to his father, and ranks him also as a son of Huaina Ccapac by a concubine or inferior wife, and therefore having no better title to the succession than Tupac-atau-huallpa himself. Nor is it probable that Huaina Ccapac ever attempted to make any such partition of the dominion as is in the current story alleged. Such a disposition would have been contrary to established custom, and the allegation is scarcely consistent with the fact that Tupac-atau-huallpa sought and obtained from Huascar a formal appointment as Inca-ranti or lieutenant. The revolt is probably to be explained by the character of the miserable youth who had been chosen Apu-Ccapac-Inca at Cuzco, whose outrages on religion and public decency could only be palliated by his own partisans on the ground of congenital imbecility. Whatever may have been its origin, the war was vigorously and successfully prosecuted, and terminated by a complete victory for the revolutionary side. The warriors sent by Huascar to enforce obedience to his authority, although at first they gained some successes, were at length completely defeated, and Tumipampa, which adhered to his side, was rased to the ground. Tupac-atau-huallpa promptly followed up the advantage he had gained. Step by step, along the route of the mountains, Huascar's partisans were driven back, until Caxamarca, the intermediate station between the northern colony and the original dominion, fell into Tupac-atau-huallpa's hands. Here the rebel Inca remained, leaving to his lieutenants Quisquis and Challeu-chima the task of crossing the ridge of Cerro de Pasco and carrying the war into the enemy's country. Unbroken success attended their advance on the Inca pueblo. From stage to stage, through middle Peru, the warriors of Cuzco were compelled to retreat, until the insurgents reached the upper courses of the Apurimac itself. Huascar now quitted Cuzco, and sought refuge in the open country, where he fell into the hands of the rebels, and was carried a captive, together with his wife, mother, and children, to Tupac-atau-

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BOOK II. huallpa at Caxamarca. A few days afterwards, news arrived of the landing of the Spaniards¹.

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America.

Organisa-
tion of
the Inca
dominion.

The organisation of the Inca dominion is best understood by considering it as a group of districts which had been added in rapid succession to the original district of Cuzco. When middle Peru, the upper valley of the Huillcamayu, and the basin of Lake Titicaca, were successively conquered, the administrative arrangements of the Cuzco district were naturally reproduced in each of these new provinces: and these arrangements were of an extremely simple nature. In each pueblo of the original Inca district—and there was one in every considerable valley—the local chief or curaca had usually retained his former position, and some part of the land, all of which was cultivated by the common labour of the peasantry, together with a certain number of llamas, was set apart for his use. Other lands and herds were appropriated to the Ceapac-Inca and to the huacas of the Inca people, the chief among these being the Sun. The produce of these appropriations was conveyed to Cuzco, and deposited in store-houses, the weaving of the llama-hair into cloth providing continuous occupation for the women of the Inca-tampu and the Ceoricancha: and food and cloth thus accumulated were partly employed in sacrifices—the cloth being burned—and partly served as stores always in readiness for military expeditions. A similar distribution of land and llamas was made in each conquered district. An Inca-tampu, together with a Ceoricancha, was erected in some convenient central spot to which the produce of the lands of the Ceapac-Inca and the Sun was regularly brought from the surrounding pueblos: and this establishment served as an administrative and military centre. Such stations were placed at irregular distances in a continuous line along the sierra from Quito in the north to Paria, far beyond Lake Titicaca, in the south: but there were none, or none in a completely organised

¹ Salcamayhua, *Relacion*, pp. 308-324.

