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PROCEEDINGS
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PRIMÆVAL DEXTERITY.

BY DANIEL WILSON, LL.D., F.R.S.E.,
President of University College, Toronto.

[The facts in reference to "The Bohemian Skull" (see *ante*, page 43) having since the reading of the paper been made public elsewhere, Dr. Wilson furnishes the following paper for publication in lieu of it.]

In a communication made to the Canadian Institute in 1871, and subsequently printed in the *Canadian Journal*,* I drew attention to an interesting discovery, supposed to indicate the traces of a left-handed workman of prehistoric times. The Rev. William Greenwell carried out a series of explorations of a number of flint-pits, known as Grimes' Graves, near Brandon, in Norfolk; and in a communication to the Ethnological Society, of London, on the subject, he states that in clearing out one of the galleries excavated in the chalk by workmen of the remote Neolithic Age in order to procure flint nodules in a condition best adapted for the purpose of the flint tool-maker, it became apparent that, while the pits were still being worked, the roof of the gallery had given way and blocked up its whole width. The removal of this obstruction disclosed three recesses extending beyond the chalk's face at the end of the gallery, which had been excavated by the ancient miners. In front of two of those recesses lay picks made from the antlers of the red deer.

* *Canadian Journal*, N. S., Vol. XIII., p. 208.

They corresponded to other deer's-horn implements found in various parts of the shafts and galleries. But Canon Greenwell noted that, while in the case of the two implements specially observed by him, the handle of each lay towards the mouth of the gallery, the tines which formed the blades of the picks pointed towards each other, suggesting, as he conceived, that in all probability they had been used respectively by a right and a left-handed miner. The day's work over, the men had laid down their tools ready for the next day's work; meanwhile the roof fell in, and the picks were left undisturbed through all the intervening centuries, till the reopening of the gallery.

The circumstance, though worthy of note, among the other details recorded by an accurate observer, could not in itself be regarded as of great weight in its bearing on the general question of the origin or prevalence of right or left-handedness. But any evidence tending to throw light on the usage in prehistoric times has a significance and value in reference to the original and very general use of the right hand where special dexterity is required. The question of the reason for such preference was brought under the notice of Carlyle by painful experience near the close of his life. It was his sad misfortune, when he had reached the advanced age of seventy-five, to lose the use of his right hand. The period of life was too late to turn with any hope of success to the untrained left hand; and more than one entry in his journal refers to the irreparable loss. But one curious embodiment of the reflections suggested by this privation is thus recorded upwards of a year after experience had familiarized him with all that the loss involved:—"Curious to consider the institution of the Right Hand among universal mankind; probably the very oldest human institution that exists, indispensable to all human coöperation whatsoever. He that has seen three mowers, one of whom is left-handed, trying to work together, and how impossible it is, has witnessed the simplest form of an impossibility, which but for the distinction of a 'right hand,' would have pervaded all human things. Have often thought of all that,—never saw it so clearly as this morning while out walking, unslept and dreary enough in the windy sunshine. How old? Old! I wonder if there is any people barbarous enough not to have this distinction of hands; no human Cosmos possible to be even begun without it. Oldest Hebrews, &c., writing from right to left, are as familiar with the

world-old institution as we. Why that particular hand was chosen is a question not to be settled, not worth asking except as a kind of riddle; probably arose in fighting; most important to protect your heart and its adjacencies, and to carry the shield on that hand."

The reference to "oldest Hebrews" no doubt had in view what may be regarded as the earliest known statistics of left-handedness on record. The account given in the Book of Judges of the remarkable skill manifested by the left-handed Benjamite warriors is worthy of special note. Left-handedness, if not more prevalent among the tribe of Benjamin than in other Hebrew tribes, appears to have attracted such special attention that those who were noted for it were organized into a separate body of marksmen, renowned for their matchless skill with the sling, as well as for their general dexterity. Ehud, the son of Gera, the deliverer of his people from the servitude of Eglon, King of Moab, was a Benjamite, a man left-handed: and so, as he snatched from his right side the dagger with which he slew the Moabitish king, the motion of his left hand would not excite suspicion. But the very form of the record shows the attribute to be exceptional; and all the more so as occurring in the tribe whose name—*ben yamin*, the son of my right hand,—so specially marks the sense of dignity and honour associated with the right hand. Hence the reference to this select body of seven hundred skilled marksmen is due to the fact that their use of the left hand was at variance with the general practice of their tribe. Had any ancient left-handed people come under the observation of the historical nations whose records have come down to us, this reference to the left-handed Benjamites shows that the fact would have been noted; for the entire number of left-handed slingers barely amounted to 2·7 per cent. Out of twenty-six thousand Benjamites, as we are told, all warriors, there were seven hundred chosen men of the tribe, every one of whom was left-handed, and could sling stones at a hair's-breadth and not miss. Nearly the same relative number, viz., two per cent., is assigned by Professor Hyrtl, of Vienna, as the proportion of left-handed persons at the present day, as determined from observations made by him in one of the most civilized centres of modern Europe.

But some recent disclosures give promise of evidence derived from greatly more ancient records even than the Hebrew scriptures. Discoveries in the department of prehistoric archæology have greatly

extended our knowledge of the history of the human race ; and have opened vistas through which we already look on many novel revelations such as, at no very distant period, it would have seemed folly to imagine possible. We are as yet but on the threshold of such disclosures, and only imperfectly interpret the new chronicle. But among those already suggested by its study, one subordinate illustration of attributes characteristic of primitive man appears to be the evidence that among the palæolithic workers in flint, and the singularly gifted draftsmen of Europe's Mammoth and Reindeer periods, a preferential use of the right hand prevailed nearly as much as in historic times. The remoteness of such evidence, and its manifest freedom from all the artificial influences of civilization, give it a special value in any attempt to determine the source of right-handedness. No human cosmos, as Carlyle says, can by any possibility be even begun without this distinction of hands ; and yet the precise cause of the nearly universal preference of the right hand appears to elude alike the research of the historian and the investigations of the physiologist.

The classification of man, apart from all other animals, as a separate order of *Bimana*, though no longer accepted as one fulfilling the requirements of science, is an indication of the characteristic significance attached to the human hand. It is an organ so delicately fashioned, and, in the daily actions of life employed with such remarkable skill in all the multifarious requirements of the soldier and seaman, the skilled artizan, the needlewoman, the clerk, the surgeon, the artist, musician, &c., that the biologist was not unnaturally directed to it when in search of a typical basis of classification. By reason of its mobility and its articulated structure, it is specially adapted as an organ of touch ; and the fine sense which education confers on it tends still further to widen the difference between the human hand and that of the ape. But also, whether solely as a result of education, or traceable to some organic difference, the delicacy of the sense of touch, and the manipulative skill and mobility of the right hand, in the majority of cases, is found so far to exceed that of the left that a term borrowed from the former expresses the general idea of dexterity. That education has largely extended the preferential use of the right hand is undoubted. That it has even tended to unduly displace the left hand from the exercise of its manipulative function, I fully believe. But so far as appears, in the preference

of one hand for the execution of many special operations, the choice seems, without any concerted action, to have been that of the right. Not that there are not many left-handed workmen, artificers and artists, often characterized by unusual skill ; but, the farther investigation is carried, the more apparent it becomes that such cases present exceptional deviations from what seems to be the normal usage of humanity. If the source of this characteristic preference is referable to any peculiarity in the structure of the hand, or of related organs, it ought to be easily explicable. Thus far, indeed, notwithstanding much patient research, it remains unexplained. Yet if it be no more than an acquired habit produced by the necessities indispensable to combined action, it is scarcely conceivable that no left-handed nation should be found. It is in this respect that the evidence of archæology has such special value. If, far behind oldest historic periods, in the prehistoric dawn, it can be shown that man appears to have manifested the same preference for the right hand which we know him to have done throughout the historic period, it will no longer be possible to question that it has its origin in some obscure organic source. Carlyle, looking to man in his primitive stage as preëminently a fighting animal, assigns the original distinction of hands, as others have done before him, to the necessarily passive shield-bearing hand, as contrasted with that of the sword. With the origin of combined action in war, a choice would have to be made as to the side on which the shield was to be carried, if men were to fight in phalanx.

That such a distinction did exist from remote times is proved by some of the oldest Egyptian and Etruscan paintings, by Assyrian sculptures, and some of the most archaic Greek vases. The right side was ἐπὶ δόρυ, the spear side, while the left was ἐπ' ἀσπίδα, the shield side. The familiar application of the terms in this sense is seen in Xenophon's "Anabasis," IV. iii. 26, *Καὶ παρήγγειλε τοῖς λοχαγοῖς κατ' ἐνωμοτίας ποιήσασθαι ἕκαστον τὸν ἑαυτοῦ λόχον, παρ' ἀσπίδας παραγαγόντας τὴν ἐνωμοτίαν ἐπὶ φάλαγγος*, "He ordered to draw up his century in squads of twenty-five, and post them in line to the left." And again, *Anabasis*, IV. iii. 20 : *Τοῖς δὲ παρ' ἑαυτοῦ παρήγγειλεν . . . ἀναστρέψαντας ἐπὶ δόρυ, κ.τ.λ.*, "He ordered his own division, turning to the right," etc. Egyptian paintings, though older than the earliest Greek vases, are less reliable ; for in the symmetrical arrangements of hieroglyphic paintings the groups of figures are

habitually reversed, right and left, looking toward a central line or point. Nevertheless the evidence of righthandedness is manifest. But the discoveries of recent years in the caves of the Dordogne, in Southern France; and subsequently in Belgium, Switzerland, and England, have familiarised us with drawings of vastly greater antiquity than the earliest examples of Egyptian art.

Two sources of evidence in reference to the dexterity of the men of prehistoric times can now be appealed to: 1st. Their flint implements, so abundant, and so widely diffused; and 2nd. The carvings and drawings of palæolithic man. Of those earliest traces of man's handiwork, the implements of the River-drift Period are at once the rudest and most primitive in character. They occur in vast numbers, among the rolled gravel of the ancient fresh-water, or river-drifts, which belong to what has received from the included implements the name of the *Palæolithic-Period*; and if they are correctly assumed to represent the sole appliances of the man of the Drift Period, they indicate a singularly rude stage. In reality, however, the large, rude almond and tongue-shaped implements of flint are nearly imperishable; while trimmed flakes, small daggers or arrow heads, and other delicately fashioned flint implements—as well as any made of more perishable materials, such as shell, wood, or bone,—must have been fractured in the violence to which the rolled gravels were subjected, or would perish by natural decay. Nevertheless the Drift Folk and the primitive Troglodytes of Europe have transmitted examples of their industry and skill in sufficient number to enable us to turn them to account for the present purpose. Their mode of working is now well understood; for the process of the ancient arrow-maker is no lost art. It has been in use among many barbarous races: and is still practised by some of the Indian tribes of this continent, to whom it has doubtless been transmitted through successive generations from remote times. The modes of manufacture vary somewhat among different tribes: but they have been repeatedly witnessed and described by explorers who have watched the native arrow-maker at work; and his operations no longer present the difficulties which were long supposed to beset them. Among the rarer primitive implements are hammer-stones, oblong or rounded in shape, most generally with cavities worked in two faces, so as to admit of their being conveniently held between the finger and thumb. Implements of this class have been repeatedly recovered from the

French caves; an interesting example occurred among the objects embedded in the red cave-earth of Kents's Hole, Devonshire; and others, of different periods, usually quartzite pebbles, or nodules of flint, have been found in many localities. Some of them were probably used in breaking the larger bones to extract the marrow; but the battered edges of others show their contact with harder material. Similar hammer-stones occur in the Danish peat-mosses, in the Swiss lake dwellings, and on our own continent, among other remains of the arts of the aborigines.

The mode of fashioning the large, tongue-shaped implements and rude stone hatchets, which are among the most characteristic drift implements, it can scarcely be doubted, was by blows of a stone or flint hammer; as was obviously the case with some large flint or horn-stone implements recovered from the pits of the Flint Ridge, a silicious deposit of the carboniferous age, which extends through the State of Ohio, from Newark to New Lexington.* At various points along the ridge, funnel-shaped pits occur, varying from four or five to fifteen feet deep; and similar traces of ancient mining may be seen in other localities, as at Leavenworth, about three hundred miles below Cincinnati, where the grey flint, or chert, abounds, of which large implements are chiefly made. The sloping sides of the pits are in many cases covered with the fractured flints, some of them partially shaped as if for manufacture. The work in the quarry was, no doubt, the mere rough fashioning of the flint by the tool-makers, with a view to facility of transport, in many cases, to distant localities. But the finer manipulation, by means of which the carefully-finished arrow-heads, knives, lances, hoes, drills, scrapers, etc., were manufactured, was reserved for leisurely and patient skill. It is now known that the more delicate operations in the finishing of the flint implements were done by means of pressure with a horn or bone arrow-flaker; and not by blows with a chisel or hammer. Specimens of the arrow-flakers in use by the American Indian and the Eskimo workers in flint are familiar to us. Different forms of those instruments are engraved among the illustrations to "The Ancient Stone Implements, Weapons, and Ornaments of Great Britain;"† and Dr. Evans describes the mode of using them as witnessed by Sir Edward Belcher among the Eskimo of Cape

* Prehistoric Man, 3rd Ed., i. 70, Figs. 5, 6 and 7.

† Evans' Stone Implements, Figs. 8, 9, 10.

Lisburne, and quotes accounts of methods pursued among the native Mexicans, and the Shasta Indians of California. Another, and in some respects more minute description of the process, in use by the Wintoon Indians, is furnished by Mr. B. B. Redding, in the *American Naturalist*, from his own personal observation. The artificer was Consolulu, the aged chief of the Wintoon Indians, and the material, as among the Shasta Indians, was obsidian; but the process is equally applicable to flint; the cleavage of which is nearly similar. His implements consisted of a deer-horn prong split lengthwise, four inches long, and half an inch thick, with the semicircular ends at right angles; two deer-horn prongs, one smaller than the other, with the ends ground down nearly to the shape of a square sharp-pointed file; and a piece of well-tanned buckskin, thick, soft, and pliable. Laying, as we are told, a lump of obsidian, about a pound in weight, in the palm of the left hand, he placed between the first and second fingers of the same hand the semi-cylindrical deer-horn implement, so that the straight side of one of the ends rested about a quarter of an inch from the edge of the block of obsidian. With a small waterworn stone, in his right hand, he struck the other end of the prong, and a flake of obsidian was severed well adapted for the arrow-head. On the buckskin, in the palm of his left hand, he laid the obsidian flake, which he held in place by the first three fingers of that hand, and then took such a position on the ground that the left elbow could rest on the left knee and obtain a firm support. Holding in his right hand the larger of the two pointed prongs, and resting his thumb on the side of his left hand to serve as a fulcrum, he brought the point of the prong about one-eighth of an inch within the edge of the flake; and then, exerting a firm downward pressure, fragment after fragment was broken off until the edge of the arrow was made straight. As all the chips came off the lower edge, the cutting edge was not yet in the centre of the side. But the arrow-maker rubbed the side of the prong repeatedly over the sharp edge, turned over the flake, and, resuming the chipping as before, brought the cutting edge to the centre. In a similar manner, the other side and the concave base of the arrow-head were finished. The formation of indentations near the base for the retention of the tendons to bind the arrow-head securely to the shaft, apparently the most difficult process, was in reality the easiest. The point of the arrow-head was held between the thumb and finger of the left hand,

while the base rested on the buckskin cushion in the palm. The point of the smaller deer-horn prong, not exceeding one-sixteenth of an inch square, was brought to bear on the part of the side where the notch should be; a sawing motion made the chips fly to right and left, and in less than a minute it was cut to the necessary depth. The other side was then completed in like manner, and the arrow-head was finished in about forty minutes.

In the above narrative the use of the right hand in all the active manipulations of the Indian arrow-maker is assumed; though probably with no conscious purpose of emphasising what is the ordinary and normal practice. But the details are in other respects full of interest from the light we may assume them to throw on the method pursued by the primitive implement makers of the earliest stone age. P. Evans describes and figures a class of flint tools recovered from time to time, the edges of which, blunted and worn at both ends, suggest to his experienced eye their probable use for chipping out arrow-heads and other small implements of flint, somewhat in the fashion detailed above with the tool of deer's horn; and which we may, perhaps, presume were used before the discovery of the greater aptitude of horn or bone tools for the object in view. Some of the flint-flakers are carefully wrought into the form best adapted for being held in the hand of the workman. But whether fashioned by means of flint or horn fabricator, the material to be operated upon has to be held in one hand, while the tool is dexterously manipulated with the other. Signor Craveri, whose long residence in Mexico gave him very favourable opportunities for observing the process of the native workers in obsidian, remarks that, when the Indians "wish to make an arrow or other instrument of a splinter of obsidian, they take the piece in the left hand, and hold grasped in the other a small goat's horn. They set this piece of obsidian upon the horn, and dexterously pressing it against the point of it, while they give the horn a gentle movement from right to left, and up and down, they disengage from it frequent chips; and in this way obtain the desired form."* Again, in an account communicated to Sir Charles Lyell by Mr. Cabot, of the mode of procedure of the Shasta Indian arrow-makers, after describing the detachment of a piece from the obsidian pebble with the help of an agate chisel, he thus proceeds: "Holding the

* Translated from Gastaldi. See Evans' Stone Implements, p. 36.

piece against the anvil with thumb and finger of his left hand, he commenced a series of blows, every one of which chipped off fragments of the brittle substance." The patient artificer worked upwards of an hour before he succeeded in producing a perfect arrow head. His ingenious skill excited the admiration of the spectator, who adds the statement that, among the Indians of California, arrow-making is a distinct profession, in which few attain excellence.

In the various narratives, as will be seen, right-handedness is not only assumed as the normal, but as the invariable characteristic of the worker in obsidian or flint. But an ingenious investigator, Mr. F. H. Cushing, of the Smithsonian Institution, while engaged in a series of tentative experiments to determine the process of working in flint and obsidian, had his attention accidentally called to the fact that the primitive implements of the Stone Age perpetuate for us a record of the use of one or the other hand in their manufacture. With the instinctive zeal of youthful enthusiasm, Mr. Cushing, while still a boy, on his father's farm in Western New York, carried out a series of flint workings with a view to ascertain for himself the process by which the ancient arrow-makers fashioned the flint implements that then excited his interest. In his various attempts he aimed at placing himself in the same conditions as the primitive manufacturer of Europe's Stone Age, or of the ancient Mound Builders of this Continent, devoid of metallic tools, and with the flint, obsidian, jasper, or hornstone, as the most available material out of which to fashion nearly all needful implements. He set to work accordingly with no other appliances than such sticks, and variously shaped stones, as could be found on the banks of the streams where he sought his materials. The results realize to us, in a highly interesting way, the earliest stages in the training of the self-taught workman of the Palæolithic Age. After making various implements akin to the most rudely fashioned examples from the river-drift or the old flint pits, by means of chipping one flint or stone with another, he satisfied himself that no amount of chipping, however carefully practised, would produce surfaces like the best of those which he was trying to imitate. He accordingly assumed that there must be some other process unknown to him. By chance he tried pressure with the point of a stick, instead of chipping with a stone, and the mystery was solved. He had hit on the method in use by Aztecs, Eskimos, and Red Indians; and found that he could

fashion the fractured flint or obsidian into nearly any shape that he desired.

I have recently learned from Mr. Cushing, that the instrument employed by him in some of those experiments was the same which Dr. John Evans informs me he accidentally hit upon in his earliest successful efforts at flint arrow-making, viz., a tooth-brush handle. In thus employing a bone or horn flaker, the sharp edge of the flake cuts slightly into the bone; and when the latter is twisted suddenly upward, a small scale flies off at the point of pressure in a direction which can be foreseen and controlled. With this discovery the essential process of arrow-making had been mastered. Spear and arrow-heads could be flaked with the most delicate precision, with no such liability to fracture as leads to constant failure in any attempt to chip even the larger and ruder spear or axe-heads into shape. The hammer-stone only suffices for breaking off a flake from the rough flint nodule, and trimming it roughly into the required form, preparatory to the delicate manipulation of edging, pointing, and notching the arrow-head. The thinning of the flint-blade is effected by detaching long thin scales or flakes from the surface by using the flaker like a chisel and striking it a succession of blows with a hammer-stone. The marks of this surface-flaking are abundantly manifest on the highly-finished Danish knives, daggers, and large spear-heads, as well as upon most other flint implements of Europe's Neolithic Age. The large spear and tongue-shaped implements of the drift are, on the contrary, rudely chipped, evidently by the blows of a hammer-stone; although some of the drift implements seem to indicate that the use of the flint or bone flaker was not unknown to the men of the Palæolithic Age. But the chipping-stone or hammer was in constant use at the later period; and small hammer-stones with indentations on the sides for the finger and thumb, and with their rounded edges marked with the evidence of long use in chipping the flint nodules into the desired forms, abound both in Europe and America, wherever the arrow-maker has carried on his primitive art. The implements in use varied with the available material. A T-shaped wooden flaker sufficed for the Aztecs in shaping the easily worked obsidian. The jasper, chalcedony, and quartz, in like manner, yield readily to the pressure of a slender flaker of horn; whereas Mr. Cushing notes that the "tough horn-stone of Western Arctic America could not be flaked by pressure in

the hand, but must be rested against some solid substance, and flaked by means of an instrument, the handle of which fitted the palm like that of an umbrella, enabling the operator to exert a pressure against the substance to be chipped nearly equal to the weight of the body." One result of Mr. Cushing's experiments in arrow-making was to satisfy him that the greatest difficulty was to make long narrow surface-flakes. Hence, contrary to all preconceived ideas, it is easier to form the much-prized delicately finished small arrow-heads, with barbs and stem, than larger and seemingly ruder implements which involve much surface-flaking.

It is interesting to learn of the recovery of what was supposed to be the lost art of the ancient arrow-makers by a series of tentative experiments independently pursued by different observers; and to find the newly-discovered process confirmed by the methods still in use by widely-scattered aboriginal tribes. So far the results of Mr. Cushing's experiments agree with those of other observers; but in the course of his operations he also noted this fact that the grooves produced by the flaking of the flint, or obsidian, all turned in one direction. This proved to be due to the constant use of his right hand. The first procedure is to strike off a suitable flake from the block of flint. This is then trimmed roughly with a hammer-stone into a leaf-shape, which is reduced in thickness by scaling off surface flakes with repeated blows upon the edge. Then comes the delicate process of finishing, pointing, and notching the arrow or lance-head with the bone flaker. Surface-flaking, or the thinning of the flint blade by the detachment of flakes running from the edge to the centre, is the most difficult part of the process. The method employed to effect this, by direct blows with a hammer stone, by pressure with a wood or bone flaker, or by combining the two, and using the bone or stone flaker as a chisel, can always be detected. Each method leaves its traces on the finished implement; and in the extreme cases of the rudely chipped flint implements of the drift, and the highly finished flint daggers and axes of the Danish mosses and shell-heaps, the contrast is very striking. Mr. Cushing also notes that in flaking a large arrow or spear-head in the hand it is necessary to hold it alternately by the point and by the base. As the grasp by the base is much firmer the pressure is greater; and hence the flakes scale off further toward or over the centre. As this unavoidably happens on opposite edges, a twisted and at times

a distinctly bevelled point is the result ; especially when the material worked upon is unusually hard. This accounts for the bevelled type of arrow and spear-head of comparatively common occurrence, and which has been assumed by some to be designed for the same end as the rifling of a musket ; but as the bevel or twist appears to be almost invariably in the same direction, Mr. Cushing arrived at the conclusion that the aboriginal arrow-makers were, like ourselves, a right-handed people. But if so, there were exceptions to the rule then as now. When the flaker is held in the left hand, so that the direction of pressure by the bone or stick is reversed, the result is apparent in the opposite direction of the grooves. So far as his observations extended, he occasionally found an arrow-head or other primitive stone implement with the flake grooves running from left to right, showing, as he believed, the manipulations of a left-handed workman ; but, from the rarity of their occurrence, it might be assumed that, as a rule, prehistoric man was right-handed. When the results of those investigations into the arts of the Stone Age were reported at a meeting of the Anthropological Society of Washington, in May, 1879, Professor Mason confirmed from his own observation the occurrence of flint implements indicating by the reversed direction of the bevelling that they were produced by left-handed workmen. Mr. Cushing further notes that "arrow-making is accompanied by great fatigue and profuse perspiration. It has a prostrating effect upon the nervous system, which shows itself again in the direction of fracture. The first fruits of the workman's labour, while still fresh and vigorous, can be distinguished from the implements produced after he had become exhausted at his task ; and it is thus noteworthy that on an unimpressible substance like flint even the moods and passions of long-forgotten centuries may be found thus traced and recorded."

The evidence thus appealed to is equally applicable to modern as to ancient workers in flint ; and should a sufficient number of observers consider the question of sufficient importance to induce them to examine and report on the relative number of examples of what are thus assumed to be the result of left-handed manipulation, it is obvious that the class of implements referred to offers a trustworthy source of evidence whereby to arrive at an estimate of the prevalent use of one or the other hand among uncultured races alike in ancient and modern times.

When engaged in some more general inquiries into the evidence of the preferential use of the right hand among modern savage races, I appealed to the experience of my friend Dr. John Rae, who, like myself, is inveterately left-handed, to ascertain if he had noted any such habit among the Eskimos, or among the Indian tribes bordering on the Hudson's Bay, among whom he long resided. In his reply he informs me that, without having taken particular notice of Indian or Eskimo preference for one or other hand, he observed that some among the latter were markedly ambi-dextrous. But, he adds, "from a curious story told me by an Eskimo about a bear throwing a large piece of ice at the head of a walrus; and telling me, as a noteworthy fact, that he threw it with the left forepaw, as if it were something unusual, it would seem to indicate that left-handedness was not very common among the Eskimos."

So far as Mr. Cushing's observations and experiments supply any satisfactory basis for the determination of the question as to the general prevalence of right-handedness, they point unmistakably to such a conclusion, and he definitely advances the opinion that, with few and rare exceptions, primitive man was right-handed. The evidence thus far adduced is insufficient for an absolute determination of the question; but any strongly-marked examples of the left-handed workman's art among palæolithic flint implements appear to be exceptional. No higher authority than Dr. John Evans can be appealed to in reference to the manipulations of the primitive flint-worker, and, in writing to me on the subject, he remarks: "I think that there is some evidence of the flint-workers of old having been right-handed: the particular twist, both in some palæolithic implements, as in one in my own possession, from Hoxne, in Suffolk, and in some American rifled arrow-heads, being due to the manner of chipping, and being most in accordance with their being held in the left hand and chipped with the right." In the detailed description, given in his "Ancient Stone Implements of Great Britain," of the Hoxne example above referred to, he remarks: "It presents the peculiarity, which is by no means uncommon in ovate implements, of having the side edges not in one plane, but forming a sort of ogee curve. In this instance the blade is twisted to such an extent, that a line drawn through the two edges near the point is at an angle of at least 45° to a line through the edges at the broadest part of the implement. I think," he adds, "that this twisting of the edges was

not in this case intended to serve any particular purpose, but was rather the accidental result of the method pursued in chipping the flint into its present form."* A similar curvature is seen in a long-pointed implement from Reculver, in the collection of Mr. J. Brent, F.S.A., and again in another large example of this class, from Hoxne, presented to the Society of Antiquaries of London, upwards of eighty years ago. This, as Dr. Evans notes, exhibits the same peculiarity of the twisting of the edges so markedly, and indeed so closely resembles the specimen in his own collection, that they might have been made by the same hand. Of another example, from Santon Downham, near Hetford, Suffolk, almond-shaped, and with dendritic markings in evidence of its palæolithic date, Dr. Evans remarks: "It is fairly symmetrical in contour, with an edge all round, which is somewhat blunted at the base. This edge, however, is not in one plane, but considerably curved, so that when seen sideways it forms an ogee curve;" and he adds: "I have other implements of the same, and of more pointed forms, with similarly curved edges, both from France, and other parts of England, but whether this curvature was intentional it is impossible to say. In some cases it is so marked that it can hardly be the result of accident; and the curve is, so far as I have observed, almost without exception *ε*, and not *S*. If not intentional, the form may be the result of all the blows by which the implement was finally chipped out having been given on the one face on one side, and on the opposite on the other."† In other words, the implement-maker worked throughout with the flaker in the same hand; and that hand, with very rare exceptions, appears to have been the right hand. The evidence adduced manifestly points to the predominance of right-handed men among the palæolithic flint-workers. For if the flint-arrow maker, working apart, and with no motive suggested by the necessity of accommodating himself to a neighbouring workman, has habitually used the right hand from remote palæolithic times, it only remains to determine the cause of a practice too nearly invariable to have been the result of accident.

Unless there be some organic cause for the preference of one hand rather than the other, no systematic use of either hand would be likely to manifest itself in rude states of society where there is little

* Ancient Stone Implements, p. 520.