form, in the coast valleys, the produce of the lands appropriated to the Ccapac-Inca and the Sun in these valleys being sent to the nearest station in the sierra¹. From Quito southwards the principal Inca-tampus were Llactacunca, Riopampa, Tumipampa, Caxamarca, Xauxa, and Huilcas; south of Cuzco were Hatun Colla and Paria. From one to another there extended, by short distances, a line of minor stations, at each of which two 'chasquis,' or running messengers, were always in attendance, charged with the duty of carrying orders and messages from stage to stage with all possible speed. To facilitate travelling from one end of the dominion to the other, artificial causeways had here and there been built, cuttings made in soil and rock, and bridges constructed of timber laid on strong ropes of twisted grass: and in this manner a high road 1,500 miles long had been in effect provided in the sierra from one end of the dominion to the other. A second route of this kind extended from pueblo to pueblo along the coast, commencing at the Gulf of Guayaquil in the north, and terminating at the Chíncha valley in the south. It scarcely needs be said that neither of these roads was a continuous paved causeway; even Garcilasso, who celebrates them as among the chief monuments of the Inca rule, admits that the lower one, in many places, consisted in nothing more substantial than large pieces of timber, planted here and there in the sands to guide travellers in following the track².

Northward of the northern colony, and extending along the plateau of the Andes to the north-westernmost angle of South America, dwelt a succession of tribes which would scarcely have been absorbed into the Inca dominion while it retained its integrity and its centre at Cuzco, though it may be fairly presumed that they would in due time have been annexed to the northern colony had this become a permanently independent dominion having its centre at Quito. Many,

The plateau north of the equator—New Granada

¹ See p. 586.

² Lib. ix. cap. 13.

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if not most, of these tribes had appreciably risen above the lower grades of savagery: and one group among them, the Chibcha of Bogota, has commonly been ranked, together with the Mexicans and Peruvians, among the advanced aboriginal peoples. The claim of the Chibcha to this rank has principally rested on their alleged calendar, which we have shown, on a previous page¹, to be a modern fabrication. Their maize agriculture, their rude buildings and metallurgy, their social and religious institutions, scarcely raise them above the level of other tribes of the sierra who had not been incorporated in the Inca dominion: the tedious story of the wars between their three principal pueblos, among which Muequeta held a predominant position, presents no features of interest, and the reader must here be referred to the outline which has been given in a previous place². The Chibcha advancement, such as it was, possibly owed its origin to the Caribs, whose area of communication included the plateau of Bogota³; it may, however, have been of strictly local origin, for it comprised no elements but such as existed among the tribes of the forest region to the eastward, from which the ancestors of the Chibcha had probably emigrated at no very remote period. In any case it ranks as far below the culture of the Inca dominion as the now extinct Chibcha language ranks below the Quechua and Aymara⁴.

Cuzco at
 the Span-
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No ancient pueblo of the New World retains so much of its original aspect as Cuzco. Modern Mexico is a Spanish city; the clay-built edifices of Tenochtitlan and Tlatelolco have vanished, and not a trace remains of the scene which met the astonished eyes of the Spaniards as they advanced

¹ Page 338.

² Vol. i. p. 289.

³ Ante, p. 435.

⁴ Piedrahita's '*Hist. General del Nuevo Reino de Granada*,' in the first two books of which all that remains of Chibcha tradition is embodied, contains nothing suggesting that the Chibcha had appreciably risen above the savage grade. The abundance of gold ornaments yielded by the district probably first suggested the idea of an ancient civilisation.

along the highroad to Iztapalapan. The narrow streets and broad squares of Cuzco—still divided into an Upper and a Lower Town (Hanan and Hurin Cuzco)—remain nearly as they existed at the Conquest; and many of its houses are built on foundation walls which have survived from the Inca period, distinguished by their massive but finely-wrought masonry, rather than by any special characteristics of style or ornament, from the modern structures by which they are surmounted. Tradition assigns to many of these buildings a specific origin or destination. In some cases, notably in that of the great Ceoricancha of the Sun, with its adjoining Acellahuasi (House of Women of the Sun), their current designations may be accepted without hesitation. As to the various large edifices popularly described as the 'Palaces' of the successive Apu-Ccapac-Incas, going back in almost unbroken order to that of Manco-Ccapac, the mythical founder of the pueblo, standing on the highest ground of Hanan Cuzco, some doubt may reasonably be entertained: and the same may be said of the building called the 'Schools of the Amautas,' or 'Wise-Men,' who taught the simple arts on which the Inca culture rested, and transmitted its traditions from generation to generation¹. The buildings of Cuzco, in the early times of the dominion, were for the most part inhabited, as in the case of Mexico, by the chiefs of rural pueblos in the surrounding districts, who resided here as a body of warriors always ready to execute the commands of the Apu-Ccapac-Inca. As the dominion was extended, the Inca warriors were largely employed as lieutenants (Incaranti) in distant military stations; and Cuzco came to be