† Ancient Stone Implements, p. 501.

or no call for combined action. Hence a Stone Age is one where traces of it were least likely to occur. But the attention of archaeologists and geologists had not been long directed to the extremely rude implements of the drift and the ancient caves, when the disclosures of the latter showed that the art of palæolithic man was by no means limited to operations in flint and stone. Contemporary specimens of carvings in bone and ivory have been preserved, securely sealed up in the cave-breccia, including daggers and lances of deers-horn and maces or batons of the same material, all decorated with more or less artistic skill. Other remains of the ancient workmen still more strikingly illustrate their æsthetic taste, and at the same time serve to throw light on the prevalence of right or left-handedness among the skilled artificers of Palæolithic or Neolithic Ages; as well as on the more important question of the intellectual development of primitive man. Within the last twenty years repeated discoveries in ancient cave-dwellings and retreats of Europe, and especially in those of southern France, have familiarized us with numerous specimens of the work of skilled draftsmen of Palæolithic Europe. The evidence they afford of the dexterity which these cave-men displayed in sketching and engraving on slate, horn, and ivory has been very widely recognized; but my attention was first directed to the possible clue which they might furnish to the prevalent use of one or other hand in that remote age, by what, on further investigation, proved to be an error in the reproduction of the famous drawing of the Mammoth on a plate of its own ivory, found in the Madelaine Cave, in the Valley of the Vézère. In M. Louis Figuier's "*L'Homme Primitif*," for example, which might be assumed as a reliable authority in reference to the illustrative examples of French palæolithic art, the La Madelaine Cave sketch is incorrectly reproduced as a left-hand drawing; that is to say, the mammoth is looking to the right. The direction of an unpremeditated profile sketch is a nearly unerring test of right or left-handedness. The skilled artist can, no doubt, execute a right or left profile at will; but in the ordinary use of the pencil a profile drawing, if done by a right-handed draftsman, will be represented looking to the left; as, if it is the work of a left-handed draftsman, it will certainly look to the right.

The drawings of the ancient cave-men of Europe have naturally attracted much attention. They are referable, beyond all dispute, to a period of long duration, when the mammoth and woolly rhinoc-

eros, the fossil horse, the Irish elk, the cave-bear, cave-lion, and cave-hyæna, with other extinct fauna, were to be found immediately to the north of the Pyrenees, along with the musk-sheep, the reindeer, and other Arctic mammals. The evidence of remote antiquity of the period marked by this extinct fauna, is of so comprehensive a character that it may be assumed to have now received universal acceptance. Any indications, therefore, of special intellectual capacity, such as the carvings and drawings of the cave-men reveal, are of special significance.

These examples of primitive art are of varying degrees of merit. Some may be compared with the first efforts of any untutored youth ; while others, such as the La Madelaine mammoth and the grazing reindeer from the Kesserloch, furnish evidence of the observant eye and the practised hand of the skilled draftsman. Among a series of fanciful illustrations introduced by M. Louis Figuier in his "L'Homme Primitif," is a group of artists of the Reindeer epoch at work. Three men of fine physique, slightly clad in skins, stand or recline in easy attitudes, sketching or carving as a modern artist might do in the lighter hours of his practice. One stands and sketches a deer with free hand on a piece of slate, which rests against a ledge of rock as his easel. Another, seated at his ease, traces a miniature device with, it may be, a pointed flint, on a slab of bone or ivory. The third is apparently carving or modelling a deer or other quadruped. All are, as a matter of course, represented with the stylus, graver, or modelling tool in the right hand ; the question of possible left-handedness not having occurred to the modern draftsman.

On the assumption of the significance of the direction of the profile, as a test of right or left-handedness, the following is the result of its application to the evidence of this class thus far available. The mammoth-drawing from the La Madelaine cave ; the bison, imperfect, showing only the hindquarters ; and the ibex, on a reindeer-antler, from Laugerie Basse ; the group of reindeer, from the Dordogne, two walking and one lying on its back ; the cave bear of the Pyrenees, from the cave of Massat, in the department of Ariège ; and another representing a hunter stalking the Urus, may all be regarded as right-hand drawings. But the horses from La Madelaine, engraved on reindeer-antler, specially noticeable for their large heads ; the horse, from Creswell Crags ; the ibex, with legs in the air ; and,

above all, the remarkably spirited drawing of the reindeer grazing, from Thayngen in the Kesserloch—a sketch, marked by incident both in the action of the animal and its surroundings, suggestive of an actual study from nature;—all appear to be left-hand drawings.

The number of examples thus far adduced is obviously too small to admit of any general conclusion as to the relative use of the right or left hand being based on their evidence; but so far as it goes, it suggests a much larger percentage of left-handed draftsmen than is to be looked for on the assumption that right-handedness is the normal condition of man. It indicates, moreover, the importance of keeping in view the distinction between the preferential use of either hand by the cultured and skilled workman, or the artist, and its employment among rude, unskilled labourers engaged in such toil as may be readily accomplished by either hand. That the use of the left hand is transmitted from parent to child; and so, like other peculiarities, is to some extent hereditary, is undoubted. This has, therefore, to be kept in view in drawing any comprehensive deductions from a few examples confined to two or three localities. It may be that the skilled draftsman of the Vézère, or the gifted artist to whom we owe the Kesserloch drawing, belonged to a family, or possibly a tribe, among whom left-handedness prevailed to an unusual extent, along with an amount of skill and dexterity such as is frequently seen to accompany the instinctive use of the left hand. In such circumstances left-handedness would be apt to be developed not only hereditarily but by imitation. Yet even among those palæolithic draftsmen a preference for the right hand was evinced by the majority.

The more the subject is studied, the more it becomes manifest that education, with the stimulus furnished by the necessities arising from combined action, have much to do with a full development of right-handedness. There is considerable evidence in favour of the idea that in the majority of children, the bias leading to the preference for either hand is so slight that no greater effort would be required to develop the preferential use of the left than of the right hand. But with a certain number the use of the right hand is natural and instinctive. Others again are conscious of an equally strong impulse to use the left hand; and though education may control this, it cannot eradicate it. In any enquiry, therefore, into the degree of prevalence of right-handedness, and its instinctive, organic, or congen-

ital origin, the evidence derived from uncultured classes and races is most reliable. In the conditions of savage life, where combined action is rare, there is little to interfere with the independent action of each individual in following his own natural bias. But so soon as coöperation begins to exercise its restraining and constraining influences, a very slight bias, due probably to organic structure, will suffice to determine the preference for one hand over the other, and so to originate the prevalent law of dexterity. The results shown by the ancient drawings of Europe's cave-men perfectly accord with this. In that remote dawn every man did that which was right in his own eyes. Some handled their tools and drew with the left hand; a larger number used the right hand; but as yet no rule prevailed. In this, as in certain other respects, the arts and habits of that period belong to a chapter in the infancy of the race, when the law of dexterity, as well as other laws begot by habit, convenience, or mere prescriptive conventionality, had not yet found their place in that unwritten code to which a prompter obedience is rendered than to the most absolute of royal or imperial decrees.



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ETRURIA CAPTA.

BY JOHN CAMPBELL, M.A.

Professor in the Presbyterian College, Montreal, &c., &c.

Read January 16th, 1886.

I have the honour to report to the Institute, as one of the most important results of my studies in Hittite palæography, the solution of the Etruscan problem. It is unnecessary to occupy time with an account of the many inscriptions in the Etruscan character, and of the attempts that have been made to decipher them, as such information can be obtained from sources open to every reader. Let it suffice to say that thousands of inscriptions have been discovered, and that, up to the present time, no satisfactory translation has been made, even of the briefest.¹

The original materials with which I intend principally to deal are the epitaphs contained in Lanzi's *Saggio di Lingua Etrusca* and the Eugubine Tables, so faithfully reproduced in the Atlas accompanying Professor Bréal's ingenious but most unsatisfying translation. Of the Tables, seven only, and a small portion of an eighth, are in the Etruscan character. The rest are written in the Roman alphabet, and are Umbrian. These Umbrian tables are being translated, and will shortly be presented to the world as the oldest Celtic document extant. The proof of my discovery is chiefly to be found in the rendering of the Etrusco-Eugubine inscription, which is authenticated by its internal historical unity, the perfect accordance of its grammatical construction and vocabulary with those of a well-known living language, and the harmony between it and the independent Umbrian record. The evidence afforded by the numerous sepulchral inscriptions is necessarily less convincing, as they are brief, consist largely of proper names, present few constructions, and are popular, not classical. But, inasmuch as they are more accessible and more

¹ Dr. W. Deecke, the leading Etruscologist of the day, claims only 34 words made out "with tolerable certainty," exclusive of proper names. *Encycl. Brit. Art. Etruria.*

widely known than the Eugubine Tables, I propose to commence my story of decipherment with them.

THE ETRUSCAN CHARACTERS.

The radical mistake of all who have sought to read the Etruscan inscriptions has been their acceptance of the assertion, hardly ever called in question, that the phonetic values of the characters are those of the Roman, Greek, or Phœnician letters, with which they correspond in form. Thus, we are treated to such combinations as *Siathlaranthu avils mealchisc*, and others much more barbarous, which mean nothing in any language on the face of the earth. For this radical error classical writers are not responsible, for the words given as Etruscan by Varro, Festus, Hesychius, and others, bear no resemblance to the uncouth forms of Etruscan as now read.² The fault lies with the thirty or more complete bilingual inscriptions, some of which, whether accidentally or through ignorance on the part of the writer of the Latin letters, may easily be made to coincide. Of these, the most misleading is the first in Lanzi's *Saggio*, which reads in Latin *Lart. Caii Cavlias*, and, in corresponding Etruscan, *L. Cae. Caulium*. If there be a real correspondence of phonetic characters, such as this example would seem to indicate, between the Etruscan and the Latin, the work of decipherment has been proved an impossibility by the labours of nearly three centuries.³ I shall show shortly that there is no real coincidence of phonetic values, and that the apparent coincidences in form of character are partly accidental and partly the result of ignorance or a desire to assimilate on the part of the engraver of the Roman letters.

It is now generally agreed that the Etruscans were a Turanian people; the representations of their physical features, their arts and customs, tending all in that direction.⁴ Now, while European

² These are referred to on page 154.

³ "È naturale l'immaginare che gl'ingegni Toscani abbiano preso cura d'illustrare il loro antico suolo, ma un forestiero vi ha fatto le più grandi fatiche, cioè l'inglese Tommaso Demstero. Prima di lui però l'aretino Attilio Alessi aveva posto la mano a questa messe, formato un alfabeto etrusco, e riportate delle iscrizioni fino dal secolo XVI." Pignotti, *Storia della Toscana*, lib. I., p. 88.

⁴ By Turanian I mean neither Indo-European nor Semitic. Apart from the intruding Turks and the Tartars of southern Russia, the existing Turanian populations of Europe are the Ugrians, (Finns, Lapps, Esths, Magyars, etc.,) and the Basques. The Lydian origin of the Etruscans, in spite of the objections of Dionysius of Halicarnassus, has been generally accepted

Aryans adopted the Semitic alphabet, which had been borrowed from the Egyptian hieroglyphic system, we have no evidence that Turanian peoples ever did so. Granting that Semites and Turanians equally borrowed from the hieroglyphics of Egypt their phonographs, it does not follow that they assigned the same values to the hieroglyphics and their later attenuations or letters. The fact that the Hebrews took the hieroglyphics representing an ox, a house, a camel, and a door, to set forth the sounds A, B, G, and D, because these are the initials of aleph, beth, gimel, and dalet, the Hebrew words for ox, house, camel, and door, rather tends to make it probable that a Turanian people would assign to these characters the sounds of the initial letters or syllables of the words denoting the same things in their own language. I say letters or *syllables*, because, of the ancient systems of writing known to us, many, such as the Assyrian, Chaldean, Median, were syllabic, not alphabetic, and such originally was the Persian.⁵ The late origin of the vowel points in the Semitic languages seems to indicate that their alphabets were at

on the joint testimony of Herodotus I. 94, Strabo V. 220, Tacitus Ann. I. iv. 55. See, however, on the other side Rawlinson's Herodotus, Book I., Essay 1. The labours of Professor Sayce and others have established beyond a doubt the early occupation of Lydia, Phrygia, Cappadocia, and other countries of Asia Minor by a Turanian Hittite people: The Monuments of the Hittites, Transactions of the Society of Biblical Archaeology, Vol. VII., p. 248. Professor Sayce says, (p. 249), "The chief monuments of the class to which I refer (Hittite) are found carved upon the rocks at Boghaz Keui, supposed to represent the classical Pteria, and at Eynuk, both of which are situated on the eastern bank of the Halys, and in the line of the high road from Sardis to Armenia. Besides these, others are met with at Ghiaour-Kalesi, in Phrygia, near Fralitin, and on the summit of one of the mountains of the Bulghar Daghl, in Lykaonia; and above all at Karabel, on the road between Ephesus and Sardis." Such are the two pseudo-Sesostris sculptures in Lydia. Further on (p. 272), Professor Sayce remarks: "The remains found by Dr. Schliemann, at Hissarlik, show no traces of Assyrian, Egyptian, or Phœnician influence, but they point unmistakably to Babylonian and Hittite influence." And on the same page: "It is also possible that the Lydian tradition recounted by Herodotus, which derived the Heraklid dynasty from Ninus, the son of Belus, was an echo of the fact that Sardis had once been in Hittite hands." The Lycian and Phrygian alphabets, which have been read in much the same way as the Etruscan, I include in my scheme of Turanian syllabaries.

⁵ The cuneiform characters of Babylon, Nineveh, and Media, are accessible to the general reader in Lenormant and Chevalier's Ancient History of the East, vol. I., p. 436, *seq.* About 90 such characters are there represented, having such values as ba, bi, bu, ga, gi, gu, da, di, du, akh, ikh, ukh, li, lu, ai, il, ul, &c. For the Persian, see vol. II., p. 122, where Lenormant says: "Originally, it was probably syllabic." The present Japanese syllabaries called Hiragana and Katakana, which superseded the old Korean about the end of the 9th century, represent each 47 syllables—the latter by the same number of modified Chinese characters, the former by about three hundred such characters. See Aston's Grammar of the Japanese Written Language, p. 8, *seq.* The following are among the syllables represented: ka, ki, ku, ke, ko, ta, chi, tsu, te, to, ma, mi, mu, me, mo. The Tamul alphabet is really a syllabary, but of a kind similar to the Semitic alphabets taken together with the vowel points, although in the case of the Tamul the vowel indicators are incorporated with the consonantal character.

first syllabaries, each character denoting the combined sound of a consonant and vowel. There is, of course, also a bare possibility that phonographs may be complex, representing words, as in the Egyptian, Assyrian, and Chinese, in which case they might receive the name of ideographs; but in the case of the Etruscan characters this is hardly likely, as the hieroglyphic form has entirely disappeared from them. The problem, therefore, is to find the powers of that Turanian alphabet or syllabary, of which the Etruscan system of writing is one of the variant forms. An attempt to solve the problem necessitates a wide outlook, which shall embrace in comparative study all ancient Turanian methods of speech notation.

THE ANCIENT TURANIAN SYLLABARY.

For several years I have given the greater part of my leisure time to a solution of the problem thus presented, being stimulated thereto by the discovery of the Hittite tablets engraved in hieroglyphic characters at Hamath and Carchemish. These Hittite hieroglyphics, representing human, animal and other figures, like the Egyptian, but less conventionally, I take to be the originals of the Turanian alphabet or syllabary. With the exception of my own transliteration and translation, which is, I now find, very imperfect, these inscriptions have not been read, and are, therefore, unavailable as materials for interpretation in themselves.⁶ But it has been shown by Professor Sayce and other students that the alphabetic characters found on Cyprian monuments bear a somewhat similar relation to the hieroglyphics of Syria to that which the hieratic bears to the Egyptian hieroglyphic.⁷ The phonetic values of many Cypriote characters

The same is the case with the Korean and ancient Japanese. For the Korean alphabet and syllabary, see plate 1 of Atlas accompanying Klaproth's *Translation of the San Kokf Tsou Ran To Sets*, Oriental Translation Fund's Publications.

⁶ A friendly critic suggests that my admission of great imperfections in the transliteration and translation of the Hittite inscriptions is not reassuring. Neither in that document nor elsewhere have I made any claim to infallibility; nor, I trust, shall I ever fail to admit with becoming frankness the errors which are almost unavoidable in the pioneer work which has fallen to me. I do adhere firmly to my reading of the bilingual inscription of Tarkutimne, and of the names Shalmanezer, Sagara, Pisiris, Khintiel, Rezin, Hamath, Hittite, and many other words in the larger inscriptions. Some of the Hittite hieroglyphics I am still in doubt about. To others I find that I attached false phonetic values which I have since corrected. The majority of my identifications I have confirmed by subsequent extensive comparisons with materials not at first accessible to me.

⁷ In an article on the Hamathite inscriptions in the *Trans. Socy. Bib. Archæol.*, Vol. V., p. 31 Professor Sayce says: "Some time ago I expressed the opinion in the Academy that this earlier system of writing was none other than the hieroglyphics of Hamath." The earlier

have been fixed by the labours of Messrs. Schmidt, Pierides and others, who show that their sounds have little correspondence with those expressed by similar 'Semito-European letters. Besides the Cypriote, the only other alphabet of like character, the powers of which are certainly known, is the Corean of far Eastern Asia, which furnished me with phonetic values of forms belonging to the Etruscan and other old Turanian syllabaries, as the Cypriote also had done. From Corea, my researches extended in two directions, the one westward towards Siberia, the other eastward to Japan and this continent. To take the Japanese first, I am indebted to the kindness of the Rev. John Edwards for the work of Ban Nobutomo on the ancient Japanese alphabet. This, as he and other Japanese grammarians are agreed, is none other than the Corean, although, in the various inscriptions, it presents many diverging forms. Crossing over to America, the only traces of aboriginal alphabetic writing known to me, which I accept as genuine, are the Grave Creek stone, a true copy of which I owe to Colonel Whittlesey, the Brush Creek stone, of which Mr. Hilder, of St. Louis, sent me a photograph, and the Davenport stones, for the knowledge of which I am indebted to the late Dr. Farquharson.⁸ Each of these contains characters agreeing with the Corean; and the larger Davenport stone, by its semi-hieroglyphic forms, suggests a Hittite origin. The connection of the Mound Builders with the Aztec population of Mexico is conceded by many of the most scientific students of American antiquity. The

system alluded to is that from which the Cypriote syllabary was derived. Again (p. 32) he continues: "A comparison of the forms of the characters in the Cypriote syllabary with those of the Hamathite (Hittite) inscriptions seems to me to render it highly probable that both have the same source."

One of the earliest workers in the field of Cypriote Paleography is Professor Moritz Schmidt, of Jena. See his work "Die Inschrift von Idalion, und das kyprische Syllabar." Also many papers in the Trans. Socy. Bib. Archæol. on the subject by Dr. Birch, Dr. Paul Schröder, Messrs. D. Pierides and I. N. Hall. In Germany the names of Deecke, Siegmund, and Brandis, should be added to that of Schmidt. The Cypriote syllabary is accessible to most readers in Cesnola's "Salamina," where the values are given.

⁸ As there has been much controversy in the United States regarding these inscriptions I cannot allow this notice of them to pass without deprecating the tone of those who on a *priori* grounds have assailed their genuineness and cast aspersions of the most serious kind upon the characters of men whose only title to receive anything but respect at the hands of their fellows, was their being connected with the finding of the relics. See an able defence of the Davenport Academy of Natural Science in connection with the tablets by Mr. Charles E. Putnam: Elephant Pipes and Inscribed Tablets of the Mound Builders, Davenport, Iowa, 1885. I mean no disrespect to American scholarship when I say that there was not knowledge enough in the United States to forge these inscriptions. There are other so-called Mound Builder inscriptions besides these for which I vouch from internal evidence, of which I say nothing.

writing of the two peoples should also coincide. It is easier to trace the resemblance between the Corean characters and those of the Mound Builders than to show the relation of the latter to the Aztec hieroglyphics. I say Aztec rather than Mexican, for with the inscriptions of Yucatan and Guatemala we have nothing to do. Yet I am convinced that the Mound Builder characters are the cursive form of the Aztec hieroglyphics. Thus, starting from hieroglyphics, I ended at the same, embracing the only two hieroglyphic systems, excepting the Egyptian, in existence. On close examination I found that the hieroglyphics of Mexico stand in a very definite and intimate relation to those of Syria, spite of the wide interval between them in space and time.⁹ As the phonetic syllabic values of the Aztec characters are well known, I gained in them the actual key to the old Turanian syllabary. The values of the Aztec hieroglyphics I found to correspond in almost every case with those which, on the authority of the Cypriote and the Corean alphabets, I had affixed to the characters, Etruscan and otherwise, most resembling them. Thus, for example, the Cypriote shield-like character having the power *mo*, and the Corean parallelogram possessing the same value, coincide with the square or circle, which in Aztec denotes the number 10, *matlacli*, and which in composition is read *ma*.

Passing now westward from Corea, a vast written area appears in Siberia. M. Vl. Youferoff, of the Imperial Society of Geography at St. Petersburg, spared himself no trouble to furnish me with the principal inscriptions found in the Yenisei country. These, with variations, set forth the same Turanian syllabary, rather of the Corean and Cypriote order than of the Aztec and Hittite.¹⁰ Nevertheless, a few hieroglyphic forms, common to Hittite and Aztec, prominent among which is the *fish*, appear in these intensely interesting monuments. They also claim kindred with those of the American Mound Builders, as much by the correspondence of written characters as by the rude representations of animals and human figures which they contain. Several of them deal with the reign of Sekata, the Sheketang of the Chinese historians, who virtually headed the Khitan dynasty of China.¹¹ Searching for traces of the writers of

⁹ See plate.

¹⁰ The Hittite and Aztec are hieroglyphic; the Cypriote and Corean, cursive or alphabetical or syllabic in form.

¹¹ The Khitan dynasty of China, coming from the west, took possession of *Leatong* in the north east in 907, and extended their sway over the northern part of the empire. From the

the Turanian character in the land of the Indian Cathaei, Dr. Emil Schlagintweit, of Munich, directed me to the Lat inscriptions of northern Hindostan. As I wrote the other day to Dr. Leitner, of Lahore, who is interested in my researches and has published my comparisons of inscriptions, it may seem presumptuous to ignore the labors of Prinsep, Cunningham, and Dowson in this field, who have acted on the supposition that the phonetic values of the Lat characters are those of corresponding early Sanscrit letters, and have published unsatisfactory translations of them.¹² Nevertheless, I am convinced that the Lat inscriptions are in the old Turanian syllabary, of which they are the most perfect specimens, as they are the first to exhibit the vowel notation which really makes them alphabetic like the Corean. The Corean vowel notation is the same virtually as that of the Lat inscriptions. To what extent the Aryan Indians borrowed the Turanian letters, or what phonetic uses they put them to, I am not yet in a position to say.

So far, I have found no links to bind the Punjab with Syria in the chain of Turanian script. From Syria westward, various mem-

Khitans were derived the mediaeval name Cathay. They were expelled in 1125 and their place taken by the Mantchu Nyuche. Klaproth, *Asia Polyglotta*, 194. Sheketang or Shekingtang, the second Emperor of this dynasty, ascended the throne in 936 A.D., under the name of Howtsin. Gutzlaff's *Sketch of Chinese History*, Vol. I., p. 338. It is said that the invaders came from the desert of Kobi, but it is more than a coincidence that in the region of Siberia about the head waters of the Yenisei, where most of the Siberian inscriptions have been found, the natives call themselves individually *ket*, *kat*, *khitt*, *hitt*, *hüt*, according to their different tribes, and that one important tribe in former days, of which but a remnant is found, is that of the Kotten. Malte Brun, *Geography*, in loc. says that the Tartars call the mounds of the Yenisei country to which the inscriptions belong Li Katei, which he translates, "the tombs of the Cathayans."

¹² The first great student of the ancient characters called Lat (because chiefly found upon the monuments so denominated) was Mr. James Prinsep, the author of *Indian Antiquities*. The chief present workers in the same field are Major-General Alexander Cunningham, C.S.I., Director-General of the Archaeological Survey of India, in his elaborate and valuable reports, and Professor Dowson, in the *Transactions of the Asiatic Society* and elsewhere. I call the translations given by these scholarly men unsatisfactory, because many of them are incomplete and can only furnish a general signification, a few present unwieldy compounds like *Cheh-hieh-chha*, and others represent pillars which eastern royalty might have envied as the gifts of mendicant monks. In the third volume of General Cunningham's admirable reports of the Archaeological Survey of India, Plate XVI., inscription D is read on p. 48 in the text as "the religious gift of Bodhi Varmma, a mendicant priest of Sakya, &c." I read it as an invitation of a Gupta King to his people to worship Gatama. The construction is Japanese and of course the vocabulary is of the same nature. The Lat characters are of inestimable value in Turanian paleography as they, by means of added lines and curves to the radical consonantal character, as in the Corean, give definite vowel values. A careful study of the Indian inscriptions and more accurate knowledge of Japanese will enable me to read with greater precision and definiteness the Siberian inscriptions which are next to them in chronological order. For the Siberian Khitts and Chinese Khitan were but expatriated Indian Cathaei.

bers of this family appear. Besides the unmistakably Hittite hieroglyphics in Asia Minor, I find the Phrygian and Lycian inscriptions, figured in the works of Texier and others, to be Turanian. The same error, which has hid the Etruscan from view, has made these unintelligible. As at present read, with Greek and Phœnician phonetic values, they have no relations with any known tongue; and we have no right to suppose any family of language lost.¹³ The bilingual Lycian inscriptions afford much help in determining the values of the characters, which exhibit Indian analogies. Although the aboriginal populations of Greece, including Macedonia and Thrace, were Turanian, I am not aware of any inscriptions in the old Turanian letters between Asia Minor and Italy. But, in the latter peninsula, it may almost be assumed that inscriptions, which are not written in Greek or Roman, are in Turanian characters. Such, most certainly, is the case with the Etruscan remains. The Etruscan letters are reproduced in Spain in the so-called Celt-Iberian inscriptions, along with forms which recall the variations of Asia Minor and Hindostan. Of these, however, I have hardly made a study.¹⁴ Nor are they the last specimens of old Turanian literature in the west. That supposed solitary example of Pictish writing in Scotland, the Newton Stone, an accurate copy of which I owe to the kindness of President Wilson of University College, is an aberrant, but easily recognizable, type of the same wide spread writing.¹⁵ I have not had time nor opportunity to compare the forms presented in the Sinaitic inscriptions, and in the aboriginal alphabets of northern

¹³ As accessible to the general reader I refer to the samples of Phrygian and Lycian inscriptions contained in Professor Rawlinson's Herodotus, Appendix Book I, Essay XI., which will be found to bear out my statement. Indeed Professor Rawlinson in treating of the Lycians (12, vi.) note 8, says: "The roots, however, are for the most part curiously unlike those in any other Indo-European language." In the first Lycian inscription there given I read the middle word of the first line which has been rendered *crasazeya*, as *Sidara Parmene aur*, which is Basque for Sidara or Sidari, son of Parmene. Independently adapted from the old hieroglyphic system, which long lingered in Asia Minor, although generally on the model of the Greek alphabets, the cursive Hittite writing, while presenting everywhere many resemblances, also exhibits variations that call for careful study and comparison.

¹⁴ Since this paper was submitted I have received from the Rev. Wentworth Webster, of Bechienia, in the Basses Pyrénées, copies of Celtiberian inscriptions, which, with slight variations of a few characters and with one or two new words, one of which I have since found in the Cippus of Perugia, accord with the Etruscan. Two of them belong to the period of Roman occupation in Spain.

¹⁵ Not only the Newton Stone, but many inscriptions hitherto read as the work and memorials of obscure Norsemen, are Pictish records, and establish beyond question the Iberic character of that early British population.

Africa. Neither have I yet been able to pay the full attention which I should like to give to Dr. Hyde Clarke's extensive researches in the field of ancient Turanian alphabets.¹⁶ The inscribed whorls found by Dr. Schliemann at Hissarlik, to which he has recently been applying himself, are undeniably of the class under consideration.

From the foregoing statement, it will be seen that the chief materials for determining the phonetic values of the old Turanian characters are the Aztec hieroglyphics, the Corean alphabet, the Cypriote syllabary, and the bilingual inscriptions of Asia Minor. The Etruscan bilinguals have, so far, been a barrier in the way of progress.

THE LANGUAGE OF THE ETRUSCAN INSCRIPTIONS.

After transliterating the first twenty lines of one of the Eugubine tables, I found myself among Basque constructions. The forms of the auxiliary verbs *naiz* and *dut*, such as *bagare*, *guinela*, *balu*, *banuen*, are so peculiar and recur with such frequency, that, so far as my knowledge of languages goes, it is impossible to mistake the Basque for any other tongue.¹⁷ The Basque vocabulary is otherwise common to a large family of languages, which I have in many papers dealt with under the name of Khitan. I am not aware that there is any tradition of an Italian origin among the Basques, save that

¹⁶ Set forth from time to time in communications to the Athenaeum, Nature, &c. See Athenaeum, July 25th, 1885, p. 112, for the Hissarlik whorls.

¹⁷ *Bagare*, modified indicative present, 1st plural, of the verb *naiz*, I am.

Paradigm.

banaiz, *bahaiz*, *bada*—if I am, thou art, he is.

bagare, *bazarete*, *badire*—we are, you are, they are.

Guinela, modified indicative past, 1st plural, of *naiz*.

Paradigm.

naincela, *haincela*, *cela*—(it is said) that I was, thou wast, he was.

guinela, *cinetela*, *cirela*—we were, you were, they were.

Balu, modified indicative past, 3rd sing., of the verb *dut*, I have.

Paradigm.

banu, *bahu*, *balu*—if I had, thou hadst, he had.

baguinu, *bacinute*, *balute*—we had, you had, they had.

Banuen, modified indicative past, 1st sing., of *dut*.

Paradigm.

banuen, *bahuen*, *bazuen*—(it is asked) if I had, thou hadst, he had.

baguinen, *bacinuten*, *bazuten*—we had, you had, they had.

Lécluse, Manuel de la langue Basque, p. 59, 64. M. Lécluse gives five modified indicatives for each of the two auxiliaries. Of the five modifications of *naiz*, *bagare* belongs to the first and *guinela* to the fourth. Of those of *dut*, *balu* belongs to the first and *banuen* to the third.

noted by M. Francisque-Michel in *Le Pays Basque*, which makes the great chief Uchin the founder of Urbinum in Umbria.¹⁸ Nothing, however, could be more probable than the unity or near relationship of the two southern Turanian peoples, the Etruscans and the Basques. The similarity of the Celt-Iberian and Etruscan alphabets is another point in its favour. The most convincing proof, however, is afforded in the Umbrio-Eugubine tables, where we read, in plain Roman letters, of the *trifor Tursinater, Tuscer, Naharcer, Jupuscer*, that is "the threefold Tyrseni, Tusci, Navarri, and Guipusci."¹⁹

In my articles on the Khitan languages, published in the Transactions of the Institute, in a paper read at the meeting of the American Association for the Advancement of Science at Minneapolis, and elsewhere, I have set forth the fact, that, various as are the grammatical forms of Basque, Caucasian, Yeniseian, Japanese, Corean, Iroquois, Choctaw, and Atzec, they are one in point of vocabulary, and constitute, with many other members, a linguistic family of no small importance. The parent speech belongs to Syria: West of Syria, in Asia Minor, Italy, Spain, and Britain, the inscriptions yield Basque. East of Syria, in India, Siberia, and on this continent, the Japanese at first, and afterwards the Aztec, are the languages set forth by them.²⁰ I have already shown how the Hittite name, Cetaei in the Troad, Cetii in Cilicia, Khita in Syria, Cathaei in the Punjab, Khitt in Siberia, Khitan on the borders of China and Corea, and Citin in Mexico, shows the track of the

¹⁸ Francisque-Michel, *Le Pays Basque*, p. 229.

¹⁹ In this connection I may mention a remarkable book by Curzio Inghirami, who has generally been regarded as the Chatterton or Ireland of Italy. This youth found in an envelope of bitumen and other materials several documents written in Latin and Etruscan characters, setting forth the history and religious rites of the Etruscans, down to the time of Sylla. Pignotti, in his *Storia della Toscana*, regards the *Fragmenta prope Scornellum reperta* as a forgery, and gives cogent reasons for the opinion, although, on account of his youth, he exonerates Inghirami. The discovery of the documents was made in 1634. I have bestowed some attention upon the *Fragmenta*, and, judging them solely, of course, by the internal evidence, am not convinced of their spuriousness. One of the most remarkable and, in Inghirami's age, uncalled for statements in the book, is that which gives the Cethic or Hittite name to the aboriginal Etruscans who came with Vandimon and his son Japetus into Italy. To base anything at all upon the statement of a doubtful work would be unscientific in the extreme. I simply refer to it in the hope that Inghirami's treasure-trove may be subjected to a more searching analysis than has yet been made of the work.

²⁰ I refer more particularly to my articles on the Khitan Languages which appeared in the Transactions of the Institute, Vol. I., Fasciculus No. 4, 1833, p. 282, Vol. II., Fas. 2, 1834, p. 158. The coincidence of the Basque and Japanese vocabularies is set forth in many parts of this paper. The Aztec, as belonging to the same family, is useful in explaining the Mound Builders' written remains. Lat Indian, Siberian and ancient Japanese inscriptions are read in the Japanese.

foremost among northern migrating peoples. To the same race the Etruscans belonged.

The threefold Tyrseni, Tuscer, Naharcer, Japuscer, carry us back to Mesopotamia, the land of the Nairi or Naharina, and to the included region of Khupuscâi, as well as forward to Navarre and Guipuzcoa. The former even take us to this continent, where the Aztecs or Citin also called themselves and their tongue Nahuatl or Navatl. Who the Tuscer were, it is harder to say, for the final *er* is a termination; otherwise the great Basque name Euskara would at once suggest itself in such a form as the Dioscurias of Colchis, now Iskurieh, near which Chapsoukes or modern Khupuscians and eastern Guipuzcoans dwell. In the East, Hamath is more prominent than the Mesopotamian Hittite names, whether we view it in the Himalayas, the Emodi montes of antiquity, or in Yamato, the mountain door, or native name of Japan.²¹ It is possible, therefore, that radical differences in grammatical construction, resulting from independent culture and environment, may have characterized two distinct branches of the Hittite family prior to their great migrations, which began in the seventh century before Christ. Certain it is that the auxiliary forms of the Ibero-Etruscan inscriptions are not those of the Hittites in Asia.

Of the Etruscan words furnished by classical authors, many at once reveal their Basque character. *Lar* or *Lars*, as in *Lars* Perusina, is the Basque *larri*, great. *Lucumo* is, as the Cippus of Perusia reveals, *al auka ma*, composed of *al* power, *auka* choice, and *ema* give, denoting an elected potentate. Varro informs us that *atrium*, the fore-door or porch, was an Etruscan word. It is the Basque *athuri*, a porch. Hesychius gives *damnus* a horse, which in modern Basque is *zamari*; *ataison*, a vine, not so easily recognizable in *ardanza*; *aracos*, a hawk, which is probably *arrano*, the eagle; *falae*, mountains, which is *pilla*, a mound. Festus furnishes *nepos*, luxurious, in which we may detect the Basque *napur*, a glutton; *buris*, the ploughtail, which is either *buru*, the head, or *burdax*, the extremity; *subulo*, a flute-player, which exhibits the same form as

²¹ It has been suggested to me that too much is made of what may be a mere accidental similarity of name. It must be remembered, however, that the theory of chances is against the constant repetition of several names in a series; that the names appear in connection with cognate languages, modes of writing, and other confirmatory connections. To build any theory, which I have no desire to do in any case, upon verbal resemblances alone would be as unwise as it would be to overlook them in an inductive process for ascertaining fact.

chambolĭn, a player on the tambourine. The three words *hister*, *ludio*, an actor or player, and *ludus*, a play, appear to have been forms of *hitz*, speech, and *elhe*, discourse, similar to *elhaturi*, a fine talker. There is no present form *hitztari*. *Laena*, a woollen cloak, contains the Basque *ille*, wool.²² *Lanista*, which according to Isidore meant *carnifex* in Etruscan, is probably derived from *iltzen*, to kill. However, if it mean gladiator or warrior, it may connect with the Etruscan name for Hercules, which has been read *Hercur*, *Herichthse*, but which I read *Lanetu-chipido* and *Lanetu-uchimonone*; the essential word *Lanetu* being the Basque *lanthu*, to work, labour, in allusion doubtless to the labours of Hercules. *Aesar*, a god, should be *Aitor*, the divine hero of the Basques.²³ The name of Jupiter on the Etruscan pateræ, which has been read *Tina* or *Tine*, should be read *Gowk-*

²² From *ille* comes *ilain*, wool merchant. M. Van Eys suggests as its derivation *ille egin*, to make wool, not exactly the work of a wool merchant. But some such form as *ilain* may fitly have signified in ancient times "made of wool." *Laena* is one of the glosses furnished by Festus.

²³ Other glosses I submit with some hesitation. According to Hesychius, Boreas was *antas* in Etruscan. In Basque *ipar* is the north wind, and *aize* wind in general. There is a Basque verb *hant*, *hantu*, with the French signification enfler, but whether enfler is to be taken in the signification of blow as well as of puff and swell, I do not know. The Etruscan *arse verse* is made to mean *averte ignem*. The present Basque word for "couvrir le feu" is *izark*, of which the etymology seems unknown. *Arse* may be an old form of *errants*, cinders, the first element in which is the verb *erre*, to burn; and *verse*, the original of *barreatu*, *barreatzen*, to disperse, scatter. The latter word is identical in meaning with the Japanese *barasu*. *Agaletora*, which Hesychius translates "child," I take to be not *puer*, but *infans*. The word does not exist, so far as I know, in modern Basque, but its constituents do. These are the verbal adjective *ichilla*, silent, and *tar*, now rarely used save as "suffixe de l'ethnique," as in Burgostarra, an inhabitant of Burgos. Yet it appears in *anai-tar*, fraternal, from *anai*, brother. *Ichillatar* would thus be the exact equivalent of the Latin *infans*. The Etruscan months, in the general character of their names, agree with those of the Basques. *Velitaneus* or *Velcitanus*, March, may correspond with the Basque *epuilla*, the initial *e* not being radical; *Ampiles*, May, is more like *Ilbeltz*, January; *Aelus*, June may survive in *baguilla*, the Basque name of that month, but is more like *hacilla*, November, or *cecella*, February. *Coelius*, September, has also a form like *cecella*. *Isaneus*, July, is in Basque *uztailla*; and *Ermius*, August, is more like *urria*, October. *Druna*, a gloss of Hesychius, is made equivalent to the Greek ἀρχή, which some Etruscologists have translated as the Latin *principium*, others as the English "sovereignty." I am disposed to render the Greek by the equally allowable "origin, source," and to find its equivalent in the Basque *iturri*, source, and *jatorri*, origin. *Balteus*, a sword-belt, one of Varro's glosses, is probably a compound of *ubal*, a strap or belt, *abal*, *habala*, a sling. M. Van Eys says: "Est-ce que *ubal* et *abal* ne seraient pas des variantes du même mot dont la signification primitive était courroie?" Initial vowels in Basque are not necessarily radical. See my paper on the Khitan Languages, Proceedings Canad. Inst., 1884, Vol. II., Fas. 2, p. 163, rule 2, a. *Falandum* (*falando*, *Deecke*), *coelum* cannot be the sky, which is *zeru* in Basque, but may denote the celestial powers or gods, and be a form of *Alindun*, he who has power or dominion. *Alin* instead of *al* appears in the Eugubine tables and on the cippus of Perugia as the word for dominion. *Aldun*, *puissant*, literally "who has power," is the modern Basque form. The initial *f* is thus, of course, unaccounted for. It is worthy of note that *b*, *g*, *d* and *o*, letters denied to the Etruscan alphabet, appear in these glosses.

ara, and *Goukane* or *Goukain*. The latter is an inversion of the Basque *Jaincoa*, the word for god.²⁴ The name of Juno, generally read as *Thalna*, is really *Morasa-kara*; the former part of the word being the same as the Latin *Murcia*, wrongly identified with Venus. But Cupid is a purely Etruscan word, for the form read *Turia* is really *Cupido aurra*, or the child Cupid. *Maris Turan*, so far from being the son of Venus, is really *miratu uno Cupido raka*, probably meaning look towards Cupid.²⁵ Venus is also an Etruscan word, which has been read *Pelias*, as her son's name has been read *Castur*.²⁶ The first is *Banesa aurra no*, of the son of Venus, and the second *uchirano Cupido*, the precise meaning of the first part of which is hard to determine, as *uchi* may be *utz*, *hitz*, and many other Basque words. The name read *Menle*, *Menerva*, *Menrva*, does indeed denote the goddess Minerva, but her Etruscan name was *Mineka*; for these words give *Mineka-sane*, *Mineka-netugira*, *Mineka-tugira*. The root *men*, power, is doubtless the chief element in the name. The Etruscan title of Vulcan has been read *Sethlans*. It should be *nonemosarakano* or *non ema su rakano*. The first three words mean *who gives fire*. I am in doubt as to the precise meaning of *rakano*. The accidental coincidences *Hercur*, *Castur*, *Pelias*, *Menerva*, have done much to confirm Etruscan students in the application of Roman values to the letters of Etruria, and, with the ingenious parallel drawn by M. Bréal between the Umbrian and Etruscan tables of the Eugubine inscriptions, threatened, for a time, to put an end to my own researches.

THE PHONETIC VALUES OF THE ETRUSCAN CHARACTERS.

The Etruscan syllabary,²⁷ as represented by the sepulchral inscriptions in Lanzi, is very poor, and it is still more so in the Eugubine

²⁴ *Jaincoa*, *jinko*, *jangoiko*, is supposed to be derived from *jaun*, lord, master, and *goi-ko*, of the height. The Etruscan shows rather that the original was *goi jaun*, the high lord.

²⁵ This and the accompanying Etruscan names of divinities are taken from the so-called *paterae*, really bronze mirrors, found in Etruscan tombs. See Lanzi, Vol. II., table VI., *seq.*, and the Rev. Isaac Taylor's *Etruscan Researches*. The latter writer states that *maris* denotes boy, a child of the gods. Thus *maris Turan* means "the boy of Venus," and *maris Thalna*, "the boy of Juno." Now the words read *maris Turan*, I read *miratu uno Kupido raka*, which may be "this one looks towards Cupid."

²⁶ See Lanzi, Vol. II., Table VII., Plate 5, where in connection with the figures represented appear the words TVDIA and AELIAS. The first has been read *Turia*, the second *Pelias*. But the first is *Kupido aur*, and the second *Banesa aur no*. Also Plate 6 of the same Table has KASTVD, generally read *Castur*. It is *hitzrano Kupido*.

²⁷ See page 163.

Tables. It possesses no sign whatever to mark independently the short vowels. Indeed, it is doubtful if it has any vowel sign at all, for the simple perpendicular line, or Roman I, rather seems to represent an aspirate, and may give ha, he, hi, ho, hu. It is the Aztec *hui* or *ui*, a !horn. This vowel sign or aspirate syllable sometimes presents difficulty, by appearing with its duplicate II, for these two perpendicular lines or parallels denote the short sound of *t* or *d* in composition, te, ti, de, di, et, ed. In Aztec it is represented by *titlan* or *tlantli*, the teeth. In the Hittite inscriptions it is generally perpendicular, but, on the bilingual of Tarkutimme, it is horizontal. The aspirate syllable appears in composition with a character identical in its simple form with the Roman C, when the compound assumes the shape of K. The C is a weak sibilant, *chi, che, zi, ze, is*. The combination K gives *hitz, ots, uchi*. C is the Aztec *chichi*, which Brasseur de Bourbourg renders *poumons, mamelles*. It occurs frequently in the Hittite inscriptions, alone and in composition. The only other case of combination is in the form B, in which the aspirate or broad vowel is joined to the character resembling the figure 8.²⁸ This figure 8 is the Etruscan l in all its powers, la, le, li, lo, lu, al, el, il. With the prefixed I, in the form B, it seems to denote ol, ul. The Aztec has no hieroglyphic for l, but that for *tlalli*, a piece of ground, the Basque *lurra*, is identical in form with the older square form of S, which is common in Etruscan inscriptions, and has generally been read as h. The Corean l is square or angular; that of Cyprus is identical with the Etruscan. The Etruscan has only one character for all the powers of r, which is hardly ever initial in Basque words. It is almost identical with the Roman A, but with rounded top, and has been thus read. In the Hittite monuments it presents a rounded form, at once giving the bow as its original. The Aztec has no r, but, as I have shown in my article on the Aztec and its relations, the peculiar Mexican combination *tl* may represent an original r or l. The Aztec symbol coinciding is *tlaoitolli*, the bow, the Koriak *ralla*.²⁹ In the Lycian

²⁸ In the Cippus of Perugia this form, which is common in the Eugubine Tables, is replaced by the horizontally intersected parallelogram, read by Etruscologists as h. Generally the latter character and S appear to denote the same sounds and to belong to different stages of the written language. But the Cippus shows beyond doubt that the angular form was reserved for l preceded by a long vowel. In B, the combination IS appears, the perpendicular line representing the long vowel.

²⁹ I compare the Aztec with the Koriak of eastern Siberia as the resemblance between the Koriaks, Tehuktchis and Kamtehadales on the one hand and the American Indians on the other

inscriptions this character wants one of its extremities, and assumes the form of the figure 4. The Etruscan has two forms for the powers of M. The long sounds, ma, mo, mu, are represented by a circle or O, which frequently has an intersecting line, or by a diamond or square. Etruscan scholars have taken this to represent the Greek theta. It is, as I have already indicated, the Aztec *mattactli*, denoting ten, but represented by a figured circle or square, which may have meant a shield originally. This is a very common Hittite emblem, and occurs in the many groups which I have read *mati*, king.³⁰ The feebler sound of M, mi, me, im, em, is represented by a character not unlike the Italic *m*, which has correctly been read as such.³¹ This I have not found in Aztec. As a hieroglyphic it must have denoted a ridge of mountains, and the Basque *mendi*, a mountain, was probably its original. It is common in Hittite, and the Cypriote mi is in accordance with it. The Etruscan character which coincides in shape with the Roman M, has not the sound of that letter. Indeed, this has been discovered by Etruscan students from a comparison of texts, so that they have made it the same as S, with the power of the Roman s. But this character, set forth variously as M, S, Z, and a division sign set perpendicular, has the values, na, no, nu. In Aztec it has lost its broad sound, being the *ne* of *neitl*, an arm. As an arm, these sounds are frequently represented on the Hittite monuments. The Corean *n* has also a form more resembling the arm, which the Etruscan was compelled to modify, lest it should be mistaken for *sa*, etc. The Cypriote *ne* is identical with the Etruscan character which I have compared to a perpendicular division sign. It was probably of phallic origin. Though common in Hittite, it is of rare occurrence in Etruscan. To denote the weaker powers of N, ne, ni, en, in, the Etruscans employed a symbol identical in form with the Roman E. For this I have no Aztec equivalent, and, although it appears in Asia Minor, India, and elsewhere,

has often been pointed out, and as the vocabularies of these Siberian tribes coincide with the Aztec. See a few examples in my paper on the Aztec and its connections, already referred to.

³⁰ In the Hittite inscriptions. See a brief essay entitled "A translation of the principal Hittite inscriptions yet published." For the inscriptions themselves see *Transac. Soc'y Bib. Archaeol.*, Vol. VII., Part III., p. 429 seq. The word *mati* king frequently occurs in the inscriptions, and is represented by a shield-like oval on its side, bisected perpendicularly by three lines, followed by a representation of a basket.

³¹ This character does not belong to the Chalcidian Greek alphabet, nor does it occur in any Latin or other Italic inscriptions, save the Umbrian, Oscan and Faliscan, which are almost identical with the Etruscan.

its phonetic value is a matter of inference, so far as I remember. The majority of values being given, it is of course not difficult to infer the value of the unknown.^{31a}

Passing from the liquid to the dental combinations, the Etruscan presents us with three forms for ta, to, tu, da, do, du, resembling the Roman D and P, and the Italic b. In the sepulchral inscriptions these seem to be interchangeable, but, in the Eugubine tables, I imagine that I have detected differences, the D generally standing for *tu*, and the b for *da*. This variable sign was, I think, originally an animal head, in Aztec *tochlli*, the rabbit, but in Hittite a gazelle. It is thus the first character in the Hittite legend of Tarkutumme. The weak powers of T and D I have already indicated. The labials are two, or, at most, three in number. B, P, V, with a, o, and u, are represented by a perpendicular line, from the top of which falls, at an angle of 30° or more, a line, generally of half the length, but sometimes continued farther. It may be represented by the figure 1 with a down stroke. This is the Aztec *pil*, *chose suspendue*, according to Brasseur. It is read as *p* by Etruscan students. The same consonants, with e and i, are represented by a form identical with the Roman V. This, by a strange inversion, is a vase or cup, the Aztec *palli*, which Brasseur holds to mean *couleur noire*.³² As I have shown in my article on the Aztec and its Relations, *palli*, like the Japanese *biru*, also means "that which holds or contains." The Cypriote *pa*, like that of the Siberian inscriptions, is represented by two *v*'s, one above the other. The Corean *p* is a square *v*. There is, perhaps, an F in Etruscan, having the same form as the Roman, but it is hard to separate it from the form for *gi*, which, with other gutturals, demands attention.

The sounds ag, eg, ig, ge, gi, are expressed by a character resembling the Hebrew *beth*, or a Roman E, without the tongue or central short horizontal line. As the basal line of this character

^{31a} I have since found the original of this character in Hittite and in Cypriote. See plate.

³² Brasseur de Bourbourg, *Histoire des Nations Civilisées du Mexique, &c.*, Tome 1, Introduction, p. LIV. My friendly critic complains of obscurity in the text. The *inversion* is that which gives in Aztec the sound *pa* to the equivalent of V and the sound *pi* to the equivalent of A. As I read these Etruscan characters, V is *be*, *bi*, *pe*, *pi* and A *ba*, *bo*, *bu*, *pa*, *po*, *pu*. While the preponderance of evidence furnished by Hittite, Lat Indian, Siberian and Etrurian inscriptions is, I think, in favour of the renderings I have given, there is much that tells in the direction of the Aztec equivalents. I leave it therefore an open question whether V should be *ba*, &c., and A, *be*, &c. But this must not be decided hastily, for we cannot tell what changes vowel sounds have undergone in a group of languages yet unclassified, and for which no laws have been formulated, save the few set forth by me in the Khitan essays.

is frequently drawn across the perpendicular, it is sometimes hard to distinguish it from F. Where more squarely cut, there is the same danger of confounding it with C, as prevails in the case of C and G in Roman inscriptions. I am in doubt as to the corresponding Aztec hieroglyphic, but think it is either *camatl*, the mouth, or *quauhli*, the eagle.^{32a} The latter supposition may be justified from the Hittite, in which the eagle represents the *ke* or *ge* of Karkemish. In Corean, *kh* agrees, being in the shape of the Roman F. It has conveniently been read in Etruscan as *v* or *z*, according to the exigencies of the interpreter. The sounds *ka* and *ga* are represented in Etruscan by a character, generally read *n*, varying in appearance in different texts as the Roman N and H, and the Hebrew *cheth*.³³ Its original is the Aztec *calli*, a house, with the shape of which the Hittite hieroglyphic corresponds closely. In the cursive Hittite, or that in which the hieroglyphic begins to fade away, it appears in form something like the Italic *h*, or a child's rude drawing of a chair. It is wanting in Corean, and, so far as I know, in Cypriote, unless the twisted *ko* of the latter syllabary be its equivalent; but it is common in Asia Minor,³⁴ in the form of an old Greek or Phœnician *z*. In the Lat, Siberian, and Mound Builder inscriptions, the same character assumes the Etruscan and cursive Hittite forms. The most frequently recurring guttural sign is one which generally appears as a Roman Y, one of the forks of which is carried across the perpendicular. At other times, it has the perfect form of Y, and, at others again, it becomes a cross or a T. A comparison of texts at once demonstrates that these are variants of one sign, and, on this account, Etruscan students have uniformly read it as *t*. It really denotes *ko*, *go*, *ku*, *gu*. Its Aztec representative is *quahuil*, a tree. Its tree form is recognizable in the Hittite inscriptions, and, in its Y equivalent, it constitutes the radical element in the Cypriote *ku*.³⁵

^{32a} It may seem improbable at first sight that F should in any way represent an eagle, but a comparison of the original form of the character with that of the Hebrew *gimel*, derived from a camel, will show analogous changes.

³³ The angular *N*, like the *M* referred to in note 31 above, occurs in no Latin or Greek alphabet.

³⁴ Lycian and Phrygian.

³⁵ The lack of appropriate type compels me to make references which to the general reader must be more or less obscure. The Cypriote sign for *ku* is a Saint Andrew's cross, through the intersecting lines of which a Y is drawn perpendicularly. The cross with other lines, horizontal or perpendicular, is the Cypriote vowel symbol *a*, *e*, *i*. The Y is thus the radical element in the form for *ku*.

Still another guttural sign, which at times replaces equally *ka* and *ko*, or the house and the tree, is one which resembles an arrow pointing downwards, or an anchor with the flukes pointing upwards. This, doubtless, is but another form of the tree, or of a plant, the so-called flukes representing the branches or lower leaves. This does not agree with the Cypriote, for in that syllabary the phonetic value assigned to the same character is *te*. It is, however, one of the tree or plant forms in Hittite, and occurs abundantly in India and Siberia. In the famous edict of Asoka, it constitutes the last character in that monarch's name.³⁶

The sibilants only remain. Two of these, in the forms C and K, I have already set forth when dealing with the aspirate I. The broad powers of S, *i.e.*, *sa*, *za*, *as*, *so*, *su*, are represented by a single character, generally read *l* from its resemblance to that Roman letter. However, the lower limb of the Etruscan character is not horizontal, but stands in the same relation to the perpendicular that the upper limb does to that of the character *ba*, *pa*. I can think of no sign exactly corresponding to it, although the radical sign in arithmetic comes near it. In the Indian inscriptions, the same values are represented by the perpendicular sign in geometry. Its Aztec equivalent is *xotl* a foot. In Hittite it has the shape of a foot or a carpenter's square. In Corean, the lower limb leaves the perpendicular above the base and slants downward, still preserving the idea of a foot. The upward slope of the Etruscan may be a reminiscence of the up-turned toe of the characteristic Hittite boot. The last character calling for mention is one which combines the one just considered with the Y-like *ko*. It consists of a perpendicular, touched or traversed by two equidistant lines at an angle of 30° or more, according to the fancy of the artist. It may roughly be represented by a double dagger, and appears to have the phonetic value *itch*, *ich*, *itz*. It may, therefore, be the Aztec *itzli*, a dart. In Hittite, a single dagger probably represents the same. The Cypriote *si* shows some resemblance to this character, but its value

³⁶ Asoka, King of Cashmere, is spoken of in the Raja Tarangini or History of the Kings of Cashmere, book I. sl. 101 seq., as the first royal convert to the faith of Buddha. See Troyer, Radja Tarangini, Tome II in loc. cit. also p. 406 seq.; and for reference to the inscriptions p. 413. Facsimiles of some of the inscriptions are found in the Journal of the Royal Asiatic Society. The name of the author of the inscriptions has been read as Piyadasi, whom Indian scholars have identified with Asoka. I read the author's name, which occurs frequently, but not in the characters read Piyadasi, as Asoka. But I find no mention of Antiochus, Ptolemy, and Magas, whose names are said to appear in these proclamations.

is attested by the Korean signs for *ts*, *dz*, which are combinations of *k* and *s*. Such then is the meagre Etruscan syllabary, and such its derivation. I might, perhaps, have gained more attention and credit for its decipherment, had I, as might easily be done, left the distant Aztec out of sight. This, however, would have been to sacrifice, to a dogmatic dictum of "antecedent improbability," common gratitude, love of truth, and really scientific principle. Everything is antecedently improbable in the region of the unsolved, otherwise the unsolved would not exist.

To the names of those already mentioned who have materially aided me in the work of decipherment, I should add my acknowledgments to W. Harry Rylands, Esq., Secretary of the Society of Biblical Archæology; M. Léon de Rosny, President of the Institution Ethnographique of Paris; W. H. Vander Smissen, Esq., Librarian of the University of Toronto; Hyde Clarke, Esq., Vice-President of the Anthropological Institute; the Rev. George Coull, A.M.; my colleague, the Rev. Professor Coussirat; and last, but not least, to J. C. Robertson, Esq., B.A., Classical Fellow in University College, Toronto, for his kind care in revising the proof-sheets of this paper.

THE ETRUSCAN SEPULCHRAL INSCRIPTIONS.

The Rev. Isaac Taylor and other Etruscologists, while failing to translate these inscriptions, have made some good guesses. Such are their suppositions that the characters they have read ISA denote a wife, those read SEC, a daughter, and those read AL, a child. If, according to their own method, they had read SA, EC, and NAL, they would have been more correct. The first is *nare* or *anre*, wife; the second *nechi*, now *nesca*, daughter; and the third *karasa*, or in modern Basque, *sortze*, natus.³⁷ Other terms of relationship are *uta* and *babe* father, and *uga* or *uga anre* mother or lady mother, some-

³⁷ It has been objected that *karasa* and *sortze* are difficult to reconcile. That NAL, *karasa* means "natus," several bilinguals attest. The Basque "natus" is *sortze*. The only difficulty in the word is the replacement of *ka* by *so* after an interval of over a thousand years in the history of the language. See Van Eys, Dictionnaire Basque-Français, Introduction, p. XLIII. Tableau des permutations des consonnes dans les mots basques de différents dialectes. K = S, Z, t h. Karamitcha = zaramika; kirten = zirtoin; kiskaldn = chichkaldn; gale = zale; gapar = zapar; itogin = itozin. For change of vowel see in the same dictionary, khurruka, khurulla derived from karraka; garratz = kirats, kharax; galde = galdo; marruskatu = murruskatu; sallutzea = zaulitzea; chokon = zokon; elkar = elkor; etzin = etzan; ala, halatan = hola, holatan. The Japanese equivalent of the Basque *sortze* is *haramu*. One class of Japanese verbs derived from nouns is formed by adding *mu* to the noun; thus from *hara*, belly comes *hara-mu* to be with child. In the same way but with a different verb-former *tu*, *tzen*,

times also rendered by *amona* and *amona-anre*. *Utu* is the present Basque *aita*. *Babe* only survives in the language of children. *Uga*, though common in composition in modern Basque, has ceased to designate a mother, but *amona* and *amandria* remain. For child, the common word is *ura*, the modern *aurra*; for a little child, some compound of *chipi*, which still means little. Daughter is more often *albi* or *albisa* than *nечи*. These forms are now *alaba* and *alapichi*. The commonest words for brother and sister are *noba*, now *nebia*, and *arriba* or *arba*, which is unchanged. The word *bau* or *bahi*, which means a pledge, seems to denote husband or wife. Child is sometimes rendered *ume* or *hume*, the unaltered form. As read formerly, *uta* would be IR; *babe*, PU; *uga*, IN; *uganre*, INSA; *amona*, THE; *amona anre*, THESA; *ura*, IA; *chipi*, CU; *albi*, *albisa*, HU, HUL; *noba*, SP; *arriba*, AP; *bahi*, PI; and *hume*, IM. They were brave men, if not over-wise, who led a forlorn hope against such a formidable array of darkness.