¹ In what precisely the knowledge taught by the 'amautas' consisted, is uncertain; nor is it probable that they formed a college or corporation with a house of its own. Garcilasso (lib. ii. cap. 27) describes them as bards, who composed not merely the ballads commemorating the deeds of the Inca which were recited at religious festivals, but comedies and tragedies. Blas Valera describes them as depositaries of religious, historical, and genealogical lore (Garcilasso, lib. iv. cap. 19), which they imparted to the Inca youth.

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chiefly inhabited by a population drawn from the subjugated provinces, who dwelt in separate quarters, and retained their distinctive local attire, head-dress, and mode of life. Hence Cuzco was popularly said to form an image or map of the whole dominion¹; a conception strengthened by its four great roads, leading towards the Colla-suyu, the Anti-suyu, the Centi-suyu, and the Chinchay-suyu respectively. Commanding the road to the last-named district—the most important of all, for it led to Middle Peru, the coast valleys, and the northern colony—stands the great terraced fortress on the Saesahuaman hill, designed and commenced by the founder of the Inca dominion. The work was continued by his successors, but apparently still remains unfinished, though numerous edifices which have since been destroyed are said to have once stood within its circuit. This vast mass of cyclopean masonry, the greatest monument of the aboriginal New World, seems to embody the very spirit by which the great dominion, of which it was the centre and whose capital it was designed to protect from invasion, was originally created².

Growth of
 the Inca
 dominion.

The growth of the Inca dominion, when once the gorge of the Apurimac had been crossed, and the dominion of Middle Peru conquered, may almost be compared to some outbreak of elementary natural forces, liberated by the removal of a barrier which had kept them in temporary confinement. The nature of the country, which directed their onward march between the enclosing walls of the Cordilleras, prevented any coalition of tribes sufficient to

¹ Garcilasso, lib. vii. cap. 9. The residences of these 'mitmacuna' or residents from distant parts were built in the style of the province from which they had come.

² Squier, Peru, chap. 22, where an excellent plan of modern Cuzco is given, showing the ancient buildings which still exist. Garcilasso's minute description of ancient Cuzco (lib. vii. caps. 8-11) is extremely interesting. According to Polo de Ondegardo (Markham, Rites and Laws, p. 154), the ancient city contained no less than 400 huacas (places or objects of religious worship).

resist them. 'There was no general opposition to their advance,' writes the shrewdest among the Spanish writers contemporary with the Conquest, 'for each province merely defended its land without aid from any other, so that the only difficulty encountered by the Inca was in the annexation of the districts round Cuzco. Afterwards all the conquered people joined them, so that they always had a vastly superior force, as well as more cunning in the art of war. Thus it was seldom that they were completely defeated, though sometimes they were obliged to retreat, and desist from a war during a year'.¹ Gaining in momentum by every conquest, the Inca power forced itself with little difficulty along the natural channels which determined its course, and overcame all obstacles by a steady and ever-increasing preponderance. The career of conquest, maintained by the economic organisation devised to support it, once fairly begun, it was easier to proceed than to stop; and in this way more ground was eventually covered than could easily be retained under the primitive conditions in which this archaic dominion was created. No one can trace the growth of the Inca dominion, having regard to the physical character of the country, without being convinced that the process of conquest must shortly have given place to disintegration. A civil war, which threatened such a result, followed the death of its founder's grandson; and the vast area covered by it is now divided among four sovereign states—Ecuador, Peru, Bolivia, and Chile.