Etruscan inscriptions are, with few exceptions, written from right to left. For convenience sake I invert the text where it is introduced, and the direction of the individual characters. For lack of Etruscan type, I am compelled to represent these characters by the nearest equivalents which an ordinary English font supplies. A reference to the descriptions under the heading "The Phonetic Values of the Etruscan Characters," will enable the student to identify these equivalents with the original forms in Lanzi's Saggio. The following, in the order of the English alphabet, are the Etruscan symbols with their varying phonetic powers. Aberrant forms are grouped with the English letters they most resemble.

A = ra, re, ri, ro, ru; ar, er, ir. Examples: AS rano, YA gure, LA zari, AO roma, AD artu. When *r* is preceded by a long vowel, *o* or *u* (*or*, *ur*), it is generally rendered by I A.

B = ol, ul, hal, hel, hil, hol, hul. The same character is the horizontally bisected parallelogram, now read as *l*. It is a compound of I and the following character. Example: BE alne alalne, BD olatu.

S = la, le, li, lo, lu, al, el, il. Examples: SED lanetu, SIS leheno, SV albe.

the Basque *zorro*, ventre, becomes *sortu*, *sortzen*. The Japanese *shiroi*, white in the same way forms *shiomu*, to become white. The corresponding Basque *zuri*, *churi*, white, by adding *tu*, *tzen* forms *churitu*, *churitzen*, become white, whitens. Such instances might be multiplied indefinitely.

- C = chi, che, si, se, zi, ze. Examples: CV chipi, CAE ziren, CA zeru.
- D, P, b = to, tu, do, du; but in many cases in the Eugubine tables these three characters represent every power of *d* and *t*. Much as I would like to attach definite values to each of them, my knowledge of the relation in which ancient Basque or Etruscan stands to modern Basque phonetically, is not such at present as to justify me in so doing. See also II.
- E = ne, ni, en, in. Examples: YE gunē, ED entu.
- F = ag, eg, ig, gi, ge, but never ga. FE agin, egin, VF begi, FA igar. It is possible that begi was originally be-ig.
- H, N = ka, ga generally, but was probably used also for ak, ke, ki, ge, gi. Examples: HV gabe, NA kari, now ekarri; also NED now kendu.
- I = ha, he, hi, ho, hu, au, ai, ou, eu, oi, o, ū, hau. Examples: IA hiri, aura, ora. The poverty of the Etruscan syllabary multiplies the equivocal to such an extent that the context or even a knowledge of the nature of the document in which such words occur must decide their value.
- II = ta, te, ti, da, de, di, at, et, it, ad, ed, id. See above D, P, b. This sign is never used for to, tu, do, du. As for ot and ut, od and ud, they are represented by IP, Ib. Examples of II are OII emat, IIV debe.
- K = os, ots, oz, otz, us, uts, uz, utz, hatz, hitz, hez, hots, huts. It is a compound of I and C. In the inscriptions of Asia read by Japanese it gives ochi, uchi. As representing two syllables, instead of the forms indicated, it frequently, indeed generally, should be read osi, utsi, oze, but never osa, otso, utsu. Examples: K hitz, KV ospe, VKE behatzen, KDE utziten.
- L = sa, so, su, za, zo, zu, as, az, sometimes es, ez, but not os, us. It may also denote cho, chu, cha, and ja, jo, ju, when these sounds pertain to the sibilant series. Examples: LA zari, sari, L su, so, LV azpi.
- m = me, mi, em, im. Examples: mA mira, mE imini. See O.
- M. See S.
- O = ma, mo, mu, am, om, um. Sometimes it represents what is now in Basque *em* followed by a broad vowel, *eman*, which may originally have been OE mane. There are variant forms

of this character, with perpendicular and horizontal intersecting lines, and with crosses contained within them, in some Etruscan, and in the Celtiberian inscriptions. In Celtiberian, O with a dot in the centre represents the Etruscan *m*. I have not determined with exactness enough for dogmatism the different vowel values and positions indicated by the other forms. Examples: AO roma, OA umra, (Umbra) OV ambe, VO pimo.

R. I do not recognize this as a character *per se*. It is a variant of P.

S. Z. M. = na, no, nu, an, on, un. The two last, *on* and *un*, when initial at least, are generally represented by IE, IS, one, uno. But the character M seems specially to indicate these sounds, when the initial vowel or aspirate character is dispensed with. However, M is very often interchangeable with S. The Z is simply a variant of S, and, as far as I can judge, marks a different class of writings, differing chronologically or geographically. Examples: AS rano, ES nion, SI anai, MPAN ondoreak.

T. See Y.

V = be, bi, pe, pi, eb, ib, ep, ip. Examples: VF begi, LV azpi, VS ibil, YV kube, now jabe.

Y. T. = ko, ku, go, gu. I do not think that originally it represented any other sounds than these. There can be no doubt that YV kupi, kube, kobe, is the same word as the modern Basque *jabe*, *jaube*, lord, but it is better to regard *jabe* as a corruption of *kobe*, than to enlarge the powers of Y. When j and ch represent original gutturals, the words in which these letters occur may be looked for under Y, N, L and F. When they represent original sibilants, they should be found under C, L and †.

L = go. This character, as I have indicated, is nowhere to be found in the Eugubine Tables. It was thus not an essential part of the Etruscan syllabary. I have also shewn that its hieroglyphic origin is the same as that of Y. In the majority of instances in which I have met with it in the inscriptions, it has simply replaced Y, with the value go. But in other exceptional instances it has appeared with Y in the form LY, and there have been instances in which from analogy

NY, kako, kago, gago, the present gogo, mind, desire, would be expected. This inconsistency I can for the present only state, not explain.

‡ = ech, etch, ich, itch, certainly, and probably ets, its, etz, itz. Examples: ‡VCI ichpichio, ‡I etsai.

∴ same as S. This form, rare in Etruscan, but common in Hittite and Cypriote, occurs in Lanzi No. 419, vol. II., p. 376, for SA anra, now andre.

∧ ∨ = ba, bo, bu, pa, po, pu, ab, ap. Ob and up are rendered by I/∧. The second character appears in the Eugubine Tables. Examples: ∧ED banetu, ∨V babe, ∨AYDE borokutune, now borrokatzen.³⁸

There are other Etruscan characters than those I have indicated the powers of, but their signification is not essential to a knowledge of the inscriptions in general, nor is it wise at this early stage of Etruscan study to obtrude that which is less important. I do not

³⁸ Mr. VanderSmussen calls my attention to an Etruscan syllabary and alphabet upon a *lecythus*, found at Caere, represented in the collection of Fabretti. The syllabary I cannot reproduce in full without an engraving which at this stage is unnecessary. The following sample sufficiently indicates its character:—

	Read by Lepsius :
f f A f Y f E	bi ba bu be
∧ ∨ A ∨ Y ∨ E	gi ga gu ge
I I A I Y I E	zi za zu ze
S S A S Y S E	hi ha hu he
O O A O Y O E	di da du de
M M A M Y M E	ni na nu ne
P P A P Y P E	pi pa pu pe
* * * *	* * * *
T T A T Y T E	ti ta tu te

First I call attention to the fact that the illustrious Lepsius has given values to the characters ∨, O, M, P, which are at variance with those given by the present school of Etruscologists. They make ∨ = p, O = th, M = s, and P = r. I think, however, that he is right in reading Y as V.

The alphabet, as nearly as type will represent it, is as follows :

ABCDEFISOIKL(m)M□OPNPΣTYTOI

The S is square; the first O is traversed by a horizontal line; the □ contains a cross; the second O has a central dot; the N has a shortened left limb as in old Greek; the second T carries the perpendicular line above the diagonal line; and the L is more like the Greek Ψ.

If the alphabet is Etruscan, D is r according to present readings, and so are the two P's; also the variant T's are read with the same powers, as are the two s forms M and Σ. It is also to be noted that the supposed alphabet and syllabary are not accordant.

Some light may be shed upon this succession of characters by comparing it with another supposed alphabet figured in Dennis's *Cities of Etruria*, and readily accessible in Browne's *History of Roman Classical Literature*. The author says: "One example of the Etruscan

profess to exhaust the syllabary or any department of Etruscan philology, but to communicate what I know to those who with more abundant leisure and facilities may be able to reduce to scientific exactness of proportion the stones of a new edifice, which with

alphabet is extant. It was discovered in a tomb at Bomarzo by Mr. Demis, inscribed round the foot of a cup, and probably had been a present for a child. The letters ran from left to right, and are as follows"—

8LOVYΣDM ^NmLlOB3FECA

Reversing this we obtain :

ACEF3BOlLMN /AMDΣYVOlS

Here, also, B represents square 8; the N is similar to that of the preceding alphabet; the T carries the perpendicular beyond the horizontal or diagonal; the l is like the Greek Ϸ; and the F is inverted. There is also a new character something like the figure 3.

The correspondences are :

Caere.	ABCDEFISOI	KL(η)M	□OPNPΣ	TVTOL
Bomarzo.	A-C-EF3BOI	-L m		DΣYV
		N / M		O l S

I confess that ABCDEF in succession might easily carry conviction to the mind even of the critical student that the powers of the Etruscan alphabet were those of the Latin. I therefore ask the reader to return to this note after having studied the inscriptions in the text. Mr. VanderSmisssen suggests the likelihood of the Etruscans in the later period of their history adopting the Greek and Roman alphabets and a complete vowel system. Of this, however, I have no evidence. I incline rather to the belief that they did not adopt the Roman alphabet until they adopted the Latin language. The monuments plainly indicate that the Etruscan scribes assimilated the forms of their characters to those of the Roman letters, but without in the least affecting their phonetic values. As for the order of writing it is just possible that inscriptions reading from right to left may have been modelled on the Roman. But the various inscriptions which I have classed with the Etruscan, namely, Celtiberian, Pictish, Phrygian, Hittite, Indian, Siberian, &c., exhibit little consistency of order, reading generally indeed from right to left, but often from left to right and boustrophedon.

To return to the supposed alphabets, I read that of Bomarzo thus :

A C E F 3 B O l L m N / A M D Σ Y V O l S

er ze in ag ti la mai su mi ka bano ta ne ku be ma go la

Basque: erre zein gatillu mai su imi ka bana tanka bu makilla

burn who vase tablet fire placing by within strike let the stick

Let the stick strike him who burns the tablet (inscription) of the vase by putting fire into it.

Here it will be observed that I read 3 as if it were η. This I do on the authority chiefly of the Siberian inscriptions, which use η, { }, and 3 for ti, te, &c. The corresponding Caere character is I. The only word which is not modern Basque is *bana*, and this I take to be a form of *barrena*, within. M. Van Eys derives *takku*, *kankatu* from the Provençal *tancar*. It cannot, however, be other than the Japanese *takaku*, the Choctaw *timik-kih*, the Iroquois *tekkentoks*, and the Aztec *tz-tzona*, all meaning to *be . . .*, strike, thump, knock. Although *ma* now means a table, it must originally have designated a space upon any object on which subjects might be portrayed or characters written. The Japanese *hi-mei* denotes an inscription on a monument.

The Caere alphabet is :

ABCDEFISOI KLlmM □OPNPΣTVTOL

ir aul zi dune ge te la mai utz su mi no ma mi ta ka ta ne ku be ku mago

clumsy tools borrowed from many distant lands I have rough-hewn out of the Etruscan quarries. The syllabary presented is far from an ideal one, but it is certainly as perfect as that of the ancient Phœnicians, who ignored vowels altogether, and hardly inferior to the Hebrew syllabary, prior to the invention of the vowel points within the Christian era.³⁹

Basque: iraulzi duen gatillu mai * su imi * * * * * tanka bu * * *

overtun who does vase tablet * * fire place * * * * * strike let * * *

I have not hazarded a complete translation of this corresponding inscription. The *Kutz* may be an Etruscan form of *or*, which is now *edo*. The final *kumago* shows the same root as *magola*, which Van Eys (subst. *makilla*) supposes to be *maku*, *makatu*, strike. Such a Malay-Polynesian form as *ku-mago* is hardly in accordance with Basque structure. Nor can I suggest at present an explanation of *no mamitu ka*. The Basque has a verb *mamitu*, to curdle, and another, *mamutu*, to disguise one's self in hideous fashion, derived from *mamu*, a spectre or hobgoblin to frighten children with. The Japanese *momonjū* has the same meaning as *mamu*. Can these words connect with the oriental *Mamitu*, goddess of fate, in the Izdubar legends (G. Smith: The Chaldean Account of Genesis)?

The supposed syllabary I do not regard as such, but as an ingenious combination of characters on a consistent plan, setting forth words of two syllables, which are not only individually significant, but which may also have formed complete sentences in combination. The Basque roots are largely dissyllabic, so that the parent Etruscan may have been a biliteral language. The first character in the supposed syllabary is not *b*, but the replacer of *V*, *be*, *bi*, *pe*, *pi*. It occurs in this hooked form in the Hittite inscriptions and in Asia Minor. In *ḫ i ḫ A ḫ V ḫ E* we may find *behi* cow; *bera*, *bere*, *bero*, the first signifying equally tender and below, the second, his, her, its, and the third, hot, heat; *bebe*, probably an old form of one of the auxiliaries; and *bein*, once.

AI/A/V/AE bai, bahi; barru, buru, baru, borra; babe, pabe; bane. Bai has the double meaning "yes" and "spot," *bahi* is a pledge. Barru means "within," *buru*, head, *baru*, fasting, and *borra*, mallet; *babe* is the Etruscan for "father," and *pabe* is Basque help, support; *bane* is Etruscan join, unite. *TITATVTE* koi gare jabe gune in modern Basque, but in Etruscan *gui gure gube gune*. This reads correctly "we are desiring the place of the master." Similarly we might read *SISAVSE* as *lohi lara labe lane*, and make Basque of it as *lohilla ra labe lan*, towards January the oven works. I do not profess to have read any of these lines, but that they can be read consistently I have little doubt. Corresponding rhyming fragments, but not so perfect in their structure as the one under consideration, are to be found in the nursery lore of all civilized peoples. The reason why final *i*, *ra*, *be* and *ne* were chosen for the composition of the piece is that being postpositions they would fit into the mosaic more perfectly than other syllables. Final *i* is hardly a postposition, but a sign of the dative case.











³⁹ The poverty of the Etruscan syllabary is by no means without parallel. When the Semitic peoples replaced a cumbrous hieroglyphic system by what are now known as alphabets, they really adopted syllabaries as bare as that of the Etruscans. The Hebrews had only one purely vowel character, namely *aleph*, and although they had expedients for representing long vowel sounds they were very frequently omitted. Thus, as Gesenius states, one form might be read *qatal*, *qatel*, *qatol*, *q'atol*, *qotel*, *qittel*, *qattel*, *qattal*. According to the same authority: "the Phœnicians did not even indicate the long vowels, except in very rare cases; their oldest monuments can hardly be said to have any designation of vowels." The Mongolian and Buriatic syllabaries present similar deficiencies, the same sign representing different sounds, and words quite distinct in meaning and pronunciation being written with the same characters: see Encyc. Brit., Article Mongols. The Javanese, Batak, Tagala, and other syllabaries of the Malay Archipelago are equally defective: see Crawford's Indian Archipelago, Vol. II., pp. 70-71. The alphabet of the Tuareks of Africa is really a syllabary having no characters whatever to

COMPARATIVE TABLE OF TWELVE KHITAN (OLD TURANIAN) ALPHABETS.

<i>Pictish.</i>	<i>Celt-iberian.</i>	<i>Etruscan.</i>	<i>Lycian.</i>	<i>Phrygian.</i>	<i>Cypriote.</i>	<i>Hittite</i>	<i>Aztec</i>	<i>Mound Builders</i>	<i>Corean</i>	<i>Siberian</i>	<i>Indian</i>
Λ Λ Π	Α	Α	Α	Α	⋈ ⋈ X			Λ, 8	Caret	Λ, λ	λ, ρ, λ
Caret	X	8	B	B	8 X			X, 8	5, 8	B	Caret
Caret	Caret	B 8	Caret	Caret	Caret	Caret	Caret	Caret	Caret	Caret	Caret
C	C.<	C<	o	o	⊥			C, <, <	Caret	<	C
⊙ ⊙ ⊙	D.P	D.P.b.R	P	P	F			⊙, 6, 8	⊙	D, D, δ, μ	D, P, b, μ
Caret	X	, I, 3	T.+	T.+	∇			, >, 3	Caret	, >, 3	+
E.γ	E.F	E.F	E.I	E.E	∇.∇		Caret	≠	Caret	ε	E, ε
E.F.7	Caret	F.L.F	∇	?F	7	Caret	Caret	F, ≠	7	ε, F	ε, ε
Π. R	H.N.7	H.N.N	N.7	N	Π.Π			Π	Caret	h, h	h, Π
I	I	I	I	I	*	I, ⊥	I	/	I, I, I	I	I
K, X	*.*	K	K	K	⊙, X, ⊙	⊙	Caret	K	Caret	K, K	K
λ, λ, ⊙	∇	∇, L	↑	↑	∇, ∇			h, λ	h	λ	⊥
Caret	⊙	Π	I, M	M	∇, ∇, ∇		Caret	?W	Caret	↑	X
S	M.Σ	M.S.Σ	S.Σ	S.Σ	≠			Z	λ	∇, ≠	ξ
⊙.⊙	⊙.⊙.⊙	⊙.⊙.⊙	Δ.⊙	Δ.⊙	⊙.⊙.⊙			⊙.⊙	⊙.⊙	⊙.⊙	⊙.⊙.⊙
⊙.↑	∇.↑	∇.∇	∇	∇	∇	∇, ∇, ∇	∇, ∇	∇, ∇	∇	∇, ∇	⊙
γ.γ	M. M	Y, X, +, T	Y, γ, Y	γ	*. I			γ, γ	7	γ	γ
Caret	Caret	⊙	? ⊙	Caret	∇		Caret	⊙	Caret	*	Caret
γ	∇.∇	∇.∇	∇	∇	∇			∇	Caret	∇	∇, ∇
Caret	Caret	≠, ∇	Caret	Caret	Caret			Caret	7	Caret	∇
∇.∇.∇	∇	∇.∇	∇.∇	∇.∇	∇			∇, ∇	Caret	∇, ∇	∇

The caret does not signify that the corresponding symbol is absolutely wanting in the individual syllabaries, but that I have not yet found it.

COMPARISON OF THE ETRUSCAN CHARACTERS SHOWING CORRESPONDENCES IN OTHER ALPHABETS OF KNOWN PHONETIC VALUES.

<i>Etruscan.</i>	<i>Cypriote.</i>	<i>Corean.</i>	<i>Aztec Hieroglyphics.</i>
A _{ra, re, ri, ro, ru, ar, er, ir}	∧ _{re} R, X _{ro}	caret	 tla = ra : tlaoitolli, a bow
8 _{la, le, li, lo, lu, al, el, il}	8 X _{le}	5, 1 H _{le}	 tla = la : tlalli, earth
B _{hal, hel, hil, ol, ul, aul}	caret	caret	caret
C _{che, chi, se, si, ze, zi, is, es}	∠ _{si} : compare Aztec	caret	(.) (.) _{chi} : chichitl, lungs, breasts
D.P.6.R _{ta, to, tu, da, do, du, at, ad}	F _{to} : like Old Heb. and Phœn. <i>aleph</i> , [an ox]	▷ _t	 to : tochtli, the rabbit (animal's head)
II.I.3 _{te, ti, de, di, et, it, at, ed, id}	V _{te} : like Hebrew W _{shen} , a tooth	caret	 ti : titlan, but from totlan, tlantli, tooth
E.F _{ne, ni, en, in}	∠.L _{ni}	caret	caret
F.F.F _{ag, eg, ig, gi, ge, ak, ek, ik}	∠, ke, ge, xe	∠ _{kh}	caret
H.N.N _{ka, ga}	∏.∏ _{ko, go, xo}	caret	 ka : calli, a house
I _{o, u, ha, he, hi, ho, hu, au, hau, oa, oi}	* _a : compare * below.	I, i, t, a, t _e	∠ _{ui, hui, uh} : hui, a thorn
K _{ochi, uchi, hats, hets, hits, hots, huts}	ic, je X, ji (x _e)	caret	caret
L _{sa, so, su, za, zo, zu, as, az}	V.V _{sa}	h _s	 so, cho : xotl, a foot, pronounced shotl
M _{me, mi, em, im}	T.V.T _{mi}	caret	caret
M.S.Σ _{na, no, nu, an, on}	∠, na	∠ _n	 ne : neitl, an arm
O.◇.□ _{ma, mo, mu, am}	∠.O.□ _{mo}	∠, □ _m	 ma : matlactli, 10
V.∠ _{be, bi, pe, pi, eb, ib, ep, ip}	∠ _{pi, bi}	H _p	 pa : palli, black (rather, contents)
Y.X.†.T _{ko, ku, go, gu}	* _{ku, gu, xu} , † _{ki, gi, xi}	∠ _k	 ka : quahuitl, a tree
† _{na, no, nu, an}	∠ _{ne}	caret	caret
∠.∠ _{ka, ga, ko, go}	∠ _{ka, ga, xa}	caret	 other form of quahuitl
∠.∠ _{etch, itch, ets, its}	caret	∠ dz : combines ∠ K, and h, S	∠ itz : itztli, dart
∠.∏ _{ba, bo, bu, pa, po, pu, ab, ap}	∠ _{po}	caret	∠ pi : pilli, something suspended.

SEPULCHRAL INSCRIPTIONS.

(The numbers refer to those in Lanzi's Saggio.)

41. OANA · ZEIANYI · LAYINIAL

Transliterated—ma ra ka ra. · no ne u ra ka ku u · sa ra ku u ka u ra sa

Basque—marakara non orogoi Saraku uga au critza

Translation—monument where in memory Saraku mother his esteems

Freely—the monument in which Saraku honours his mother's memory

The first word *marakara*, which has been read *Thana* and made a proper name, occurs in a great many inscriptions, generally as the first word.⁴⁰ Sometimes it is replaced by *mærakaku* or *maragogo*,

denote vowel sounds: see Latham's *Varieties of Man*, pp. 523 and 566. It is important to keep in mind what Professor Max Müller says in his *Sanskrit Grammar for Beginners*: "To admit the independent invention of a native Indian alphabet is impossible. Alphabets were never invented in the usual sense of that word. They were formed gradually, and purely phonetic alphabets always point back to earlier, syllabic or ideographic, stages." The first stage of every system of writing was the hieroglyphic, which may have been purely ideographic like the Chinese. That the latter was the case, however, there is not sufficient evidence to decide. The oldest Egyptian hieroglyphics are syllabic and alphabetic as well as ideographic. So the oldest cuneiform writing was syllabic as well as ideographic. The Hittite hieroglyphics were syllabic, and but rarely ideographic. The hieroglyphics of Mexico were used ideographically, but also with syllabic values, for the Pater Noster, and other prayers and religious formulas were written in them by missionaries for the use of native converts. M. Léon de Rosny in an article on *Les Sources de l'Histoire Anté-Colombienne du Nouveau Monde*, in the *Revue Orientale et Américaine*, says: "Malgré son extrême déféctuosité, les missionnaires catholiques chargés d'évangéliser les Aztèques, le trouvèrent suffisant pour composer des livres religieux à l'usage des Indiens convertis. Les bons missionnaires espagnols allaient même jusqu'à écrire de la façon le texte latin des prières qu'ils voulaient enseigner à leurs néophytes."

The next stage was that of reducing the number of signs within the smallest possible compass and simplifying their forms for the sake of rapid expression. This gave the Semitic alphabets, from which the European were derived. These, as has been shown, were really syllabaries with little or no representation of vowel sounds. In course of time the inconvenience of such a mode of writing became apparent to *Cadmus* or whoever introduced the Greek alphabet. By setting apart certain signs to denote vowel sounds, such as *aleph*, *he*, *yodh* and *ayin*, he turned a syllabary into an alphabet. This the Semitic peoples afterwards effected by added vowel-points or lines, of which, perhaps, the most perfect system is the Ethiopic. The syllabary derived from the Hittite hieroglyphics was perfected in a similar way in India by added lines and curves, a comparison of which with the vowel indicators of Corea at once attests the common origin of the old Indian and Corean systems of writing. The western Khitan syllabaries of Asia Minor, Etruria, Spain and Britain show little or no trace of having arrived at this third or perfect stage. For the old Indian alphabet, see Prinsep's *Indian Antiquities*, and for the Corean, the atlas accompanying Klaproth's *San Kokf Tsou Ran To Sets*. There are curious analogies between these systems and that of the Ethiopic syllabary.

⁴⁰ I am also indebted to Mr. VanderSmissem for the suggestion that OANA needs explanation in connection with the *THANA* which appears in corresponding positions on other Etruscan monuments. Etruscologists have unnecessarily supposed that the latter word is in Roman letters. Read as Etruscan it is *goka rakara*. The first word I have shown farther on to be *egoki*, importer, appartenir, concerner, convenir. It is the Japanese *kaka-ru* with the same meaning. The word *rakara* does not now exist in Basque, but as I have elsewhere indicated is a compound of *ra*, *rako*, towards. It is thus a synonym of *NEY ganego*, another Etruscan

when it means a memorial stone; the common Basque word, *gogo*, signifying thought, remembrance. Thus, Van Eys appropriately cites *gogoan atchikazu hillzea*, literally, "in memory hold the dead." So far as my knowledge of Basque goes, there are no modern forms

noun formed out of the postposition *gan*, and answers in general signification to the Basque *aginza*, offering. Mr. VanderSmisssen tells me that OANA occurs always at the beginning of a line in 200 out of 1800 sepulchral inscriptions in Fabretti.

As to the derivation of *marakara*, I am disposed to doubt its connection with any ancient word for stone. A careful comparison of the objects on which inscriptions bearing this formula appear will be necessary in order to fix any such derivation. The Basque *marra*, règle, limite, but also ligne, trait, if a truly Basque word, which Van Eys seems to doubt, would be a preferable term from which to derive an ancient *marrigarri*, formed like *mugarri*, a limit, boundary, from *muga*. In such case *marrigarri* would mean "indication, mark." In the following, communicated to me with others mentioned in this note by Mr. VanderSmisssen, *marka*, *marga*, is plainly not a stone, as it is followed by *hari*, stone.

Fabretti 283. OANIA · CEMVNIA · FE(L)VA
maraga harri zein Nopika aur egin babe ra
indication stone which Nopika's son makes father towards

I read the doubtful L as /, which seems necessary to the construction.

The following are instances of THANA :

Fabretti 950. ARRJA · THANA
Artata aur kuka rakara
Basque. Artata aur egoki rakora
Artata's child concerns the offering

It is hard to say what part of the verb *kuka*. *goka* represents. For the 3 sing. pres. ind. one would expect YNI *egokio*, the equivalent of the Basque *dagokio*.

Fabretti 1984. THANIA · TININIM
kukarakaura kuukaukauno
Basque. egoki rako harri Goika uga huno
pertains offering stone Goika mother this

Probably *huno* is a dative form answering to the present *huni*.

Fabretti 1986. THANIA · ACHONIA · CASCELI
kukarakaura ra-hikamakaura chiranochinesau
Basque. egoki rako harri eritsi Gamaga aur jar aintzi nitzayo
concerns offering stone honoured Gamaga's child attention paying I him an

There can be little doubt that AC represents *eritsi*, esteem, honour. In many inscriptions AL occurs, which is *eritza*, now *d-eritza*, the 3rd sing. pres. ind. of the verb. The word CA, *chira*, *sira*, *zera*, the same form that denotes *zeru*, heaven, frequently occurs, and in such connections as to require the meaning of "homage, regard." I can find no nearer equivalent in modern Basque than *jar*, attention. SC, which I have read "pay," in connection with *jar*, is the Etruscan form of the verb *aintzindu*, to go before, to present. The auxiliary *nitzayo* possesses the meaning indicated.

Fabretti 281. TAHNIA · ANAINIA
COMLNIAI · FIA
kurakakaura rakarakaura
simanosakaurau agura
Basque. egoki rako harri Arka-Rauka aur
Simanosaka oroi jayera
concerns offering stone Arka Rauka's child
Simanosaka's memory inclining to

I have regarded TAH as an engraver's slip for THA. The last word *jayera* may be rendered simply as "towards."

marakara, maragogo. The present word for stone is *arri*, but that there was an older form *mara* or *marri* is evidenced by the words, *malkar*, a stony place, *murrua* and *harmora*, a wall. The *kar* or *kara* is the verb *ekarri*, to bear or carry. In the runic Pictish

Fabretti 958. THANIA

SVDERNIA · AR · F

TA SADNAL

kukarakaura

nobetunetakaura arte egi

kura noratukarasa

Basque. egoki rako harri

Nobetu Antaka aur artu egi

gur Noratu sortze

concerns offering stone.

Nobetu Antaka's son—hold! do

reverence; Noratu *natus*.

I have rendered *artu* as an interjection, like the French *tiens*. Reverence is *gur* in Basque.

Fabretti, 288. TAHIA · SVDERNIA · SADNAL

kurakaura nobetunetakaura noratukarasa

Basque: gureki harri Nobetu Antaka aur Noratu sortze

reverential stone Nobetu Antaka's child Noratu *natus*

In the inscription A and H are blended. The reading given is inadmissible on grammatical grounds. I suppose, therefore, that the first word is really an abbreviation of *egoki rako harri*, which will make perfect sense.

Fabretti, 1985. THANA SEICIA · TREFV

kukarakara noneuchiura kuta ne ma be

Basque: egoki rakora non Otseherri Guda ne ema bu

concerns offering what Otseherri Guda to give does

Non now means "where," but in Etruscan the numerous instances of its use claim for it also the meaning of the relative. The Japanese has no relative pronoun. The Iroquois uses *ne*, *nene*, the demonstratives, as relatives, and has also the forms *tsinʔ*, *tsina*, *tsin*, answering to the Basque *zein*. The Choctaw has among its relatives *ing*, *ang*, *ona*, and that of the Aztec is *yn*.

The following are some of the terms or formulas hitherto read as proper names, against all probability, save on the supposition that the Etruscans excelled all other peoples in poverty of nomenclature:

OANA	read Thana,	but as <i>marakara</i> ,	meaning monument
THANA	" Thana,	" <i>egoki rakora</i> ,	" the offering concerns
ADNY	" Arnt,	" <i>artu gogo</i> ,	" to keep in mind
ADNO	" Arnth,	" <i>artu gomū</i> ,	" id.
ADNOAL	" Arnthal,	" <i>artu gomū crīsa</i> ,	" the memorial honours
LADOI	" Larthi,	" <i>zaratu mai</i> ,	" the written tablet
LADIS	" Laris,	" <i>zaratu huno</i> ,	" this writing
FEL	" Fel,	" <i>agintza</i> ,	" offering
FELIA	" Felia,	" <i>agintza oar</i> ,	" consider the offering
AVLE	" Aule,	" <i>arbe zuen</i> ,	" ye who take (heed)

I have just received from Mr. VanderSmussen the following inscriptions, which seem to favour the present school of Etruscology:

Fabretti, 984, *dis d.* LARTHIA · MARINA · CAINAL · FILIA

If this be a Latin reading of Etruscan names, and the *filia* certainly looks like it, Larthia is one such name, and represents LΔFOIA. The Larthis, Larthias and Thanas of Etruria must

inscriptions, generally read as Norse, but which are more Basque than the Etruscan, *maragogo* and *orogogo* are interchangeable terms.⁴¹ The second word, *non*, is unchanged. The compound expression *orogogo* would be regarded as tautological in Modern Basque; *oroï* by itself denoting remembrance. *Saraku* is a proper name something like Sergius. I have already directed attention to *uga* as an old word for mother. It occurs in the composition of many modern Basque words, *ugatz*, breasts, mother's milk, *ugazama*, *ugazaita*, *ugazalaba*, &c.⁴² The pronoun *au*, *han*, is now the demonstrative *this*, but seems to have been originally personal and possessive. T

have constituted a large proportion of its population. This is an Etruscan inscription in Latin characters, and reads :

saratukukaura · noratuukara chiraukarau agiusaura
zarratu egoki harri Noratuika ra Zerua sortze egihatz aur
engraved suitable stone Noratuika to Zerua *natu* scratches child

I have read the final I of CAINA as L, perhaps without warrant. Noratuukara may be Noratu uga ra, to mother Noratu.

Fabretti 557. LARTHIA · OTANIS
saratukuka ura makurakauno
zarratu egoki harri Makurakau no
engraved suitable stone Makurakau of

Or it may be that the name is simply Maku, and *rako ono* signifies "well esteem." In any case LARTHIA, written in this latter inscription with antique A forms, common in Celt Iberian, is a perfectly Etruscan or Basque formula. Latin sepulchral inscriptions should contain some formula, if only the letters D M. Such a formula is almost invariably found in the Etruscan inscriptions as I have read them.

⁴¹ For specimens of Pictish inscriptions, see the 1st volume of Manx Antiquities, published by the Manx Society, facing pages 12 and 23. I take that opposite p. 12, as being the most perfect. It reads from right to left :

ma u sa ne u pi ku ne ra ma ku u sa go ra ba go sa'ng ne sa tu ma ra ka ku u ba ma u sa ka pi
u ba u ku ka ra tu

mai zuen *obeko* ne erama koi Sagora *bagosa* aginza da maragogo obi mai so ka Piubauku zarratu
The tablet which you regard brings (to) me the beloved Sagora, the departed. Offered is a memorial the grave tablet by the sight (of) Piuba *uku* writes.

It is possible that the word I have read in some Pictish inscriptions as *orogogo* may be *maragogo*, for the character *ma*, a short line terminating in a ball, or a larger line traversing the ball perpendicularly, is very liable to injury, and may have been incorrectly represented in copies of the inscriptions as *l*. These inscriptions have been read as Norse, although it is allowed that the elegantly carved crosses upon which they appear are without parallel as Norse works of art. The Isle of Man was a seat of education in very ancient Celtic days, very long before Norsemen were heard of, and the civilization to which that education belonged must have been Iberian or Pictish. See G. Buchanan, *Rerum Scoticarum Historia*, Lib. IV., Cap. XVIII. The Irish annalists represent the Isle of Man as a region of magic and mystery, the usual tribute paid to science in dark ages. They also connect its population with the aboriginal, pre-Celtic, population of the British Isles.

⁴² Uga, mother. My attention has been called to the fact that the compounds seem to convey the idea of step-relation rather than of maternity. Such an idea cannot be contained in *ugatz*, breasts, mother's milk. The Etruscans, like the Lycians and the American Khitan, reckoned descent in the female line. So must the ancient Basques have done. Hence the

personal *hura*, he, is doubtless composed of *hau* and the termination *ra*. There are few commoner words in Basque than *eritsi*, esteem, judge. The auxiliary verbs, *naiz* and *dut*, hardly appear in these inscriptions, but in the Eugubine Tables they abound. *Erit. x*, now *deritza*, is the 3 sing. pres. ind. of *eritsi*. The final *i* of *orogogoi* is an old dative and ablative sign.

42. FEL · IEZOE · LAZAL

Transliterated—ag in sa · hu ne no mo ne · sa ra no ri za

Basque—agintza hunen amona Sarano eritza

Translation—offering of this mother Sarano esteems

Freely—an offering, Sarano honours his mother.

Here *agintza*, meaning an offering, is unchanged. The demonstrative, *hau*, used as personal, has its genitive form *hunen*. In the preceding inscription the genitive was unnecessary, because *uga* followed *Saraku*, giving the genitive of position. The word *amona* means lady mother, and is more elevated than *uga* and less natural. *Sarano* may be Soranus, said to be a Sabine name of Pluto.

44. OANA · YPINAYI · YVYNAZA

Transliterated—ma ra ka ra · ku tu u ka ra ku u · ku pi ku ka ra na re

Basque—marakara Kuta orogogoi jabe Kukara anre

Translation—monument Kuta remembrance to lord Kukara's wife

Freely—Monument to the memory of Kuta, the wife of Lord Kukara

This inscription has been either carelessly made or carelessly copied. The first character in the second word is probably *pi* V, instead of *ku* Y.⁴³ Also INAYI is plainly a mistake for IANYI, a very common formula. The feminine name would thus read Pita or Vetta. The final vowel of *orogogoi* is a dative sign. In the Eugubine inscriptions *kupi* occurs continually as the word for a lord or ruler. In modern Basque it is *jabe* or *jaube*, master, *dominus*. The letter *j* represents the guttural sound of the Spanish *jota* in most Basque dialects.⁴⁴ The Basque word for lady, wife, is *anre*, or more euphoniously *andre*, one of the commonest terms in the Etruscan sepulchral inscriptions.

prominence of the mother. Thus the master of the house is *etche-ko-jaun*, but in order to be so he must be *uga-zaba*, perhaps *uga jabe*, the lord of the mother. The Japanese for mother is *okkaa* or *okkaasan*. The Dacotah is *ika*, *huku*, the Choctaw, *ishki*, the Iroquois, *ista*.

⁴³ Mr. VanderSmitten informs me that VP Pita is the reading in Fabretti.

⁴⁴ The word YV *kube*, *gopi*, as it may be rendered, is one of those which seem to be the property of all languages, its original signification varying between loftiness and forwardness. Thus the Accadian has *gub*, high, answering to the Hebrew *gabah*, and *gub*, front. The Latin

46. A · CEICNA · CAS /V · L · CVPIAL · PIL · X · · ·

Translit. —ra · cineucikara · cira no bapi · sa chipitu u rasa tu usa X · · ·

Basque—ara Sinhetsikara Zeru en bapi so chipitu hau eritsa du atso X · · ·

Translat.—see Sinhetsikara Zeru of father behold little one this esteems has age X · · ·

Freely—Behold Sinhetsikara, Zeru's father, (how) this little one he honours; aged X · · ·

The word *ara*, with, *omen*, here, and *an*, there, makes the equivalents of *voici* and *voilà*. Another word for look is *so*, as a verb *so-ejin*. The proper name *Sinhetsikara* is capable of translation, being *Sinhetskor*, the believer, or *Sinhetsgarri*, the pledge. I shall afterwards give a good reason for rendering the girl's name by *Zeru*, heaven, a common element in Basque as in American Indian names. It is in the genitive, like *hunen* in 42. The Etruscan word *bapi*, father, is now only used by Basque children, being replaced generally by *aita*. It is probably the same word as *babe*, *pabe*, a support. The word for a little one is still *chipi*, and *chipita* means infancy. *Hau* seems to have demonstrative power. The word rendered *ril* by so many Etruscologists, and on which so many theories have been founded, is a compound of *du* has, or *da* is, and *atso*. The latter word now means old and relates only to women, but in Etruscan times it seems to have been generally applied. Unhappily the inscription is imperfect, so that the confirmation of the deceased's childhood is wanting. It is also hard to tell whether *Sinhetsikara* or *chipitu* is the subject of the verb.⁴⁵

caput, German *kopf*, Erse *ceap*, shew the same root, equally with the Japanese *kobe* and *kubi*. The Etruscan word was probably of the same form as the Japanese, but in modern Basque has degenerated to *jabe*.

⁴⁵ The *Sinhetsgarri* family is that which has, on apparently incontestible evidence, been regarded as the Licinian gens, in which *Caecina* was a surname. One objection to this is that *Licinus*, so far as I know, never accompanies this name on the monuments. Again, *Ceina* and *Caecina*, although somewhat alike, are not the same words, the vowel *i* in the latter being long. And *Caecina*, *Cecina*, *Sisenna*, are purely Basque words, being forms of *Zuzena*, the upright, just, equitable. The name appears as far back as 1130 B.C. in the form *Sihusuni*, in the title of a Hittite king of Commagene, *Sarupin-Sihusuni*: *Trans. Soc. Bib. Archæol.*, vol. VII., p. 291; *subCiti-Antera*. The apparently incontestible evidence is that presented by six inscriptions, 308-313 in *Fabretti*, three of which are in Etruscan, and three in Latin characters. They are as follow:

- | | |
|---|--|
| { | 308. A · CEICNA · CAS /V · L · CVPIAL · PIL · X · · · |
| | ara Sinhetzikara Zeru no bapi so chipitu au eritsa du atso X · · · |
| | 312. . . . CAECINA · Q. F. CASPO · VIX. ANNO. X (X) |
| | 309. CEICNA · A. YLA /VNI · AFILM |
| { | Sinhetzikara ara Kusara bapi kau irago atso no |
| | Sinhetzikara beheld Kusara father for passes age no |
| { | 311. L. CAECINA · L. F. TLABONI · VIX · ANN(O)S · XXX |

20. ZEOPA · SVLNEI

Translit.—no ne mo tu ra · al pi sa ka ne u*Basque*—non Matura alabichi ganio*Translat.*—where Matura's daughter is regarded
or, which Matura's daughter concerns⁴⁶

The first two words need no explanation. In modern Basque *alaba* is daughter and *alabichi*, god-daughter; but as the Etruscans were certainly ignorant of Christian rites, which arose long after their language was lost, the latter may originally have meant little daughter. In *kanio* or *ganio* we have, I think, an instance of the well-known power of the Euskarian to verbalize any part of speech, for *kan* or *gan* is the postposition towards. There is a modern verb *ganatzea*, to attract towards one, of which the root is this *kan*. We cannot say in English "it towards him," but that is the meaning of *kanio*, which may be rendered "concerns or relates to." The final

-
- | | |
|--|--|
| { | 310. (A) V · CEICNA · SELCIA · C · P |
| | arpe Sinhetzkara non setze aur Chiba du |
| | it holds Sinhetzkara whom regards child Chiba he has |
| 313 A · CAECINA · SELCIA · ANNOS · XII | |

The Etruscan inscriptions are written from right to left; the Latin in the ordinary way. How can the accordance between these three pairs of inscriptions be accounted for? Many Etruscan inscriptions in apparently Roman letters are really Etruscan, and the characters must be read with Etruscan values. But such is not the case with the three under consideration. It is true we have not the originals of the Latin epitaphs, and there is some variation in the forms of *annos* in the different editions of Lanzi and in Fabretti. Nevertheless the formula *cir. an.* sufficiently denotes a Latin inscription, and even if read in Etruscan yields no sense. Also the Q of 312 is not Etruscan, and neither Caspo in it nor Tlaboni in 311 can be read as Etruscan clauses. It is worthy of note that 309 accompanies the representation of a male figure, and its correspondent 311 a female figure. The names Caspo, Tlaboni, Seleia, have no connection with known Etruscan names nor with anything in the Latin language. The characters CAS^A occur in Lanzi, 165, 166, and CA is one of the commonest combinations of characters in Etruscan. I do not know another instance of YLA VNI or Tlaboni. The word SELCIA I read *non setze aur*. Its first word *non* is of common occurrence, and stands alone in Lanzi, 143, 144. It appears frequently in SENYI *non gogoi*, where in memory, as in Lanzi, 256, 293, 332, 407, and in the fuller SELIANYI *non orogogi*, where in remembrance, as in Lanzi, 423, but I do not remember meeting elsewhere with the complete SELCIA. If these words, together with Caccina, be renderings in Latin of Etruscan names by one who understood the Etruscan language, the contents of this paper are valueless, and Etruscan must retire once more to its abode of impenetrable mystery. That they are such I do not believe, but I do not profess to explain how they came into existence. Progress, on the basis of these correspondences, should, if they are genuine, be easy, but the reverse is the case. They furnish an entirely new, unrelated and unthought language, adding little or no knowledge of the Etruscans beyond a number of questionable proper names. I do not ask to have these correspondences set aside, but invite the student to suspend judgment upon their merits until he has weighed the evidence in favour of the new syllabary. If that be found wanting, these correspondences will be strong witnesses against it; if, on the other hand, it stands the test, they will be condemned as the misleading work of ignorance or something else.

⁴⁶ Instead of SVLNEI Fabretti reads SVLVNEI *albi azpi ganio*. The word *azpi*, literally under, may mean younger or youngest.

io is the form of the third person singular, present indicative, of verbs conjugated without auxiliaries, as in *dagokio*, it concerns, *darauskió*, he speaks, *dio*, he says, *darío*, it flows. Few words are commoner in the inscriptions than *kanio*.

31.	LADHEI	sa ra tu ka ni o	zarratu ganio	the writing concerns
	LEIFE	sa ne u gi ne	Sanaegine	Sanaegine
	SFN	no gi ka	Nogika	Nogika's
(Fabretti)	IA	u ra	aurra	child

The first word, *zaratu*, is the Basque *zarratu*, *zarrapo*, *karrapo*, meaning scratching, and was probably their term for engraving in times of higher civilization. The Japanese *shirushi*, write, and the Iroquois *kernas*, incise, are forms of the same word. The last term *aur*, or with the final article, *aurra*, is the common Basque word for child. It is in the genitive of position. The next inscription is also known to be that of a female.

280. OANA · AVLNEI · CAN†NASA
 ma ra ka ra ar pi sa ka ni o ze ru ka ich ka ra na re
 marakara Arbisa ganio Zeruko-itchekira anre
 monument Arbisa regards Zeruko-itchekira's wife
 The monument concerns Arbisa, the wife of Sky-holder

Here the only words demanding explanation are the proper names, for the others have already occurred. I provisionally suppose Arbisa to be the same as *Arribizi*, echo or literally "living stone."⁴⁷ The other name brings me to the subject of the bilinguals. The original of the following is in the Florentine Museum.

4. LADO · CAN†NA · FAPHALISLA⁴⁸
 (Latin—C. Caesius. C. F. Varia nat.)
Translit.—zaratu ma · zerukaitchekara agertu karasa unosara
Basque—zarratu mai Zeruko-itchekira Agertu sortze onetsá ra
Translat.—engraved tablet Sky-holder Agertu born of well esteem to
Freely.—An engraved tablet to honour Sky-holder, the son of Agertu

The word *zarratu* is here an adjective qualifying *mai*, tablet. In this and several other inscriptions the latter word appears in an abbreviated form, but in many others, as in the Pictish, it has the full form OI, *mai* or *mahi*. The last words are *onetsa*, compounded

⁴⁷ The identity of Arbisa and Arribizi is doubtful, as *arri*, *harri*, stone, is elsewhere IA *hari* and *biza* is no *bizi*.

⁴⁸ Fabretti reads ADO instead of LADO. If his be the true reading, it is an exceedingly rare one. Artu often occurs alone and with NO *gomu* and NY *gogo*, but in this connection I have not met with it. I have no explanation to offer.

of *on* good and *etsi* to esteem, meaning to love or judge good; and *ra*, to, almost the only Basque word beginning with *r*. *Zeruko-ithekira* means holding to heaven or that which is celestial, *zeruko-itheki*. The Latin *Caesius*, the primitive form of *caeruleus*, sky-blue, is a translation of the Etruscan word. Thus the Romans treated their subjects as we do our Indians, by translating their names into their own language. Iroquois names commencing with *Oronhia*, *Karonhia*, meaning the blue of the sky, are of the same origin as that of the Etruscan chief whom the Romans called *Caesius*. I am not on such sure ground in regard to his mother *Agertu*. Her name should mean *Varia*, but I know of no Basque word like *Agertu* that corresponds. It means to appear, manifest. It is the name of a woman, because *sortze*, the modern form of *karasa* or *kartsa*, means born of, and in the inscriptions always accompanies a feminine name or that of a city. This counting descent in the female line is known to have characterized the Etruscans among Italian nations, as it did the Lycians in Asia Minor, and the Iroquois of this continent. I do not know why *onetsa ra* takes the place of *onetsi ra*. Another bilingual is among the chief causes of the obscurity that has reigned in Etruscan studies.

1. L · CAE · CAVLIAM

(Latin—Lart · Caii · Cavlias)⁴⁹

Translit.—so chi ra ne ze ra bi sa u ra no

Basque—so ezarri ne Zerbazuha rano

Translat.—look places which Zerbazuha towards

Freely—which regards towards Zerbazuha

Here I think the sculptor has been carried away by a desire to assimilate the two inscriptions. There is no trace of *Lartius* or *Caius* in the Etruscan. But *Cavlias* means the stalky or cabbage-stalky, a somewhat unenviable name. Now *zerba* is translated by Van Eys "herbe potagère," which would include everything called *caulis* by the Latins. The remaining part of the word is probably

⁴⁹ The bilinguals present many difficulties. In some cases I doubt their being bilinguals at all, as the Etruscans used characters hardly differing from the Latin. The Latin

LART · CAII · CAVLIAS might be read as Etruscan:

zaratuku chirata zerebesau rano

the written place attending is Zerbezio towards

It may be objected that this only shows how any combination of letters may be read as Basque. Such an objection, however, could not come from anyone who knows the extent of the Basque vocabulary and the peculiarities of its grammar.

zaha, wood. It appears also in *zozkor*, the stem of a shrub. Thus *Zerbazuha* would be cabbage-stalk or *Caulias*. The first word *so* is "look," the French *regard*. As for *chirane*, which I have represented by *ezarri ne*, I am inclined to think that it is a lost verb *jarren*, of which *jar*, attention, *jarri*, set to work, *jarrio*, flow, do, are modern representatives. Thus it would be an imperative "Look towards Cabbage-stalk." The last word *rano* is a compound of *ra* and *no*, and means towards. It is thus a postposition. The second bilingual is hardly less misleading than the first.

2. ZENYI · FILINA

(Latin—*Sentia* Sex. F.)

Translit.—*nonekakuu aginsa ukara*

Basque—*non gogoi Egihatzaun akar*

Translat.—which in mind Egihatzaun bears

The chief word calling for comment is that translated by the Latin *Sentia*. It is a feminine name derived from *sentis*, thorn, brier, bramble. The only modern Basque word known to me which contains the essential part of Egihatzaun is *hozkerren*, a thorny plant, composed of *hatz* and *ekarri*. The word *hatz* now means scratching, talon, claw, finger, trace, but must originally have designated a sharp point or thorn, that which scratches, the *ohiktu* of the Iroquois. Thus *hozkerren* would be the thorn bearer. The word *hatzegin* now means to scratch one's self, literally "to do scratching." This with inversion is Egihatza, which may thus be reconciled with *sentis*. *Akar*, now *dakar*, is the 3 sing. pres. ind. of *ekarri*

There are two more bilinguals in Lanzi, not free from accidental coincidences. The original of the following is in the Florentine Museum.

5. F. LECNE. F. OA/1PNAL

(Latin—*C. Licini · C. F. Nigri*)

Translit.—*age sanesikane age morabautukarasa*

Basque—*age Zuntzikin age Maira Baitu sortze*

Translat.—behold Zuntzegin, behold Maira Baitu's son

The word *agi*, *age* means appearance, but, from its position in this inscription and in others, seems to have the force of an imperative or interjection. The Latin *Licini* is a derivative from *licium*, a leash, tag, thread of the web. It corresponds exactly with the Basque *zuntz*, *aiguillée*, a needful, a piece of thread long enough to sew

with. The final *kane* represents the verb *egin*, to do, make.^{49a} Zuntzegin may be an old name for a weaver or tailor. The other proper name, translated Niger, is *Maira*, a Moor or person of dark complexion. *Maira*, *Mahira*, is the Basque word for a negro, and is the term employed by Axular, a Basque writer in 1642, to represent the Ethiopian of Jeremiah xiii. 23. The Etruscan adds *Baitu*, the spotted, from *bai*, spot, as the mother of *Maira*. In Latin her name would probably be read as *Varia*. The original of the following is also in the Florentine Museum.

7. AELIESVLNIAELIES · CIAPOIALISA

(Latin—Q. Folvius A. F. Pom. Fuscus.)

Translit.—ar ne sa unela pisaka ura ensa uneno · chi u ra tu ma uri za au an re
Basque—Arnesa onela Pisca aurra antsa hunen · che orde mai eritza hau andre

Translat.—Arnius thus Pisca child cares of him ; same place tablet esteems
 that wife

Freely—Thus Arnius is honoured by his child Fuscus, and the same monument
 honours his wife.⁵⁰

There does not appear to be any translation of proper names in this inscription. The Romans turned Arnius into Farnius, or Folvius, as they turned the Basque and Etruscan *loru* into *floru*, and Loramendi, the flowery hill, into Florentia. In the Etruscan Tables, Loramendi is the name given to Florentia, near Placentia, in Cisalpine Gaul. *Pisca* is evidently the same word as *Fuscus*. But for the masculine form of the Latin, I should have made it the name of the wife of Arnius, and the mother of the author of the inscription. *Pisca* and *aurra* are thus in apposition. The word *onela*, *hunela* means de cette façon, ainsi. Basque *antsi* means care, regard, and should be accompanied by an auxiliary, but is here conjugated regularly ; infinitive EC, 3 sing. pres. ind. EL. The words I have

^{49a} The Etruscans seem to have had two verbs "to make" corresponding to the Iroquois *konnis* and *iksas*, namely *kane* and *egin* or *egi*, the former of which the Basques have lost. In Etruscan *egin*, generally in the form *egi*, is used somewhat as an auxiliary, being united with another word, as in *hatz egin*. When the verb "to make" stands alone, it is *kane*. This verb takes the causative prefix *er*, *era*, and as *erukane* answers to the modern *eragin*. The Etruscan AFE does not, so far as I know, represent *eragin*, but *iragan*, pass. This *kane* answers to the Iroquois *konnis*, which means "make" in the sense of fabrication, construction ; while *iksas*, like the Etruscan *egi*, *egin*, possesses the general meaning of the French *faire*. Examples of the use of *kane* will be found on page 199. Nevertheless it seems very probable that *kat*, *kazu*, *ka* or *kit*, *kizu*, *kio*, terminations of the three persons of the present indicative of verbs conjugated regularly should have been derived from *kane* employed as an auxiliary.

⁵⁰ Fabretti reads the first and the last I in the first part of this inscription as L, ko, go. If his reading be the correct one, it will obscure the sense by turning *onela* and *hunela* into the verbal forms *gunela* and *gunion*.

rendered *che orde* are *che*, *même*, and *orde*, lieu, place. In modern Basque *che* is generally, if not always, final, as in *emen-che*, *ici-même*.

The next inscription I present is one of immense importance, for it is the key to the Etruscan numeral system, which exhibits such differences from the Basque that, without such a key, it would be exceedingly difficult to find the values of Etruscan numbers. From a careful study of numerals in six hundred languages and more, I am prepared to call in question Jacob Grimm's statement that numerals occupy the first place among evidences of linguistic affinity. No words are more readily lost in the contact of peoples. The key lies in the repetition of the written numbers by the Basque equivalents of the Roman figures LXX.

2S. CE . . . NA · SEOSEM · LAFCINAL · PIL · TXX

Translit.—chine kara none molaneno saragichi uka rasa du usa LXX

Basque .Chine kara none molaneno saragichi ogoi urte du atso LXX

Translat.—Chine kara who tenth thrice twenty years has age LXX

Freely—Sin garri, aged seventy years.

But see note 51.

Before proceeding to consider the numerals, the word for year demands attention. It is now *urte*, *urthe*. In Etruscan times it seems to have been *arsa* or *artsa*, corresponding with the Lesghian *reshin* and Circassian *tlaysee*.⁵² Basque numeration for the higher numbers is vigintesimal, and the Rev. Isaac Taylor has shewn that the Etruscan was probably the same. He cites the Basque *ogei* or *hogoi*, 20, and the accordant Georgian *ozei*. This is the word read *uka* or *oga*. A pair of dice inscribed with numbers written in full, now in Paris in the Cabinet des Médailles, have been largely discussed by the Rev. Isaac Taylor and other writers, but unhappily on the old principle of reading Etruscan. The names of the numbers on the sides of the dice are SVO, *alpimo*, OV *mopi*, LAF *saragi*,

⁵¹ Fabretti has a reading of this inscription differing in essential points from that of Lanzi. I leave the text untouched, as those who have access to the original must judge between the copyists. If Fabretti's reading is the correct one, the key to the numerals is no longer such, but a deception and a snare. Fabretti reads:

CEFL · NA · SEPTEM · LAFCINAL · PIL · TXX

Sinegisa kari nonekutuneno saragichi oga arsa tuusa LXX

Sinegisa ekarri non ——— saragichi ogei urte du atso LXX

Sinegisa it bears who ——— thrice twenty years has age

I have already in a note referred to the double use of *non* in Etruscan for where and who.

⁵² See The Khitan Languages: the Aztec and Its Relations, in Proceedings of Institute, Vol II., Fasc. 2, p. 164, for the equivalence of *r* and *tl*.

MA nora, MAI mirago, CI, *siu*. These are 1, 2, 3, 4, 5, 6. Of these, *saragi* must be 3, since *saragi-chi ogoi* gives 60. It is the original of the present *hirur, iru*, 3. The old enigmatic form *etzi karanu*, three days after, presents another form of 3.⁵³ The Lesghian *chljobgu* agrees in form. Some aid is afforded in determining the values of the words on the dice by the following inscription, which appears to be a rhyming exercise in arithmetic rather than a sepulchral offering.

469. OVMAOVA mopi nora mopira
 ZELAZEA none sara nonera
 OLVOV/AY mosa pimo pibauku
 AIZECEYAYI raunonechi nekurakuu⁵⁴

⁵³ This form given by Van Eys (sub. *etzi*) resembles the Ugric *korom, kurn, harom, lalm, kolma*, denoting three. Another Ugric form, *cholym*, corresponds with the Lesghian *chljobgu*, apart from the increment *gu*.

⁵⁴ Mr. VanderSmussen has looked this inscription up in Fabretti, and sends me the contents of the larger leaden plate which folds over the one containing, as I supposed, an exercise in arithmetic. It was with some trepidation that I attacked this document of the destructive Fabretti. Happily, without any straining, it completely confirms my judgment, and that in the most touching manner. Many of the Etruscan inscriptions are tender and sympathetic in tone, but this exceeds them all.

Line.

Right Half of the Inscription.