In conclusion, we may briefly re-examine, in the light of what has preceded, the opinion which attributes a missionary character to the Inca conquests. 'The character of religion,' it has been said², 'was impressed on all the Peruvian wars. The life of an Inca was one long crusade against the infidel, to spread wide the worship of the Sun, to reclaim the benighted nations from their brutish supersti-

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'Missionary' character of the Inca conquests.

¹ Polo de Ondegardo, ubi supra, p. 152.

² Prescott, Hist. of the Conquest of Peru, Book I. chap. 2.

Book II. tions, and impart to them the blessings of a well-regulated
Aboriginal government. This, in the favourite phrase of our day, was
America. the "mission" of the Inca.' Obviously this statement can
only be accepted with restrictions and qualifications which
greatly modify its purport. It cannot apply to the Collao,
the seat of Sun-worship, and the place where the Inca
advancement was developed, or to the coast valleys, where
social organisation and the arts of life had reached a higher
grade than in any part of the sierra: and the same may
probably be said of middle Peru, where tribes allied to the
Inca by origin had established a wide dominion when
the Inca were still confined to their narrow canton. These
districts constituted the greater part of the Inca territory.
Only in the sierra from Cerro de Pasco northwards, in
the sparsely-planted settlements of the montaña, and on the
southern fringes of Conti-suyu and Colla-suyu, could the
expansion of the dominion have assumed this missionary
character; nor is it true that the Sun was the sole or main
object of their worship, though they designated themselves
by his name, venerated him in the second place after
Pachacamac, as the source of light and the sustainer of
life, and established him as the principal huaca in the con-
quered districts. Sun-worship, in some rudimentary form,
probably had a place in the 'brutish superstitions' of the
lower tribes whom the Inca reduced to subjection. Its
establishment by the Inca as a branch of ritual and economy
dates only from the conquests of Pachacutic; and it is more
probable that they found it a convenient means of enforcing
their supremacy than that it represented a deeply-cherished
belief which they sought, in a spirit of fervid enthusiasm,
and at the risk of their own lives, to propagate among
unbelievers. The 'blessings of a well-regulated government'
were undoubtedly ensured to their subjects; but the price
paid for these blessings was a heavy one. It was nothing
less than abject submission to a cruel and relentless despot-
ism, which enforced a ceaseless round of severe labour,

carried regulation to the minutest details of life, and reduced man almost to the level of the llamas which he tended.

The stage of progress represented by the Inca people is probably too remote, and our knowledge of it too imperfect, to permit of our estimating it with any approach to accuracy: but no one can follow the authorities without being convinced that the degrading despotism of Peru reacted with fatal certainty on the characters of those who exercised it, and that the Apu-Ccapac-Incas were by habit and policy brutal and sanguinary tyrants. Compared with them the cannibal chiefs of Anahuac appear almost in the light of polished and civilised rulers. In general aspect the culture of Peru was of a lower grade than that of Mexico. The Quichua-Aymara stock, if not absolutely inferior in mental capacity to the Nahuatlacan, was inferior to the latter in mental cultivation. Probably its advancement was of more recent date; its success in domesticating the llama rendered material welfare independent of renewed effort; in the colder climate of the Peruvian plateau the brain was perhaps more sluggish, and the comparatively monotonous aspect of nature communicated to it a fainter stimulus. The most conspicuous deficiencies in Peruvian progress, when compared with the Nahuatlacan, are the absence of any continuous reckoning of the divisions of time, although denary arithmetic was highly cultivated, and the solstices were regularly observed as indications of the recurring seasons; the want of any application of imitative art to other purposes than the decoration of pottery and the fabrication of rude solid figures of men and animals; and an intense materialism in religion, which adopted nearly all natural things as objects of veneration, although it recognised spirits as unseen causes of natural phenomena, and admitted a first cause or general creator, whom the current opinion placed on a higher footing than the greatest of all natural huacas, the Sun. The ingenious time-reckoning of the Mexicans, their elaborate pinturas, and the conventional

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Mexican
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END OF VOLUME II.

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