- | | |
|---------------------------------|--|
| 1. F · SV /ANI · ASYNEI | age Nopibakai ranoku ganio |
| 2. F · SV /ANI · LADOI · /VINEI | age Nopibakai zarratu mai babe au ganio |
| 3. F · SV /ANI · FELANIAL | age Nopibakai agintzari kio critza |
| 4. F · SV /ANI · CEICNAL | age Nopibakai Sinhetzi sortze |
| 5. L · FELVSNA · SELMVIAL | so aginza banu ekarri Lanesanobe auretsa |
| 6. F · FELVSNA · FCALAYI | age aginza banu ekarri egi jar sari koi |
| 7. F · /AVINA · APMNIAL | age babe au ekarri Artu Noka auretsa |
| 8. L · LAPOPV · SVLNEI | so zarratu mai tobe alabisa ganio |
| 9. /AVLYACE · CEICNA · KA /ALI | babe so gure zein Sinhetzi ekarri aisarrepozayo |
| 10. L · LADODV · OE /A:A | so zarratu mai tobe eman abitehra |
| 11. CVPE · MALAFEA /VYACE | chipitu ne norasara eginza babe gure zein |
| 12. L(AP)ISY(A) · FEOYEICA /ISV | zarratu huno gure agin ema gune aisarrepozalabi- |
| 13. LYACE | -sa gure zein |

Line.

Left Half of the Inscription.

- | | |
|--------------------------------------|---|
| 1. ACE/ASVLVHAMAIVTIV | ere zein ba alabisa pikor mira debe go obe |
| 2. Y I · LAPOV | koi zarratu mopi |
| 3. LA · APMNE | sara Artu imi kian |
| 4. AL /AVI | eritsa habei |
| 5. LAOV · SVLYNA | saramopi alabisa pikor |
| 6. A · FELANL · /VINEI | ara aginza erakasa babe au kian |
| 7. A · FELVSNA | ara aginza banu ekarri |
| 8. SASTA · ILAPOV | lurrenoku ra au zarratu mopi |
| 9. NEILAO · φLAFIVPMTE | kian au sari ema mai sari egi opa du imi gure |
| 10. L · APMNE | so Artu imi kian |
| 11. MASFE · CECNEI | mira no agin Sinhetzi ganio |
| 12. φAFESETPASFI | mai ra agin non ekit ra alegia |
| 13. VNAOV/MCF · SFIME · LAPOV · /ACE | pikor ambe aintz egi alegia imine zaratu mop
para zein |

I do not pretend to have interpreted this tablet, which presents technicalities yet in advance of my knowledge. The first line is, however, clear, for *mopi* and *nora* are on the dice, and *mopira* or *mopila* appears in an inscription denoting age.⁵⁵ The line reads

I have taken the liberty of suggesting different readings of the following characters: Right half, line 12, instead of FEYFIF, I read FEYFIC; in line 11, VYACF, I read LYACE. Also in left half, line 12, the third character from the end is in the original a diamond bisected horizontally. Comparing this with the second group in the following line, I make it equivalent to S. In line 13, I read the last character of the second group as E instead of F; and the last character in the line, which in the original is like a Greek lambda, I read as E.

To give a complete commentary upon this text would swell the notes beyond due limits. The following is a translation, in general I think accurate, but in some points tentative.

Right half.

1. Behold, the offering regards Nopibakai.
2. Behold Nopibakai, the engraved tablet regards this father.
3. Behold Nopibakai, the commander, it suitably honours.
4. Behold Nopibakai, the son of Sinhetzi.
5. See I have brought an offering to do homage to *Lanesanobe*.
6. Behold I have brought an offering, desiring to do attention (and) praise.
7. Behold Artu Noka brings his father homage.
8. See, instead of an engraved tablet, the little daughter offers;
9. Sinhetzi, who desires the regard of the father, brings her plaything.
10. See, instead of an engraved tablet, (she) gives the *abitara*.
11. To the little one who desires the father to do "four-three."
- 12-13. The salutation of this writing. The desire of the little daughter who commanded to give us the plaything.

Left half.

1. If anyone to forbid showing the contribution of the little daughter pre-
2. fers; the engraved two-
3. (mopi-sara) -three Artu did place.
4. To the father does honour
5. The three-two contribution of the little daughter.
6. Behold her father she did inform:
7. "See I have brought an offering
8. To the grave, this engraved two (mopi)."
9. Did this give praise? To do honour (to) the tablet she desires to place to us.
10. See Artu, did place
11. A promise of showing Sinhetzi's offering.
12. Who offers to the tablet, as he is able to undertake
13. So great a contribution he presents. To the extent of her ability she places (gives) who tenders her engraved two (mopi).

The "engraved two or *mopi*" refers to the plaything of which the first line reads "*mopi nora mopira*." In right half, line 5, occurs *Lanesanobe*, which, for the present, I cannot explain. The first part *lanesa* is the Etruscan for workman, the equivalent of the Basque *langille*, *Nobe* or *nabe* means far, wide, and as a verb combines the meanings *tendre* and *éloigner*. It may be a name for Heruls, the deity of Etruscan soldiers, such as Nopibakai. In line 10 *abitara* must be the technical name of the little multiplication table offered by the child, who bears her grandmother's name. The word *alegia* in lines 12 and 13 of the left half I read not as the modern *alegia*, but as *alegin*.

The attention of prosodists should be called to the rhyming Etruscan of the "*mopi nora mopira*," and of the "*bei bere bipi ben*" of note 38.

⁵⁵ See page 183. Lanzi, vol. III., Tav. xi., No. 6.

mopi nora mopira, literally 2, 4, 8; but no doubt meaning "twice four is eight." With the six dice numbers, this new found 8, and the 10 of inscription 28, we have but 7 and 9 to determine. The second line reads *none sara nouera*. Here *sara* is an abbreviation of *saragi*, 3. The first word *none* is not a numeral, nor can it be the adverb where. It must, therefore, be an old form of *noiz*, meaning when, but the compounds of which give "times," as *noiz edo noiz*, one time or another. Thus *note sara* will mean 3 multiplied into itself, and *nouera* will be 9. Besides *pimo* in the third line, which is an abbreviation of the commoner form of *alpino*, the only other word that I clearly recognize, is *nonechi* in the fourth. This occurs on a child's monument, and must furnish the missing 7.⁵⁶ The final *no* of *molaneno* gives ordinal power, as is proved by inscriptions which furnish *siuno*, *mirajono*, *alpmono*, &c. In composition this long form for 10 is reduced in size and its *l* changed to *r*, just as 8 reads *mopila* or *mopira*.

Lanzi, Vol. II. AV · FELS · CVS · OV/ALOAM · AL/AN · YVPCE⁵⁷
 p. 421, No. XI. rapi agiuza no chipino mopibasamorano arsa baraka kupidoehine
 arpi aginza n chipin 12 urte berek Cupid-zena
 take (heed) of the offering of the little one, twelfth year his
 Cupid dead

Here *mopi* = 2 and *morano* for *molaneno* = 10. Indeed, as *no* is the old ordinal form, *mora* will be 10 and agree with the present *amar*. The intermediate *basa* thus furnishes the Etruscan *aul*, which in Basque is *eta*, probably a borrowed word. It survives in *baita*, also. In *arpi* appears a form of *artu*, take, which furnishes *arbeza*, let him take. The same root occurs in *arrapatu*, seize, *irabazi*, gain, *erpeltu*, to claw. Both *aginza* and *chipi* are in the genitive. The possessive *berek* properly appears, taking the place so far occupied by the demonstrative. Cupido or Cupid was a common boy's name among the Etruscans, judging by the evidence of the monuments. *Chine* must be *zen*, he was, or *zena*, defunct.

Lanzi, Vol. III. FELIAM · SANACNAL · OVS · LOAM · AL/AN · · · · 58
 Table xi. No 6;
 with figure of
 a boy;
 half inscription
 for comparison. aginza urano larakarachi karasa mopila samorano arsa baraka
 aginza aurren Larrikarachi sortze 18 urte berek
 offering of the child Larrikarachi born of 18th year his

⁵⁶ See note 37, page 165.

⁵⁷ The second character V is wanting in Fabretti. If he is right, read *ara*, behold.

⁵⁸ The whole inscription is as follows:

FELIAM · SANACNAL · OVS · LOAM

In this inscription the word, and, is reduced from *basu* to *sa*. The *mopila* is the same as *mopira* of 469, and means 8, so that *mopila sa morano* is eighteenth. *Mopila* has no resemblance to the present Basque word for 8, which is *zortzi*, but its original shines out from among the varying Lesghian forms, *meibu*, *bitno*, *betelna*, and the Miziejian *bar*, *barl*. It may have meant, two from ten. As for the other numbers, *mopi*, two, is the present Basque *bi* with a prefix. Were it not to introduce a new subject open to question, it would be easy to show the original Etruscan numerals in those of the Dacotahs, whose 2 is *nopa*, *nomya*. Four, which is *nora* in Etruscan, survives in Basque as *laur*. Such a change is not uncommon, for *naru* and *larru*, *lahur* and *nahar*, *ultze* and *untze*, are the same words. One, is *pino* or *alpino*. In Basque *bat* is one, but in composition it becomes *ban*. Final *m* hardly exists in Basque. Three, *saragi*, has already been considered. Five is *mirago*, and this is very likely the original of the Basque *bortz*, *bost*. It is the Koriak *myllanga*, and, on this continent, the Sonora *mariki* and Pujuni *markum*.⁵⁹ Six, *siu* in Etruscan, is *sei* in

AL AAN · AENALECLEN · CELA · IVOINEM · ALENALEIM

aginza urano larakarachkarasa mopila samorano

arsa baraka banekarasanuezizauka zinsara ubimaganeto banekarasanetno

Basque aginza aur no Larrikarachi sortze mo, ila sa morano

urte berek hane Karasane zazu neke Zinsara oli mai gainito epaitzen Karasane huno

offering child of Larrikarachi natus eight and tenth

year his : unite Karasane do ye — Zinsara grave tablet towards cut Karasane thus.

I have omitted the translation of *neke*, as it makes no sense, "do ye be unable (neke) to join Karasane." I think the word should be *ENA*, *negar*, "do ye add your tears to those of Karasane." On the so-called Midas and Kelokos monuments of Phrygia, and on some Pictish tombs, *negar* occurs as well as in Etruscan. The word *ban*, more fully *banetu*, is the Etruscan equivalent of the Basque *batu*. As *pino* meant one, *pinotu* would be the original verb to unite, to make one. This must have fallen to *banetu*, and finally to *batu*. It is interesting to observe the analogy of the Choctaw, which I have elsewhere called American Basque. Its present word for one is *achufu*, a word having no visible relation to the old language; but *hono* means only, alone, and *banochik* is the verb, to reduce to unity. But the Choctaw also has *bat*, meaning only, alone, exactly reproducing the Basque *bat*, one. The verb *epaitzen* is more properly *ebakitzen*, to cut.

⁵⁹ My friendly critic thinks *mirago* and *bortz* irreconcilable. The original Khitan name for five was the hand with its five extremities. This appears best in the Koriak of Siberia, which has *mingilen*, *mingilgin*, *mylgalgen* and *mynuagylgen* for hand, and *myllygen*, *mllygin*, *myllangu*, *myllangu* and *minlanka* for 5. The Aztec shows but a distant connection, hand being *matl*, and 5 *maruil*. In the Sonora dialects, which Buschmann has classed with the Aztec, 5 is *mariki*, *marqui*, *maliki*, and in Pujuni we have the form *markum*. These correspond as to consonants with the Etruscan *mirago*, but in regard to the first syllable the Etruscan word is nearer the Koriak *myllgin*. Let *mirago* be *marago* or *morgo*: an interchange of labials common in Basque as in all languages makes it *barago*, *borgo*, which if not *bortz* is a step on the way to it. As far back as the time when the Song of Lelo, the oldest Basque production extant,

Basque.⁶⁰ Seven is in Basque *zazpi*, a borrowed word. The Etruscan *nonechi* (7) agrees with the Japanese *nanatsu*.⁶¹ Nine is *nonera*, in Basque *bederetzi*. The nearest to the Etruscan is the Iroquois *niruh*, *nirenh*.⁶² The following inscription justifies the assignment of *nonechi* to seven or it may be to nine.

37. YIYI · FELIMNIAM · AFDIL · MEC⁶³

kuukuu aginsa ume kau rano raga tu uso nonechi
 Koikoi aginza hume Cai rano iragadu otso 7
 Koikoi's offering child Caia towards she passes age 7

There is little to notice here, as most of the words have occurred already. The term for child is unchanged. The only new word is *irago* or *iragi*. It means to pass time as in *etu sei urte irago ziran*, "and six years having passed," *dembora iraganu* "time passed," *iragan ganean* "the past night." This inscription leads me to doubt

was composed, *bortz* seems to have suffered phonetic decay, becoming *host*. This same process of decay is visible in most of the Khitan languages. Thus the Sonora group, which has *mariki*, etc., also denotes 5 by *amxuo*; the Pujuni, which has *markun*, has also *mustik* and *mauk*, and in addition to its masculine form *mahar*, the related Shoshonese has *makai* and *maha*. Thus *r* was replaced by an aspirate or sibilant, or dropped altogether as in the case of *host* from *bortz*. The same was the case in Iroquois, which now has *wis*, *wisk*, *wika*, *wish*, to denote 5; in Peruvian, which has *ppiska* and *pissika*; in the European Georgian *wochusi* and the Mizjejian *phi*. The Ugric or Finnic group of languages, which is most closely related to the Khitan, exhibits the same process of phonetic decay, five being *wit*, *wis*, *wiji*, *wisit*, *weze*, etc., pronounced *vit*, *ris*, etc. The comparatively unrelated Turkish agrees in *bes*, *bes*, *bish*, etc.

⁶⁰ It is strange that while preserving so complete a form for 5 as *mirago*, the Etruscan should have reduced the original word for 6 to *sei*, *siu*, *chiu*, *zio*, or whatever may have been the pronunciation of CI. The original must, I think, have been the Caucasian *ziba*, Georgian *usjwa*, Dacotah *shappe*, *sakpa*, *shakkopi*, the Sonora *aceri*. But as Basque *gab*, night, and *abo*, mouth, became *gau* and *ao*, so *seba* became *seo* and at last *sei*. The Circassian also has *chi* and *shoo* for 6, the Mizjejian *itch*, the Korean *yoset* and *osso*, the Iroquois *iniak*, *ashiak*, *jaiak*, the Dacotah *shaque*, the Aztec *chiquace*, the Peruvian *socta*, *succuta*. The Yeniseians, who inhabit the mound country of their great Khitan ancestors in Siberia, call 6 *ages*, *egga*, *ugam*.

⁶¹ I confess that *nonechi*, 7, stands on a poor philological foundation. Besides the Japanese *nanatsu*, the only Khitan numerals that agree are the Yeniseian, doubtfully, in *onyang*, *vennyay*, *onse*, the Koriak *gnyttinkashit*, *nitugasit*, and the Kamtchadale *nytonok*. The Basque *zazpi*, on the other hand, is well authenticated as a Khitan word, being the Georgian *shqwti*, *ishgwid*, the Dacotah *shawcopec*, the Aztec *chicome*, the Shoshonese *quachakabia*, etc.

⁶² In regard to 9, *nonera*, with which I have compared the Iroquois *niruh*, *nireuh*, it is worthy of note that some Iroquois dialects use *watiro* and *wadehlo*, inviting comparison with the Basque *bederatzi*.

The Basque *amar*, 10, probably *mara* or *maia* in Etruscan, must go to the ends of the earth to find its like in the Chilenian *mar*. The Iroquois, having no *m*, makes it *oeri*, and the Aztec, without *r*, renders it *matlaacti*.

⁶³ Fabretti reads the last group but one ACDIL instead of AFDIL. I am disposed to doubt the correctness of this alteration, as AFDIL is a common formula, and ACDIL, *crisi du atso*, he esteems age, is absurd. Fabretti has probably mistaken a square cut F for C.

that *tu, du, da*, is the auxiliary, inasmuch as the funeral tablets generally dispense with auxiliaries. There seems to have been in Basque an old pronoun used personally, demonstratively, relatively, a most convenient pronoun, of the form *tu*. It survives in *etan, hetan*, which means "there, in him, in them, in that. in whom." The final *n* is the locative sign, for there are other forms, *etaz*, from it, *etara*, towards them, &c. It appears in the Lycian and Phrygian inscriptions of Asia Minor, and, as the third personal pronoun, agrees with the Lesghian *teh, djo*, the Georgian *itini*, the Corean *tio*, &c. One would naturally look for this old form in the Etruscan, so that *irago tu atso* may be "her age passed" or "the years she passed." The formula is more commonly AFIL than AFDIL, the former being the famous *avil* of the Etruscologists, and the equivalent of "vixit annos" as *irago atso*.⁶¹

⁶¹ This inscription resembles in form those of the so-called *Volumnii*, although not identical with them. There are few commoner words in the Etruscan epitaphs than FEL, *aginta*.

The following *Volumnii* have been sent me by Mr. VanderSmissen :

Fabretti, 1487. ADNOLADOFELIMNAM
 artukamasaratuma eginsaumikarano
 ADFNEALOVSIVD
 artuagkanerasamapinoupitu
 SVOIACHLOECE
 nopimaurachiusamanechine
 artu gonu zarratu mai Eginezaumika rano
 holds memory engraved tablet Eginezaumika towards
 artu iga kian arsa mopino obeto
 behold attain he did years twice better
 nabe mai eritsi atso eman zein
 extended tablet to honour age gives who

The engraved tablet preserves the memory of Eginezaumika. Behold, he attained twice the years of him who gives the large tablet to honour his age.

I read FNE as *iga kian*, literally he ascended, rather than *egi kian*, he made. The verb *iga*, *igo*, is the root of the usual form *irago*. For twice, *mopino* seems a variant of *mopigo*, *go* and *no* being Etruscan genitive particles. The following *obeto*, literally better, seems to include than.

Fabretti, 1490. OESDSFELIMNAM
 manelatunoaginsaumikarano
 YADLIM · CLAN
 kuratugouno chisaraka
 eman lotu no Eginezaumika rano
 gift spouse of Eginezaumika towards
 Kuratu go ona zazu rako
 Kuratu of goodness have ye sympathy

The A of line 1 is given as R, but the analogy of the other inscriptions requires A. The word *eman* takes the place of *emaitza*, gift. The following *lotu* means to bind, which is the signification of the present Basque words *ezkundu*, marry, and *etzayak*, marriage. The translation of *Kuratu go ona* is doubtful. In *zazu rako*, the latter word represents the modern *erruki*-

The following inscription exhibits the use of *basa* for and :

258.	/V/ALINA /ALANCV NCIPE	bapi basa uga ra basa raka chipi kachi utune	babe baita uga ra fethoraka chipi- -kache oaten
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Translation—father and mother for dear little one to regard

Freely—For father and mother to consider the dear little one

The first line needs no explanation. The first word of the second is one of the few Basque expressions beginning with *f*. It is a derivative from *fetcho*, “gentil,” a most appropriate term for a child. I have joined *chipi* with *kache*, because in another inscription I find *azpi-kache*, from *azpiko*, slave or servant. In *che* we have probably the word already translated *même*, but which also affirms or exaggerates the signification of the word to which it is attached. For the meaning of the last word *oaten*, I am indebted to the Manx runic inscriptions, heretofore read as Norse. These furnish a verb *oyaman* or *oa-eman*, the latter part of which is *eman*, to give. In

Fabretti, 1491. AVLEFELIMNAMOESDISA
arpisane aginsaumikaranomanclatuunora
YADLIS · CLAN
kuratugouno chisaraka
erpetzen Eginezaumika rano eman lotu aa andre
behold Eginezaumika towards gives spouse his wife
Kuratu go ona zazu rako
Kuratu of goodness have ye sympathy

The dative postposition is perhaps omitted after *lotu* because it has appeared after the name. The first word may be *erpe* or *arpe zuen*, ye who hold or behold.

Fabretti, 1492. LADOFELIMNAMAVLEM
saratumaaginsaumikaranorapisaneno
zarratu mai Eginezaumika rano erpetzen no
engraved tablet Eginezaumika towards holding of

I suppose *erpetzen*, taking the place of *artu*, means holding in memory, and that “of” is here equivalent to the English “for.”

Fabretti 1493 is identical with 1492, with one exception :
FELFELIMNAM AVLEM
aginza Eginezaumika rano erpetzen no
an offering Eginezaumika towards holding of

Fabretti, 1494, shows a similar slight variation :
ADNOFELIMNA AVLEM
artu gomu Eginezaumika ra erpetzen no
memorial Eginezaumika to holding of

Fabretti, 1495. FELIAFELIMNEIADNOIAL
aginzaura aginsaumikanen artukamourasa
aginza harri Eginezaumika kanio artu gomu au eritza
offering stone Eginezaumika belongs to hold memory his beloved

This is a woman's monument, probably of the wife of Eginezaumika. She is simply represented by *eritza*, the esteemed or beloved. I observe here, as I have done elsewhere, the habit

modern Basque I know of no verbs *oa-eman* and *oa-ten*, but *oartu*, compounded of *oar* and *artu*, attention and take or pay, means observe, perceive, pay attention. The root of *oar* and *oartu* is plainly *oa* or *oha*, as appears in the Japanese verb *uyamai*, to honour, reverence, worship⁶⁵ The final *ten* is the common termination of verbs, *emuten*, *egiten*, *edaten*, &c.

of the engravers to cause characters to do double duty. The first N of the inscription belongs to the name, and should be repeated to make with E1 the common formula *kanio*. It is possible that the repetition of the same syllable was, for euphony's sake, not allowed in Etruscan speech, and that the engravers wrote the language as it was spoken. In English we do the same thing by omitting the possessive after many words ending in *s*, both in speaking and in writing. For the meaning of *Eginezaumika*, see additional Bilinguals, No. 1496, page 215.

⁶⁵ As in these pages reference is frequently made to the relationship of the Basque, and thus of the Etruscan, to the Japanese and other languages, which I have classified under the name *Khitan*, I have thrown together in this note a few evident examples of relationship between the Basque and the Japanese, and between the Choctaw and these two languages. For the relations of the Caucasian tongues and those of the Iroquois and Aztec, I refer to my two papers on the *Khitan* languages already sufficiently indicated.

SOME SUPERFICIAL RESEMBLANCES OF JAPANESE AND BASQUE WORDS.

<i>Japanese.</i>	<i>Basque.</i>
agaru, to ascend	igaro
ani, elder brother	anai, brother
anji, care	ansi
chibi-chibi, little by little	chippi, little
garai, hot	gori
hata-hata, grasshopper	ote
ima, here	emen
ishi, stone	aitz, rock
karai, hard	gogorra
kare, dry	igar
kashira, captain	agin-zari
kayeru, frog	igel
kaze, wind	aize
kerau, sick	heri, eri
kesa, morning	goiza
kiiro, yellow	hori
kobe, kubi, head, chief	jabe, lord
koi, to desire	koi, desirous
kokoro, mind, heart	gogo
kokoroyeru, remember	gogoratu
kori, ice	karroin
korosu, kill	heriotze
kuboi, hollow	kofa
kurenai, red	gorri
magaru, bent	makur
massakari, axe	haizkora
miru, see	miratu
mure, group	mur
muse-ru, to become mouldy	mutchitu, mouldy
naku, weep	negar-egin
negau, desire	nahi
niku-mi, hate	nagatu
nobe, a plain	nabe

The following inscription contains *azpikache*.

56. AP · YINM · APLVNCIAL

artu kuukano artu azpikache urasu
 artu Goijaun artu aspiko che auretsa
 receive Jainko receive servant's offering

This is no sepulchral, but a votive, inscription to Jainko, the god of the Euskara, the profane knowledge of whom was brought to

nori, measure	neurri
nushi, master	nausi, nabusi
ochi-ru, leave	utsi
on, kindness	on, good
onna, lady	anre
raku, easy	erreacha
sammi, sour	samin
senaka, back	soña
shiba, brushwood	zapar
shiro, white	zuri
shoni, little child	sein
so, look	so
sobira, back	gibel
sora, heaven	zeru
supitsu, hearth-stone	subazter, hearth
tata, father	aita
tokoro, tochi, place	toki
tori, bird	chori
tsuma- <i>mu</i> , to pinch	zimi-katu
uchi, house	etehe
yube, evening, night	gau, gabe
zaru, basket	zare.

THE SAME OF JAPANESE AND CHOCTAW
 (Japanese has no l, Choctaw no r.)

<i>Japanese.</i>	<i>Choctaw.</i>
hito, man	hattak
ima, here	himak
sunu, sand	shinuk
nitchi, day	nittak
hoshi, foshi, star	fichik
kusa, grass	hushuk
yubi, finger	ibbak, hand
kara, hollow, empty	choluk
ame, rain	umba
bakuchih, gambling	buskah
buchi, spotted	bukoa
chika, soon	cheki
chinami, relation	ikanomi
fuku, to blow	fokah, roar as 'l' : wind
fuku, belly	ikfoka
fune, boat	peni
furu, to wave	fahlih
haba, breadth	hoputkah
hiru, dry	shilah

England by sailors and soldiers whose service led them into the Basque provinces, and who, as Jingo, has become a British war-god. Jainko is composed of *javn*, *jain*, lord, master, a synonym of *jabe*,

hone, bone	foni
ifuku, fuku, clothes	fohkah, to dress, nafohka, clothes
iya, not	ik
kokoro, kokochi, heart, feelings	chukush
kusami, stink	kosomah
mageru, to bend	bikullih
miko, prince	miko
rufu, spread, extend	hlapa
sakebu, to shout	shakapah
sammi, sour	homi
shigei, thick	shokkoh
shimesu, to moisten	shummichih
sutern, to reject	shittile-mah

THE SAME OF CHOCTAW AND BASQUE.

<i>Choctaw.</i>	<i>Basque.</i>
auhlika, power	al, ahal
alaplika, beside	alboan
baiullih, march	ibilli
banoh, bat, beka, only	banaka, apart, bat, one, bakar, alone
bikullih, to bend	makurtu
bohpolih, to sling	abal, habela, a sling
bok, river	ibai
bulbahah, to speak strangely	barbar
bushah, cut, mown	ebaki, epaitzen
chahah, high	goi
chipinta, very small	chipi, small
choluk, a hole	zulo
chukush, mind, heart	gogo
chula, a fox	azari, acheri
fala, a crow	bele
hoppih, to bury	hobi, a grave
ibawechih, to help	pabeza, help, support
ik, not	ez
illi, death, dead	il, hil
imah, to give	eman, emaiten
kaluffih, to scratch	karrapo, zarrapo, scratching
kolfona, humpback	gupia
nukillih, to hate	nagatu
okpolusbih, dusky	uspel, discoloured by a bruise
okyullih, swim	igeri
olbul, behind	gibel
olubih, to take forcibly	arapatu
shauwa, brushwood	zapar
ulah, to come	el, hel
ulla, child	aurra

The Choctaw furnishes an explanation of the Etruscan *subulo*, a flute player, which I compared with the Basque *chambolin* a player on the tambourine, in the verb *olah*, *olachih*, to play on an instrument. Thus, *ahlepah*, being indifferently a drum or a fiddle (I follow the lexicon of a native Choctaw, the Rev. Allen Wright), makes *alepah olachi*, a fiddler, and *ahlepahboli*, a drummer. This *olah*, *olachih*, must be the Basque *ola*, *olatu*, which now means

and *goi, goya, koya*, high, elevated.⁶⁶ The Etruscan form *Goijaun* is more in accordance with the genius of the Basque language than the modern Jainko. The repeated *artu* is the common verb "to take, receive." *Azpiko*, literally, he who is under, now means a slave, but may refer to any subject or servant. The form *auretsa* is not modern Basque. It is apparently composed of *aurre* before, the French *devant*, and *etsi*, esteem. A word that may correspond is *aurkeztu*, to present, in which the inserted *k* may be simply euphonic. Probably *auretsá* means homage, the regard of one who presents himself before Deity. The *che* of *azpiko-che* may intensify *azpiko* in the direction of humility. It will thus answer to the Japanese humble prefixes *ki* and *hai*.

A somewhat difficult votive tablet follows, my object being not to present the simpler texts, but to give a just view of the inscriptions, with all their variations and difficulties.

272. /AΔΟΥΙ	baratu mai	zarratu mai
ANCADNEI	rakachiratukanio	erruki jarritu ganio
YVDINAM	Kupido uga rano	Cupid uga rano

Translation—The written tablet concerns an act of sympathy toward the mother of Cupid.

Here we find an act of worship towards Venus, the *Istapeko* of the Basques. The engraver has made a mistake in the first letter, which should be the corresponding *sa, za*.⁶⁷ The full form of *mai, mahi*, table, follows. In *raka* the root of *erruki, uriki*, sympathy, compassion, appears. That root I am convinced is the postposition *rako*, towards. It appears as a verb in the Eugubine tables, as does *rano*, regularly conjugated with the auxiliaries, to denote siding, sympathizing, agreeing, taking part with. *Jarri* means to set to,

"to strike violently," and forms *olan-driko*, correction by blows. The Choctaw *ahlepah* is probably the same word as the Basque *chiribi, chiribiri*, a fiddle, which makes *chiribikar* a fiddler. The player is degraded to the position of a mere carrier of the instrument by the suffix *kar* from *ekarri*, instead of the old word *ola, olin, bola, bolin*.

The three languages employ different auxiliaries, and show much diversity in the use of pronouns, but their particles and construction are virtually one as well as their vocabulary. The Choctaw language, or that of the Tshecto as they call themselves, connects geographically with the Japanese through the Siberian Tchuktchis. The Basque, Japanese and Choctaws do not represent the dispersed of one tribe, but different tribes of a great national dispersion.

⁶⁶ The original Khitan word for lord probably ended in *mi*, like the Japanese *kimi*, lord, master, *kami*, god. The Corean word for lord, and master of the house, is *koun*. This seems to be the Etr. form *kaon*. As *kobe* became *jabe*, so *kaon* became *jaun* in Basque. A similar case is *joan* to go, sometimes pronounced *goan* and *gan*. In Etruscan it is *gune* or *goen*.

⁶⁷ Fabretti gives the first character correctly as L.

jarlan, to be occupied, *jario*, to do. The old verb *rakojarri* may be represented by the modern *jarcki*, *jarckitu*, to incline, lean, bend. What I have translated act of sympathy should be rather act of homage or worship. It is somewhat strange to find three postpositions of the same meaning, towards, in one short inscription, *rako* as a noun, *gan* as a verb, and *rano* in its legitimate employ. Certainly the goddess was well "towarded."

Still another tablet referring to this goddess combines the votive with the sepulchral.

35. OANA · YVP†VNIA · CAYMLINIS · A (of a woman)⁶⁸

marakara kupido Ichpeka ura Siraku ainza uka huno ara

marakara Cupid Istapeko aur Siraku ainza uga huno ara

monument Cupid Venus son (to) Siraku presents mother his, behold

A memorial, to the son of Venus, Cupid, Siraku presents his mother, behold.

Ichpeka, as the mother of Cupid, must be the Basque Istapeko, one of the few mythological names the Euskarians have retained.⁶⁹ There should be a postposition after *aur*, *aurra*. It is probably omitted to avoid the repetition of *ra*, which would be the postposition understood. The only word calling for comment is *ainza*. This I take to be a third sing. pres. indic. of *aintzi*, now *ainzindu* or *aitzindu*, to present, come before. The Etruscan almost universally gives shorter forms of verbs than the Basque; examples, *imi*, place, *ema*, give, for *imini* and *eman*.

⁶⁸ This is given as corrected by Fabretti.

⁶⁹ It is but just to the memory of the Etruscans to say that the Cupid who figures so largely in their monuments was originally a very different person from the Greek Eros. The Indian Kings of Canouge, known as the Guptas, bore this ancient and honourable name, for Gupta, which appears on many Lats in Mathoura and elsewhere in northern India, is an oriental Cupid. These monuments are Khitan, as I have indicated. In mythology he is Iapetus rather than Eros, the son of Uranus, the grandson of Acmon, who, according to tradition (Steph. Byzant. s. v. Acmonia), founded Acmonia in Phrygia, and was a Scythian. In history he is Aahpeti, the Apophis of the Greeks, the greatest of the Hyksos or Hittite Pharaohs of Egypt. Coming to the throne as a child, he was afterwards associated with infancy. He left his name to the Cappadocians, recognized by Professor Sayce as a Hittite people. The fabulous history of Persia, as preserved by Mirkhond and Firdusi, strange to say, recognizes him as a king of Iran and all other lands, under the name Kai Kobad, mentioning his greatness, his virtue, his reign of a hundred years, and conversion to the Hebrew faith. In the Hebrew Scriptures he is called Jabez, or better, Igabets, the son of Zobelah, and grandson of Coz, who is set forth in I. Chronicles, iv., 9, 10, as a convert to the faith of Israel. See my article on Jabez in *British and Foreign Evangelical Review*, April, 1870. He was an ancestor of whom the most favoured nations of the earth might be proud.

Another votive tablet seems to refer to Alcmena.⁷⁰

328. LAPO · SEPINA zarratu ma · lanetu uga ra
FELVM aginza pino

Translation—Written tablet Hercules mother to presented I have

There is no doubt about *Lanetu* denoting Hercules, for that hero, with club complete, appears on many Etruscan gems bearing this name. As I have already stated, it is the Basque *landu*, *lanth*, work, labour. The Eugubine Inscriptions show that there was an officer in the Etruscan confederacy so called, whose duties are not defined. The only other thing that calls for mention in this inscription is the first appearance of the auxiliary verb *du*, to have. In modern Basque, "I did," or the imperfect of *du*, is *uen*. The form *banu*, which is the *pino* or *benu* of the text, now means "if I did." But the present conjunctive was the old indicative form, as appears in the Eugubine Tables in many phrases, like *artubenion Arretigi nen*, I received him into Arretium. The Etruscans also expressed "he has" by *be*, which, in the form *bu*, is now imperative, "let him have." *Banu* occurs also in the following.

334. OANLFILVM · CAIAL · EIN

marakagu egihatz pino Zerua eritsa ni uga
maragogo egihatz banu Zerua eritsa ene uga

memorial engraved I have Zerua honours my mother

The memorial I have engraved, it honours my mother Zerua

The form *maragogo*, to which I referred when dealing with No. 41, here replaces *marakara*. The second word *egihatz*, an inversion of *hatz egin*, to scratch, has also been before us in No. 2. The auxiliary *banu* stands in the same relation to this verb as that in which it stands to *aginza* in the preceding inscription. The pronoun *ene* is the Basque possessive, my.

The next inscription furnishes a different form of the auxiliary.

287.

OANIA . MAPCIA maraka harri · miratuchiura maraka harri miratuchiu ra
ÆEPSYIESA banetunokuune anre banetu nuqueyen andre

Translation—Indication stone Miratuchiu to ; joined would I had, the wife⁷¹

⁷⁰ Alcmena is a name that might easily be taken for Etruscan. Alcmæon, the poet, was a native of Sardis, in Lydia, a Hittite region. The word Lucumo, which is SINO, *alhatukamo*, is of the same apparent formation.

⁷¹ I find the same proper name in Lanzi (No. 18).

LADOI · MAPCI · PIL TX
zarratu mai Miratuchiu du atso LX

It is on a woman's monument.

The form *maraku* or *marga harri* has appeared in note 40. The present word for join is *batu*, derived from *bat*, one. As we have found *bemo* or *pimo* to be the Etruscan form of *bat*, it is natural to find its compound in such a shape as *banetu* presents. This word is very common in the Eugubine Tables, where it is impossible to doubt its meaning. The auxiliary *nuqueyen* is the modern form of the 1st sing. past conditional of *dut*, I should have had. Here it must be read as precatory.

The auxiliary of the present tense, *pi* or *be* occurs in the following.

180. APNOI/ÆEYPV · AP/AYANIA.

artukamo u banekutu pi Batuba Kuraka nra

artugomu hau banekutu be Batuba Kuraka aur

memorial this communicate does Batuba Kuraka's child⁷²

The word *artugomu* I have not met with in Basque, but it is a perfectly admissible form, from *artu* hold, and *gomitu* remembrance. I am in doubt about *banekutu*, which should mean to execute. Following the analogy of *batu*, *banetu*, I query *banekutu* as an old form of *bakilatu*, to communicate.⁷³ In the Eugubine Tables *be* is common for he has, does. The following presents *banekutu* with a different termination :

313. OVI · LAPO · ÆEYDNI · LADOALI

SA

Mopiu zaratu ma banekutu kau zaratu ma rasa u

nora

Mopiu zarratu mai banekutu kio ; zarratu mai eritsa hau

andre

Mopiu engraved tablet communicate does; engraved tablet honours his wife.

The only word to note is the final *kio* of *banekutukio*. It is the termination of verbs conjugated without auxiliaries, to which I referred under No. 20 in connection with *konio*. The form *kio* is but a variant of *io*. It serves to mark *banekutu* as a verb in the third person singular, present indicative.

318. MA · LIYPAE mira miukutura ne mira Miukutura n

LAPOI · AS zaratu mai rano zarratu mai rano

Translation— Look towards the engraved tablet to Miukutura

⁷² Fabretti reads AP44 instead of AP4Y. This would make the name of the parent Baraka

⁷³ Ban-kutu is certainly not *banlatu*, for not only does that mean to separate, which gives no sense, but it appears in the Eugubine Tables as *pinokutu*. The termination *kutu* is the

The final *en* of *Minkuturen* is locative and dative. I have inserted this tablet for the benefit of Basque students who assert that the verbs *miratu*, *miratsi* are borrowed from the Spanish *mirar*.⁷⁴

435. LO · APNYNI · CALESA · AYISLANIA

asma artukakukau Chirasane nora baraku unosaraka ura

asma artugogo kio Chirasane andre berek onetsirik aur

Translation Indication, hold in memory does Chirasane's wife her
dearly beloved child

Here we have a new but modern Basque word, not uncommon in the inscriptions, *asma*, a sign, trace, indication. The sign of person, and tense, *kio*, though following *gogo*, memory, belongs to the preceding verb *utu*, hold. The verb *onetsi*, to love, esteem, assumes an attributive form in *onetsirik*.⁷⁵

441. OANIA/ÆYPIV · ALANCVPIA · S/ALAYVP

maraka ura banekutupiu basarakachipitaura nobasarakupitu

margaharri banekutupio fetchoraka chipitu aur ena fetchora Cupido

indication stone communicate to him does gentle little child to my
gentle Cupid⁷⁶

All the words in this inscription have already occurred with the exception of the auxiliary termination *pio*. In modern Basque *biu* means I, him have. In Etruscan final *pi* or *be* means he has or does. But the Basque, like the Iroquois, has a wonderfully complex system of included pronouns combining with the auxiliaries or verb-endings. Thus *zajo* signifies he to him has, *dio*, he it to him has, *hau*, he thee has, *nau*, he me has. According to all analogy, *pio* or

modern Basque verb *ekit*, as numerous examples testify. It may be an old form of *lakidatu*, to communicate, in the sense of offering, giving. The analogy thus appears: Bas. one, *bat*: unite, *batu*; communicate, *bakidatu*; separate, *banatu*. Etr. one *pino*; unite, *banetu*; communicate, *banekutu*; separate, *banokutu*. These are among the comparatively rare instances in which the ancient word is larger than the modern.

⁷⁴ It is natural that lexicographers should seek the relations of the words they gather. It is also true that there are many French and Spanish words in Basque as now spoken and written. Yet many have been erroneously regarded as loan-words which are pure Basque. So his *mira*, the Japanese *miru*. The same language has so, regard, equally with the Basque. The Basque *ikhus* is the Iroquois *ikpens*.

⁷⁵ See Van Eys, Dictionnaire Basque-Français, sub *ik*. United to verbal adjectives, it gives them the value of an ablative absolute, but the signification of *ik* is not always equally clear. When it is preceded by a vowel, euphonic *r* must intervene. If such explanatory notes are elsewhere wanting, it is because I have all along had Basque scholars in view, to whom the ultimate appeal must in any case be made.

⁷⁶ Fabretti reads V, the last letter but one of the inscription, as Y. There is much confusion between these characters. Sometimes V is made Y, and Y is made T. Whether Cupido or Kukuto, it makes little difference, as the word is a proper name.

bio should mean in Etruscan the same as *dio* in Basque, he to him, and it may mean that here. The difficulty, for such difficulties I desire to court rather than avoid, is that *fetchora Cupido* is preceded by *no*, which must be a first personal sign, although it is different in form from that which occurs in No. 334. There it is E, *ne, ni, ene*. Still I cannot see that it is other than the possessive "my" in an oblique or dative case.⁷⁷

433. SINYNIA · LO · CICVS · AΛANIAM · O

noukapikaura asma chiuchipino barabarakaurano . ma

nau gabeko aur asma Chiuchipi no barrebarrek aur no ema

he me has deprived child indication Chiuchipi of laughing child of give

My departed child! to give an indication of the laughing child of Chiu
the little

This touching inscription exemplifies the Basque pronominal system in *nau*, he me has, but here employed interjectively, "child lost to me." The word *gabeko* is a compound of the postposition *gabe*, without, as a verb *gabetu*, deprive, be deprived. The words ending in *no* are in the genitive, rendered necessary, in the case of *aur* at least, by the fact of *asma*, which governs it, preceding. In *barrebarrek* we have an instance of the way in which some Basque superlatives are formed, as in Hebrew, by doubling the positive. It therefore means "most merry," although laughing is the literal translation.

I shall now give a number of simple inscriptions.

281. OA · CAINEI · CANꞌNASA

mara Chirau kanio Chirakaichkara aure

mara Zerua ganio Zerukoitchekira andre

memorial Zerua concerns Skyholder's wife

309. FVSINEI Agpinou kanio Agpinou it concerns

CAPCVSA Zerutu chipi andre Zeruta's little wife

(or) Zerutu-chipi's wife⁷⁸

⁷⁷ My amiable critic suggests too much elasticity in connection with *pio*. *Biu* is in modern Basque the 3rd sing. imperative . . . let him have. In Etruscan, *bi*, plainly marks the third sing. pres. indic. of a verb to have, to do. Van Eys states that *b* is the characteristic of the third person (sub. *here, bi*). This is not borne out by the Etruscan, which gives *banais* for *naiz, banu* and *banuen* for *nuen*, thus indicating that *ba*, or in Etruscan *bi*, was recognized as an integral part of the auxiliary. Just as the English verb substantive is a compound of three original verbs, so must we regard that of the Basques. Like the Japanese, the Basque must originally have had several auxiliaries, the remains of which are to be looked for in the forms of *naiz* and *dat* and in the terminations of the regular verbs.

⁷⁸ According to Fabretti, the final A of 309 is absent. In Lanzi, 70 and 71, the name occurs as FVISI Gijunon, the wife of one Zuntzegu and the mother of another. If Fabretti be right, the *chipi* must mean "a little one" or child, but it leaves the final *no* unaccounted for.

383. F · YEYI · CAINAL 382. L · YEYI · SVSINAL
 age kunekuu Zerua karasa so Kunekuu Nopinou karasa
 age Kunekoi Zerua sortze so Kunekoi Nopinou sortze
 behold Kunekoi Zerua *natus* behold Kunekoi Nopinou *natus*
153. EINVLNEI · VNAYASA
 ne uka pisa kanio pikarakura nare
 ene uga Pisa ganio Begarakura andre
 my mother Pisa it concerns, Begarakura's wife
210. LO · LICSCA 211. LO · LIC'S
 asma Sauchino chira asma Sauchino
 asma Sauchi no jarri asma Sauchi no
 indication Sauchi of to make indication Sauchi of
286. OANA · SENYIN marakara none kakuuka
 EI · APYCESA nio Artukuchine nare
 marakara non gogoi ganio Artukuchine andre
 monument where memory in is regarded Artukuchine's wife⁸⁰
94. FELIA · YEYINEI aginza oar Kunekoi ganio
 aginza ura kunekuu kanio offering behold Kunekoi it concerns⁸¹
97. LADOI · FELNEI zarratu mai aginza kanio Arszakau eritza
 ALNIAL written table offering concerns Arszakau it honours⁸²
112. YIYE · FESIM Kuukune Aginno hune: Koiku to Aginno's child
96. L · CFENLE · CAVANAL (On the lid of an ossuarium)
 so chiginekasane chirapiba karasa
 so Chiginekasane Zerupiba sortze
 behold Chiginekasane Zerupiba *natus*

⁷⁹ Fabretti reads 210 LO · LRCS · CA, *asma Satuchi no jarri*. I am not aware how he reads 211, which in Lanza corresponds. The word *jarri*, originally *chiri* or *cheri*, which in the form *jar* now means attention, is evidently employed here as *jarrio* is in modern Basque. Van Eys (sub. *jarrio*) says: "Jarrio correspond a 'faire' dans la phrase suivante: *kea dario*, il fume. Il est curieux que *cravani* qui est synonyme de *jarrio* soit employe en souletin pour 'faire' dans toutes sortes d'acceptions." Thus, *asma jarri* will mean, "to make indication."

⁸⁰ Fabretti reads the last group in 286:

A HCESA *Arbaisen aure*, the wife of Arbaisen.

⁸¹ Also he reads the second group in 94: YENINEI *Kunekoi ganio*. I read *aginza oar*, the latter being the shorter Etruscan form of the verb *oartu*, perceive, consider. It is here imperative.

⁸² No. 97 Mr. VanderSmussen informs me is an inscription on a vase, which seems inconsistent with the use of the word *mai*, now meaning table. I have already indicated that *mai* in Etruscan must be taken to denote a space, on whatever surface, set apart for delineation, like the Japanese *hi-mei*. Its root is the Japanese *ma*, a space or interval of space. In Fabretti the final *i* of FELNEI is made like a Greek lambda. This is the Corean *s* and appears for *sa* in Pictish. I do not know its Etruscan value.

253. OANA · FVISINEI · CAPCV (Ossuarium)
 marakara Agpiunou kanio chiratu chipi
 marakara Agpiunou ganio Zerutu chipi
 memorial Agpiunou concerns Zerutu's little one⁸³
29. LADOI · CPACNEI · LAPISAL · PII · TXXXV
 zaratu mai Chiturachi kanio zaratu onerasa tuusa LXXXV
 zaratu mai Chiturachi ganio zarratu oneritsa eta atso LXXXV
 written table Chiturachi concerns; the writing honours his years LXXXV⁸⁴
62. AP · YINM · AP · CASAYIAL
 artu kuukano artu Zerulurreko urasa
 artu Goijaun artu Zerulurreko auretsa
 accept Jainkoa accept Zerulurreko's homage
70. LADOI · FVISINEI · LEC'NEA
 zaratu mai Agpiunou kanio sanechikane nare
 zarratu mai Agpiunou ganio Zuntzegin anre
 engraved table Agpiunou concerns Zuntzegin's wife
71. A · LECNE ara · sanechikane ara Zuntzegin
 FVISINAL Agpiunou karasa Agpiunou sortze
 Behold Zuntzegin Agpiunou *natus*
77. LAPIS · FEYE · APNO
 zaratu huno agingune artukamo
 zarratu huno Agingune artu gomu
 inscription this Agingune (of) holds memory⁸⁵
78. LAPIS · FEYE zaratu huno agingune zarratu huno Agingune
 APNOAL artukamorasa artu gomu eritsa
 inscription this Agingune (of) holds memory esteemed
79. LAPO · FEYE · ADNOAL zaratu ma agingune artukamorasa
 FI'INALC agubau karasa che
 zarratu mai Agingune artu gomu eritsa Agubau sortze che
 written table Agingune (of) holds memory esteemed, Agubau *natus*
 even

⁸³ Fabretti gives a different reading of 253:

OANA FVP NE · L · CAPCV
 marakara Gpitu kane so Zeruta chipi

I have already drawn attention to the formula FVISINEI in Lanz' 70 and 71. If Fabretti be right the missing character should be I making INE *nkhan*, meaning to be or to have. The inscription thus would read: "the monument Gpitu has: behold Zeruta's little one."

⁸⁴ In 29 *oneritsa du atso* honours he has age, is obviously incorrect. As previously suggested (page 186) I have taken P as *eta*, a root form of *etan*, *etaz*, *etara* or *hetan*, *hetaz*, *hetara*. In how far this is justifiable, a fuller knowledge of Etruscan alone can indicate.

⁸⁵ Fabretti adds AL to this inscription (Lanzi 77), and thus makes it identical with 78.

81. ADNY · FEYE. APNOALISA artukaku agingune artukamorasauora
 CAIAM chirau rano
 artugogo Agingune artugomu eritsa hau andre Zerua rano
 to hold memory, Agingune memorial esteems his wife, Zerua towards
86. LADOFEYFADN zarratu ma agingune artuka
 OALSAOVILAD mo rasa u nora mopiu zaratu
 OFEYELINE ma agingune sau kane
 zarratu mai Agingune artugomu eritsa hau andre Mopio ; zarratu mai
 Agingune zayo egin
 written table Agingune holds memory esteemed his wife Mopio ; the
 written table Agingune he to her makes. For *kane* = *egin*, see note 49a.

The following are examples of the use of *eragin* :

83. LADOI · ANE · LIA · FEYESA
 zaratu mai erakan saura aginkune anre
 zarratu mai eragin Zauri Agingune andre
 written table causes to be made Zauri, Agingune's wife

260, although coinciding with 83, is an independent inscription.

315. LO · MAPICANE · FIACIAL
 asma miratuuchi rakane giurachiurasa
 asma Miratuuchi eragin Giurachio eritza
 indication Miratuutsi causes to make Giurachio it honours⁸⁶

196. SENTI · ALCHV Fabretti C · SINTI · ALCHV
 CLIPATRVS CLII / ATRAS

These readings are very different :

nonekakuu rasa chikapi	chi notekakuu rasa chikapi
chisateturakutupino	chisatebarakuturano

I accept Fabretti's emendations with the exception of the initial C and the II following S in the upper line. These may be correct reproductions of the originals, but in any case they are not in accordance with Etruscan formulas. The C I accept as a modification of F in its square form like a Hebrew *beth*. The II I read E with Lanzi.

F · SENTI · ALCHV
 CLII / ATRAS
 age none kakuu rasachikapi.
 chisate barakuturano

Basque—Age non gogoi eritza Chikapi sista (ezezta) borrokatar no
 Indication which memory in esteems Chikapa pierced (is no more) warrior of

⁸⁶ 315 is given as restored by Fabretti.

The word *borrokatu*, now meaning "lutter" in French, occurs frequently in the Eugubine tables with the signification "fight." I know of no modern word *borrokatar*, the termination *tar* being reserved for ethnic designation as in *Burgostarra*, a native of Burgos. But, as I have elsewhere indicated, there is a surviving instance of its more general use in ancient times furnished in *avaitar*, fraternal, from *avai*, brother. Another word which can hardly be called ethnic is *goierritar*, a highlander. In the Eugubine tables *goitar* appears, meaning a commander, one who is above. This word *borrokatar* is in the genitive to the postposition *no*. The main difficulty is the *sisata*, *chisata*. If it represent *sistatu* to pierce, *ka*, by, should replace the postposition *no*: if it represent *ezztatu*, the *no* has still to be accounted for. Now in Basque (Lecluse Manuel p. 88) the negative nominative ending in *ic* may be considered as partitive. Thus *ez da guizonic* instead of *guizon*, the affirmative form, must be translated "il n'y a pas d'homme." This *ic* the Etruscan replaced by the genitive *no*. Thus *Ezēta—no* is "actum est de."

434. OANA · FELNEI · LAFGINASA⁸⁷

AYAYIYIAL

marakara aginza kanio saragichiukara anre

rakurakuukurasa

marakara aginza ganio Saragi Chiukara andre

irakurri koikoi critza

memorial offering concerns Saragi (Chiukara's wife

reading (writing) dearly esteems

The word *irakurri* means to read, but is here used in the sense of that which is to be read. After it comes the superlative *koi-koi*, from *koi*, *khoi*, desirous, fond.

353. AYALE · FILIAM · LAVYNI

rakurazune agiusaurano zarapikukau

irakurri zuen Egihatx ura no (Egihatxau rano) zarrapo egokio

read ye who Egihatx child of (Egihatxau towards) writing concerns

⁸⁷ Fabretti gives an entirely different version of 434.

OANAFINEI · LAFGINAS · AATAINAL

marakara bagjukaneu saragichiukarano rarakuraukarasa

As the two copies differ so much, I may be permitted to suggest slight alterations.

OANA IFINEI · LAFGINAL · AF(R)TAINAL

I have changed S at the end of the second group to L, and the second A of the third group to F or R. I thus read,

marakara Bagio ganio saragichi ogio arsa irago (artu) Kurau sortze

monument Bagio concerns thrice twenty years passes (leads) Kurau *natus*

If we read according to Fabretti, it will be:

monument Bagio concerns Saragichi mother towards Arrakurau *nata*

This is not a probable legend; hence my suggested changes.

I have indicated a doubt as to the reading of *Egihatzurano*. The word *zuen*, as far as form is concerned, might be the 3rd person sing. imperfect indicative of *du*, meaning *he had*. But here it is plainly the personal pronoun *zu* with the relative particle *en*, *ye who*. In *sarapi* we have, I think, a variant form of *zarratu*, answering to the modern *zarrapo*. Of course it might, if the first reading is the true one, be *Servius*, the son of *Egihatz*. The last word is good Basque of to-day, *egokio*, *it importe*.

The inscription that follows seems to refer the reader to another :

316. OI · LOTIS · SEPYPVS · LOPYNAYA

mai asmaku uno none tukupitupino zaratukukarakura

mai asmaku hune non adiko bethe banu zarratu egoki irakurri

table traced this where explained fully I have writing capable read

Let him who is capable read the writing of the inscribed table in which
I have given particulars.

Here a distinction is well drawn between writing and reading. The Etruscan *adiko* is a derivative from *adi* understanding, knowledge, which makes *adiarri*, signification. The word *bethe* means full in Basque. Besides the meaning "*importer, concern*," *egoki* also denotes *à propos, capable*. It may of course mean in this place "*whom it concerns*."^{87a}

I have already in 96 given a tablet of the Cecinna family, which name I have roughly read *Chiginekasune*. Roman writers call it *Caecina*. *Sisenna* is doubtless the same word. Whether *Kasune* is the nomen or cognomen I am not in a position to judge. If it answers to *Zuntzejin*, as an abbreviation and inversion of that name, it will be the nomen, for we learn that the *Caecina* whose case Cicero advocated belonged to the *Licinian* gens, and *Zuntzejin* we have found was the Etruscan form of *Licinius*. The following are other monuments of this familia. They were found at *Monte Aperto* of *Siena* :

89. OANA · MEOINE . marakara Minemo ukane (ukan)
CFENLESA Cegine kasune anre
 memorial Minima has Cecina-kasune's wife⁸⁸

^{87a} Tuku may be a proper name as it is in a similar inscription: Bilingual, Fabretti 934. In this case *pitu, betu* will be the Etruscan form of *epatu, to fix, set to*. See *Tomb of Sarapikuka*, line 1.

⁸⁸ The iconoclastic Fabretti with a rude hand destroys the *Cecinna* memorial in 89. Here is his reading:

OANA · MEOLNE CELN
marakara minemosakane chinesaka

The word *ukan*, *ukhan* is Basque, having the double meaning of have and be.

90. AV · CFENLE · MEOL · NAL
 rapi ceginekasune Minemosa karasa (sortze)
 behold Cecina-kasune Minemosa *nat'us*

For *rapi* see inscription Lanzi, Vol. II., p. 421, No. XI.

91. LADOI · CFENLE · MEOLNA
 zarratu mai Cegine-kasune Minemosa kara

This is virtually the same legend as the preceding, and seems to show that the Cecinnas married into a family of Minimas. It lacks the final L of *sortze*.

93. LA · CFENLE · OA
 zari Cigine kasune mara
 commander Cecina-kasune Mura

The first word, which occurs frequently in the Eugubine Tables to denote a general, commander of an army, is the Basque *zari*, generally compounded with *agin*, command, or *buru*, head, *aginzari*, *buruzari*, chef, commandant. I do not think that OA here denotes a memorial in the genitive of position to Cecina-kasune, but the name *Muræna* borne by three of the Licinii who fought in the service of Rome.

95. LADO · CFENLE zarratr mai Cecina-kasune
 /A /A barabara

The last word may be *buruburu*, meaning great chief, as *buru* denotes a commander or chief as well as a head. I know of no verb that would complete a sentence of this form except *para*, to place or present. The inscription reads *zarratu mai*, the written tablet *Cecinna-kasune parapura*; making it appear that *zarratu mai* is the nominative, *Cecinna* the accusative of *parapura*. If we were told that a portrait of Cecinna adorned the tablet, I should read *buru para*, presents the head. As it is, it must for the time remain a mystery. This will be no hardship, as all its companion inscriptions have been such for probably eighteen centuries.

If Lanzi manufactured his inscription out of this he must have been a very dishonest man, although he has generally been regarded in a totally different light. The thing is incredible. This is no complete inscription, but a fragment. However, Fabretti is right in reading MEOL, instead of MEOL, as the following inscriptions 90 and 91 testify. Instead of *uka* we must read *kauc*, makes. As for *chinesaka* or *zin so ka*, who look by, freely, "who or which by the sight," although such forms do occur on Khitan monuments, it is obviously out of place here.

99. LA · CFENLE · SVYNI

zari ciginekasune alpi kukau
 zari Cecinakasune alaba egokio
 commander Cecinna-kasune's daughter it concerns⁸⁹

I have already given in Nos. 70, 71 two inscriptions of the Zuntzegin family in addition to that contained in No. 5 bilingual. As this is the true Licinian line, it may be interesting to study other inscriptions of the same family found at Senese.

67. OANL·VFIL · SESCYN·EI

LECNESA
 marakaku begi usa none nochikukanio
 sanesikane anre
 maragogo begi hatz non Nosiku ganio
 Zuntzegin andre
 memorial regard where Nosiku is concerned
 Zuntzegin's wife

The only new word *begihatz*, composed of *begi*, the eye, and *hatz*, now *atzen*, *atzitzen*, seize, has in modern Basque the form *behatz*, regard, consider.

68. OANL·VFIL · SP·E·C·N·EI⁹⁰

YEFAYNAL
 LECNESA
 marakagu giusa altunebakanio maragogo egihatz Altuneba ganio
 gunegiraku karasa Gunegiraku sortze
 sanesikane anre Zuntzegin andre
 memorial regard Altuneba concerning, Gunegiraku *nata*
 Zuntzegin's wife

In this inscription *begihatz* is abbreviated to *egihatz*. Altuneba seems to bear a foreign name. In all likelihood Gunegiraku is the name of her birthplace.

⁸⁹ Fabretti reads the last character as A.

LA · CFENLE · SVYNA
 zari ciginekasune albe kukara
 zari Cecinna-Kasune alaba Kukara
 commander Cecinna-Kasune's daughter Kukara

No. 44 gives Kukara as a man's name. Perhaps the names answer to one another as Licinia to Licinius.

⁹⁰ Fabretti omits I at the end of the second group in 68, making *kane*, makes, instead of *ganio*, concerns. Or it may be the simple postposition *gan*, towards.

^{90a} There is not much variety in the following inscriptions belonging to the Licinian or Zuntzegin family, but they are useful as showing that NAL and NIAL are variant forms of the same word.

69. LO · TITTEI · LE asma kuukunee sane
 CNESA chikane anre
 CAINAL chiraukarasa
 asma Koikunee Zuntzegein andre Chirau sortze
 indication Koikune to Zuntzegein's wife Zerua nata

Chirau or Zerua is probably a woman's name here as it is in many inscriptions. Koikune is in the dative case marked by *i* or *ari*.

The following contain words indicating relationship :

88. LADY · EC · NAYNA · A/INA
 zaratuku nesi karakukara arbaukara
 zarratu toki arzi Karakukara arreba hau ekarri
 written place prepares Karakukara sister his to bear⁹¹

The second word *toki* is Basque "place." The *tu* of *zarratu* is made to do double duty. In *arreba* we have the Basque word for sister of a brother; the sister of a sister is *ahizpa*. The other words have already been considered.

- Fabretti 402. F · LECNE · NADCNAL
 age Zuntzegein Baratuchi sortze
 behold Zuntzegein Baratuchi natus
403. FEL · LECNE · FISCE · NADCNAL
 aginzu Zuntzegein agiono Sena Baratuchi sortze
 offering Zuntzegein well presents Sena, Baratuchi natus

For *aginon* see Bilingual Fabretti 69, HEYMFIS. It is a compound of *agin*, to offer, and *on*, good, kindly presents. For CE as Sena see the long inscription on the Tomb of Sarapikuka.

404. A · LECNE · A · ANONIAL
 ara Zuntzegein ara Rabama sortze
 behold Zuntzegein behold Rabama natus

If NIAL be not the same as NAL it must be *kio eritza* where *eritzi kio* would be expected.

- Compare 413 F · LECNE · ANONIAL
 age Zuntzegein Rabama kaurasa

and 407, which exhibits the commoner form :

- LO · TITTEI · LECNESA · CAINAL
 asma Kuukunee Zuntzegein andre Zerua sortze
 indication Koikune to Zuntzegein wife Zerua nata

But again the long form appears in :

- 410 A · LECNE · FVISHIAL · AP(NO)AL
 ara Zuntzegein Aguanou sortze artugomu eritza
 behold Zuntzegein Aguanou natus memorial honours
411. F · LECNE · F · SESTIAL
 age Zuntzegein age Nonenoku sortze
 behold Zuntzegein behold Nonenoku natus

If the first character of the last group were C instead of S, it would be Senanok, which followed by NAL appears on the tomb of Sarapikuka. Nonenoku is an unlikely name.

⁹¹ 88 is given as restored by Fabretti. It does not necessarily follow that *to* of *toki* does double duty, inasmuch as the final *tu* of *zarratu* is not a necessary part of the word.

248. AVLE · VLOE · FELNA
 rapi sune pisa mone aginsakara
 arpi zuen Pisa amona aginza akar
 behold ye who Pisa's mother offering bears⁹²

The only word to note is *amona*, a dignified name for mother. Pisa must be a feminine name.

322. ADNO artukamo artugomu
 LADIC · CALEC zaratu utzi chirasa nechi zarratu hitz Chirasa nechi
 holds memory written word Chirasa's daughter

The word for daughter is now *nesca*, a less dignified term than *alaba*. I have read IC as *hitz*, word. In the Eugubine Table *hitz* is represented by K.

266. OVMVNEI mopinopi kanio Mopinopi ganio
 SVLNI alpisa kau alabichi kiko
 Mopinopi it concerns, daughter for.⁹³

The postposition *kau* occurs frequently in the Eugubine Tables, as in *eman dio pabe kau*, give he him does help for, where it can mean nothing else than for. It is thus the Etruscan representative of the modern Basque *kiko*.⁹⁴

269. AO · Cp rama chitu erama Chitu
 ES / E nenobane ne nebi ne
 A / IAS rabaaurano arreba hau rano
 it brings Chitune brother to sister his towards
Freely—It brings to Chitune's brother the memory of his sister.⁹⁵

There are two new words here. The first is *erama* from the Basque verb *eraman*, cause to give, or bring. The second is *noba*, now *nebia*, brother, although *anai*, *anaya* is the commoner form.

⁹² Fabretti inserts an archaic S between *zuen* and *Pisa*. This will make the name *Nopisa*. *Ekarr* should read *akar*, as *dakar* is the 3 sing. pres. ind. of *ekarri*. Etruscan does not prefix the d.

⁹³ Lanzi represents this inscription, which is boustrophedon, with the lower line upside down. Fabretti reverses the order by inverting the upper line. He also gives instead of V in the lower line a heart-shaped figure.

⁹⁴ I have been asked how I get *kau* or, following the analogy of the verbal termination, *kio*, out of *kiko*, which is supposed to have been originally *kinko*. I do not assert that they are the same words, but that a resurrected Etruscan would replace his *kio* by the Basque *kiko*. The Iroquois uses *ke* to signify "for."

⁹⁵ In Fabretti the S of line 2 and A of line 3 are irrecoznizable. The word *noba* is disappointing in form. *Nebia*, the modern word, would be better represented by EV. It has few near relations, the closest being the Georgian *muckbe* and the Choctaw *nakfi*, the brother of a sister.

141. FI/AA ATINANA⁹⁶ age oba ra argo uga rakara
 ANOAPEM arka moritune no
 age obi ra Argo uga rakara Arka Moritune no
 behold grave to Argo mother sympathy Arka Moritune of

The word *obi* means a grave or tomb. Anciently it seems to have been *oba*. The construction of the sentence is imperfect in that no postposition follows *uga*. As for *rakara*, it was originally "a toward-ing," and the foundation of *urikarri*, *urrikal*, *erruki*, *erukiorra*, and other words expressing sympathy. Arca Moritune was a family name at Monte Pulciano, for the following inscriptions contain the name:

139. AVLE · ANOADE

arpi zuen arka moritune
 behold ye Arka Moritune

140. ADNY · AN
 OADE · LAD

artukaku arka artugogo Arka
 moritune zaratu Moritune zarratu
 OAL ma rasa mai eritsa
 hold memory Arka Moritune, the written tablet honours

151. OIPINI · OEPIMAL

ma uta ukau monetaume rasa
 mai aita uga hau Moneta hume eritza
 table (in which) father, mother his Moneta's child esteems

In this inscription *eritza* should be *eritzate* if *aita uga* are the subjects, but *eritza* is correct if the child of Moneta is the honouree of his parents.

84. OANAVKALNEI

LADISAL CEYEM/VIA
 marakara piuchirasa kanio
 zaratu uno rasa chinekuneno bapiura
 maragarri Behatzeritsa ganio
 zarratu hune eritsa Agingune no babe aurre
 memorial Behatzeritsa concerns
 writing this honours Agingune of grandfather^{96a}

As this inscription occurs among those of the Agingune family of Senese, the C of the second line should be F. The only word calling for explanation is that translated grandfather. It is *babe aurre*, con-

⁹⁶ 141 is altered to suit Fabretti's reading, whether right or wrong.

^{96a} In Fabretti the K of the upper line is read Y, and the C of the lower F, as I have suggested. The name is thus Bekurasa. If Fabretti be right in reading the V of the lower line as L, we have *basu ura* = *fetcho aur*, darling child, instead of *babe aurre*.

sisting of *babe* father and *aurre* fore. The Basque word for fore-fathers, ancestors, is *aurrekoak*, but *babeurre* is not a modern Basque word.

38. LAPOI · SEIANYI · SPAVNISA · AYIV · /IVYE · M
 zaratumai noneurakakuu loturapikaunare rakuupi bahipikune no
 zarratu mai non orogogoi Loturapika au andre Arkoibe bahi bakan no
 written table where remembers Loturapika his wife Arkoibe consort
 only behold

I have already directed attention to *bahi*, a pledge or engagement, as an Etruscan term for wife or consort. It is here followed by *bakan*, *bakhan*, only, which the Eugubine Tables represent by the same form *pikune*.⁹⁷ Its use may indicate that the Etruscans were usually polygamists. The final *no* is a particle meaning "tiens!" hold! here! take it! look! when addressed to a woman; when addressed to a man, it is *to*.

36. AYSNEI · CASAYES
 arkupino kanio chiralaraguneno
 Argubena ganio jarri alargun no
 Argubena it concerns attention widower of
 It concerns Argubena, the gift of her widower⁹⁸

Already *jarri* has been before us. It means attention, as in *jarramon* or *jar eman*, give attention. The modern Basque word for widow is *alar;*⁹⁹ and there is no other term to denote widower. The statement of Lanzi that this is a woman's epitaph necessitates the reading of the latter.

114. FEL · YIYEM · FESIM · ApNOIAL
 aginza kuukuneno aginoi no artukamo urasa
 aginza Koigune no Aginoi no artu gomu hau eritza
 offering Koigune of Aginoi of memorial this esteems
 The memorial of Koigune : this memorial of Aginoi esteems

163. AVLA · CVS /EDIENA
 arpisara chipi nobane tuunekara
 Arpisari cãpi ãebia n dio nigar
 Arpisari little brother to she him does weep
 Arpisari weeps for her younger brother⁹⁹

⁹⁷ The present Basque word for only is *bakar*. Now, *bakan*, *bakhan*, *bekhan* means "rare." Japanese agrees with Basque in *bakari*. The Choctaw has *beka*, probably the root form.

⁹⁸ Fabretti replaces final S with M, but without thus affecting the sense. In a note on this inscription Lanzi mentions the presence of LAPOI, so far read *Larthi*, and held to denote "a prince," in inscriptions accompanied by portraits of women.

⁹⁹ In 163 I read Arpisari as a feminine name, for the following reason: In most of the Khitan languages not only was a distinction drawn originally between elder and younger brother and

All the words, with the exception of the proper name, which may be feminine, and *nigar*, meaning tear, and with the verb *nigar egin*, weep, have already been before us. The auxiliary is represented by *dio*, he, she, it, to him does. The inscription came from Perusia.

339. AO · CAPNA · AO · PESYVMIA

erama chiratukara erama tunenokupinoura

erama Chiratugarri erama dena Nokupino aur

it bears Chiratugarri it bears him who is Nokupi of the child

The verb *eraman*, porter, supporter, exporter, emmener, is now in the third singular, indicative present *da·ama*. The prefixed *d* must be modern. It never appears in Etruscan, either with *eraman* or with any other verb. In *dena* we have the third sing. indic. pres. of *naiz*, namely *da* combined with the relative *n*, he who is. The latter name may be Nokupino, in the genitive of position with *aur*.

264. SASYIA

luranoku ura

lurrenko oar

CAINIIP

zerua kanio tu

Zerua ganio de-

ESCIVNIA

ne Nochiupika ura

-na Nochiupika ura

earthen vessel behold Zerua concerning who is Nochiupika's child¹⁰⁰

This presents the same form as 339 but introduces a new word, *lurrenko*, the abbreviation of *SASYI*, *lurrenokuu*. Instead of this, *OASYI*, *maranokuu* frequently appears. This latter must denote a stone vessel, and the former one of earth, from *lurre*, earth. In either case *no* is the genitive, of stone, of earth. The final *kuu*, *koi* should be a vessel of some kind. It may be the original of *kaiku*, *khotchu*, vase, now generally applied to denote a milk-pail. Unhappily Lanzi does not indicate on what kind of surface the inscription appears. It may be that of a tile, urn, tombstone, &c.

289. ANAINEI · LAYIOESA

rakarau kanio saraku u monenare

urrikali ganio Saraku hau amona andre

regret in regards Sergius his mother lady

sister, but also between the brother of a brother, the brother of a sister, the sister of a sister, and the sister of a brother. The latter distinctions have in many cases become obscured, but traces of them everywhere remain. Thus in Basque *arriba* is the sister of a brother, and *ahizpa* the sister of a sister. I am not aware that any such distinction marks the use of *anaï* and *nebia*, the two terms for brother. Yet, according to the analogy of the Choctaw *nakfi*, brother of a sister, *nebia* should denote the brother in his feminine and *anaï* in his masculine relations.

¹⁰⁰ Gori reads 264: SASYYA

CAINIIP

ESCIVNIA

The second Y of line 1 is so faint as to make it doubtful that it is the same character as that which precedes. I can make nothing of this reading.

The first word, which is really a form of *rako*, towards, I have already set forth as the original of many modern Basque terms denoting sympathy. It is in an old dative or ablative case synonymous with that in *n*, and answering to the modern locative. The dignified title, lady mother, is now shortened to *amandria*.

374. OANA · APYNEI · LO marakara artukokanio asma
MALINAL naresaugarasa
marakara Artuko ganio asma andre sa uga eritsa
memorial Artuko concerns indication wife and mother's esteem

Here *sa* is the shortened form of *basa*, and, both forms of which have already been met with.

423. AVLE · SEIANYI · MINV arpisune noneurakakuu noukapi
LAPOAL · FISCVSA zaratumarasa agiunochipinare
CLAN chisaraka

arpizuen non orogogoi naugabe; zarratunai eritsa Agiunochipi andre.
zazu erruki

behold ye where memory in it me has deprivation; written table
honors Agiuno little wife. have compassion

Behold where my bereavement is held in memory. The engraved
tablet honours the wife of Agiuno the little. Have sympathy.¹⁰¹

Every word in this inscription has previously occurred, except the last. This is the *clan*, filius, of the Etruscologists, which has sent them on a wild goose chase over the world. It always stands out distinct from other words, while terms of relationship generally adhere. It means have pity, compassion, sympathy, being the second plural imperative of *dut* united to *erruki*. The following prayer of a votive inscription illustrates it.^{101a}

¹⁰¹ Fabretti reads 423, thus:

AVLE · SEIANYI · MI arbezuen noneorogogoi non
LAPOAL · YISCVSN zaratumarasa kuunochipinoka
AL · CLAN rasa chisaraka

arbe zuen non orogogoi nau zarratunai eritza Goino Chipino sortze zazu rako

Behold ye where remembrance in he me has: the engraved space esteems Goino
Chipino natum. Have sympathy.

There is evidently something wanting at the end of the first line.

^{101a} Mr. VanderSmussen has sent me an inscription containing another form of this request for sympathy. It was found at Volaterræ:

abretti, 254. A · YIYE · A · CALE · CLANYL · AAVNAM · PIL · XXIIIX
ra kuukune ra chira-ane chisarakakusa rabapikarano tansa 27

ara Koikune ara jurri zuen zazu erruki ikusa Arbapika rano du atso 27

Behold Koikune behold present she did; have sympathy looking Arbapika
towards. He has age 27.

57. FEL · YINM · AP · LVNCIAL · CLAN

aginza kuukano artu aspikachi urasa chisaraka
 aginza Goijaun artu azpiko che aurketsu zazu erruki
 offering Jainko receive servant even homage have compassion
 High Lord, receive the offering; have compassion for the homage of
 thine unworthy servant.¹⁰²

The following have topographical connections:

102. ADNO · APNYLE

FESCV · ALSNAL · CLA

artukamo artukakusane
 aginnochipi rasalakarasa chisara
 artugomu artugogotzen
 Aginno-chipi Rusella sortze zazu erruki
 Memorial to hold in memory
 Aginno the little (Aginno's little one) *Rusellis natus*; have sympathy

In this inscription the full form of the verb *gogotzen*, now *gogoratzen*, appears. This is also the Japanese *kokoro-su*, with the same meaning. *Rasala* is more probably *Rusellae* in Etruria than a woman's name. The formula *zazu erruki* is deficient in the last syllable.

107. AO · LAPCNA · YVYNAL

erama zaratu Chikara kupiku karasa
 erama zarratu Chikara Kupiku sortze
 bears writing Chikara Kupego *natus*.

I do not know what city the Etruscans called Kupego.¹⁰³ The name appears on the coins in Lanzi, Vol. II., plate ii., and has been

The verb *ikusī*, to see, follows *zazu erruki*, and must be translated seeing. The Etruscan must have been read *kusi*, *kuso*, *kusu*, rather than *kusi*. The regular form of the auxiliary *zuen* appears instead of the common VS *benu*.

¹⁰² No. 57 is amended, according to Fabretti, by the omission of F, which in Lanzi intervenes between the second and third groups.

¹⁰³ Some difficulty will be found in identifying names of places as they occur on the monuments, for they certainly must have been other than those given by the Romans if the Etruscans were an Iberian people. If *clan* be an Etruscan word, such also may Clusium be. But Clusium is not Iberian, nor Florentia, nor Trossulum, Caletra, Vulsinii. In the Eugubine Tables Luna is Luni, and Volaterrae has no *t* nor any connection with the Latin *terra*; it is Baulaherri. Arretium is Aretigi or Aretiag, and the final *nia* of Vetulonia and Populonia appears to be no part of the original. There is no evidence that the Etruscans had the letter *v*, as in Vulsinii, Volaterrae, Vetulonia. Some places in Etruria mentioned by Pliny (H. N., III, S) bore Latin names, translations of the originals, such as Castrum Novum, Novem Pagī, Hortanum, Lucus Feroniæ, &c. It is hard to say how far this process of disguising may have gone on. A similar process of transformation is taking effect in our own Northwest, where Indian names are translated into such unepithetic English terms as Moose Jaw, Pile of Bones, Medicine Hat. But for this process, as applied by the Romans, a study of Etruscan topographical names would long since have evidenced the Iberian origin of the people of Etruria.

wrongly read Tuder, which was an Umbrian city and Celtic, as its very name denotes, even to the student of English history.

317. LADCE · LADNI · CALEILADOI · MVDYVEONEI
 zaratuchine zaratukau chiras aneu zaratumai nopitukupinemaleaneu
 zarratu zein zarratukio Chirasaneu zarratu mai Nepete jabe ne ema ganio
 writing which write he does Chirasanio written table Nepete of lord
 to give pertains.¹⁰⁴

This does not look like an epitaph, but rather a communication of some kind. in *zein* we have the interrogative, but as *zena* it is relative. The Basques even now like to be known not by their family name but by that of their house or land, be it a hovel or a garden patch. The lord of Nepete, however, was the chief man of no mean city.

The next is instructive as presenting Kupiku with the dative sign, and *ganio* instead of *sortze*, showing that *ganio* may signify "belong to."

109. EL · LAPCANA · LO · YVYINEI
 ansa zaratu Chirakara asma Kupikuu kanio
 antsa zarratu Chirakara asma Kupikoi ganio
 keeps writing Chirakara of sign Kupiku to he belongs¹⁰⁵
370. L · YEYINA · F · YVSNV
 YNAL
 so kunekuukara agi kupinokapi
 kukarasa
 so Gunekoi ekara age Kupinogabeku sortze
 behold Gunekoi it bears ; behold Kupinogabeku *natus*

¹⁰⁴ Fabretti reads 317 very differently :

LADCE · LADNI · CALE LA[A]DOI · MVDMEONEI
 zaratuchine zaratukau chirasane zara(r)umai nopitunonemokaneu
 zarratu zein zarratu kio Chirasa ne zarratu mai Nopitu non ema kanio
 writing which write he does Chirasa to written tablet Nopitu who give to him did

I have given a literal translation, but the sense is far from clear. Nopitu may not be Nepete, if this be the true text. I have rendered *kanio* as "he to him did," following the analogy of *hau, nau, dio, zayo*, including pronominal auxiliaries. It is thus a compound of the regular termination of the imperfect *kian* and *o*.

¹⁰⁵ Fabretti's reading of 109 is :

FL · LAPCANA · LO · YVY * * * I,
 agi so zaratu chirakara asma kupiku—sa
 egi so zarratu jar ekara (dakar) asma Kupiku
 look writing attention brings indication Kupiku

The lack of three characters leaves the sense to seek. For the first, *so egi* would be more in accordance with modern usage. The verb *ekarr*, in the 3 sing. pres. indic., would be *dakar*. As I have elsewhere indicated, the initial *d* of such verbs is not recognized in Etruscan.

The literal meaning of Kupinogabeko would be "deprived of a commander or chief or lord," and would suit some republican community.

381. OANA	marakara	marakara
OALYVNEI	marasa kupi kanio	Marasa jabe ganio
NVNIAL	kapika hu rasa	gabeka hau eritsa
	memorial Marasa's lord concerns ; departed his it honours	

398. AV / VLSVYINA · AV · CALISNAL
rapi bapi sanopi kuukara rapi chirasauno karasa
rapi babe Sanopi Goikara rapi Chirasauno sortze
receive father Sanopi High Lord receive Chirasauno <i>natum</i>

This is sepulchral and votive. The author prays Jainko, here Goikara, the Tina or Jupiter of the Etruscologists, to receive his father, Sanopi. I do not propose at present to enter upon the identification of Chirasauno and other names of places.

The following presents a new formula:

407. LA · SENYINAYE · AOVNIAL
zara nonekakuukarakune ramopikau rasa
zara non gogoi ekara gune Ramopikau eritza
writing which memory in bears us to Ramopikau it esteems ¹⁰⁶

In this case *zara* cannot be *zari*, chief. In *gune* we see the pronoun in an old dative form. It is now *guri*. In these inscriptions *non* seems to read as a relative as well as the adverb where, which has sometimes relative powers. In such case the verb may dispense with the passive form, "which in memory bears to us."

130. AVLE · MADCNI	arpisane miratuchikau
ADNO ALISA	artukamo rasaunare
arpi zuen Miratuchi kiko artu-gomu eritsa hau andre	
behold ye who Miratuchi for memorial honours his wife	

184. AVIVPS	rapi upitula	arpi obi tille
SECSYIN	none chinoku uka	non Chinoku uga
AL	rasa	eritsa
	Behold the sepulchral inscription which honours the mother of Chinoku	

In Basque *obi*, *hobi* is the grave, and *tille*, an inscription.

¹⁰⁶ In 407 Fabretti omits the final AL, *eritza*, which makes a better reading: "Writing which bears Ramopikau to our remembrance."

347. LAPOASVNEISEOPESA

zaratuma ralapi kanio none matune nare
 zarratu mai Ralapi ganio non ematen andre
 written table Ralapi concerns which gives wife.¹⁰⁷

The verb *emature* may be *ematen*, the simple attributive form of the verb *eman* give, or *ema duen*, give she did, now *eman zuen*. Much study and careful comparison of texts will be required to settle the differences between the Etruscan and the modern Basque in matters of grammar and phonetics.

ADDITIONAL BILINGUALS.

The following bilinguals and larger texts I owe to the kindness of Mr. VanderSmussen, who has collected them out of Fabretti and other sources not at present accessible to me, for the purpose of subjecting the syllabary to every reasonable test.

The following is given by Lanzi (Vol. II., p. 565, No. 8) but in a very imperfect shape.

Fabretti 69, Pl. VI. F · ATIVS · L · F · STE · HARVSPE
 FVLGVRIATOR
 C · ASAYES LP · LP · HEYMFIS · YPVYNFY · 8PBNYAC

The point between the initial C and the following A is not part of the text. The E's and F's are archaic in form, but are, I think, correctly rendered as such by Lanzi. The M of the fourth group may be *m*. The V of the fifth group is indistinct in Fabretti, but Lanzi recognized it as such. The character I have given as B is of the same form above as 8, but the lower half is open. As a variant of 8 I represent it by the nearest, indeed by the only, variant contained in the syllabary I read the Etruscan :

chiralraguneno astu astu ganekunoagiuno kutupikukaagiku latuul kakurachi
 jar alargun no azti azti ganako no *egiun kutubiku ka egiku* Altahola gogo eritsi
 attention widow of diviner diviner sacrifice of indicator lightning by indicator
 Altahola memory to honour

I am not aware of any present Basque word for sacrifice. The term *ganako* now means towards, and used substantively may have

¹⁰⁷ Fabretti modifies 347 :

LAPOASVNE · SEOPESA
 zaratu ma ralapi kane none matunenare
 zarratu mai Ralapi kane non ema duen andre
 written tablet Ralapi makes which give he does wife

The sense is far from clear. I may add that the final E of the first group is uncertain in Fabretti.

denoted that which is offered to the gods. The forms *egiun*, *egiku*, are also as archaic as the mode of writing them. There are several words that agree in general meaning; *age*, appearance, indication, *eyia*, truth, *igerri*, to divine, the root *ag*, *eg*, *iy*, seeming to have the meaning of, manifest. The diverse terminations *uno* and *ku* or *ko*, I do not profess to explain.¹⁰⁸ As difficult is the word *kutubiku*. The present word for lightning is *chimista*, *chismista*, *chistmista*, for which I know of no etymology having been given. The Circassian forms are *chobske*, *kopk*. The Mizzejian uses a similar form, *kebeke*, for thunder, and the Lesghian designates this accompaniment of lightning, *kutiburi* and *kokkubikuli*. Pursuing the search among the more distant Khitan, we find the Yeniseian Khitts calling "lightning" *yekene-bok*, *ykende-bok*, with which word Dr. Latham has compared the Yukahirian *bug-onshe*. The persistent b-k appears also in the Lesghian *lanzvikuli*, as *vik*. On the same page of the Sprach-Atlas accompanying Klaproth's Asia Polyglotta in which *bug-onshe* is found, appears *bug-ylbe*, meaning a bear. Beard in Basque is *bizar*; hence *biz* is the equivalent of *bug*. Now in Van Eys's dictionary under *bizi*, life, we meet with *biztu*, *pitztu*, to light, excite, resuscitate. Lecluse gives *piztea* as meaning "allumer, rallumer, ressusciter." The word *biztu* is *biz* with the verbal termination *tu*, and may or may not be related to *bizi*, life. This *biz* or *biztu*, by one of the commonest interchanges of labials has become *mista*, and the prefixed *chist* represents the old *kutu*. Had the origin of the word remained in the memory of the Basques, they would probably have retained the Etruscan term in the inverted form *bizkatu*, like *banakatu*, *kilikatu*, and many words of the same formation. The following *ka* is the postposition by. The name of the haruspex and fulguriator seems to be *Altahola*, *Ilduhala*, the relation of which to *Atius* or *Fatius* I leave to others to trace. His name is governed by *gogo*, memory, in the genitive of position. The final verb *eritsi* is in the infinitive to *jar* at the beginning of the inscription.

In the next bilingual, for the sake of uniformity, I have placed the Etruscan below the Latin, although the former is on the lid of the coffer and the latter on the side.

¹⁰⁸ Elsewhere I have found FIS evidently a compound of *egin* and *on*, to do good or show benevolence. Here it may be *age on*, to indicate good, or give good omens. In the second, *ageku*, the last syllable takes the place of *sa*, an Etruscan particle denoting agency.

Fabretti 1496. P · VOLVMNIVS · A · F · VIOLENS
 Pl. xxxvi. CAFATIA · NATVS
 AV / FELIMNA AV CASAYIAL

In the last group the second A is indistinct. The name occurs in Lanzi 62, 63, 165 and elsewhere, so that A is well attested.

bapiba aginsaunikara arpi zeralarakuu rasa
 Papiba Eginezaumak ra arpi Zerulurrekoi sortze
 Papiba Eginezaumak, to behold Zerulurrekoi *natus*

The most important name in this group is Eginezaumak which translates Volumnius, the man of the book. Scriptor or Librarius would have done as well, but they did not represent Roman gentes. The first part of the word is *egin*, to do or make. The second, *ezaumak*, or in Etruscan *zaumika*, survives in Basque only as *esemesak*, opinion, saying; for *liburu*, the Latin word, has displaced the native name. The Etruscan word must have been derived, however, not from *esan*, to say, but from *ezaun*, *ezagun*, to know. The Japanese word for a book is *shomotsu*, and the Loochooan, *shimutsi*. This word is exceedingly old, for it appears in the ancient Accadian of Chaldea, a thoroughly Turanian language, as *samak*, *sumuk*, a library: Sayce's Assyrian Grammar, p. 16, Nos. 175, 176. The only other literary people of the Khitan, the Aztecs, preserved the word for book in an abbreviated form as *amoz*. Thus Eginezaumika is the bookmaker, or author, or scribe. The preceding Bapiba is probably the original of the Latin Fabius, which denoted a gens eminent in literature and art, and persistently connected with Etruria: Dennis' Etruria, Vol. I., p. 425. Q. Fabius Pictor was the earliest Roman historian, as his grandfather had been the first artist. Two other Roman historians, Cincius and Sisenna, bore Etruscan names. Bapiba is the word translated Violens. The nearest equivalent in Basque is *buhumba*, by which the Greek *lailaps* and Latin *turbo* are translated in the Testament of Rochelle, Mark iv. 37. The Japanese furnishes the corresponding words *bofu* and *fubuki*, and the Choctaw, *fapah*, *fopah*, the roaring of the wind. The Basque *pompvola*, a surging billow and *pampots*, palpitation, are probably of the same origin. The remaining proper name is that of Cafatia, in Etruscan *zeru-lurre-koi*. The first part is *zeru*, heaven, but also meaning (Lecluse, *voûte*) a ceiling or vaulted roof. The second part *lurre koi*, has occurred in the forms *lurrenokoi*, *lurrezkoi*, denoting an

earthen receptacle. I am disposed to regard *koi* as the Etruscan equivalent of the Japanese *kyū*, a small house, hut, or pen. I do not know what Basque word corresponds, as *khutcha*, box, chest, is said to come from the Spanish *hucha*, and in any case the increment calls for explanation. Still Zerulurrekoi, as "the domed earthen chamber," although a strange name for an Etruscan lady, answers to *Cafatia*, as *Cavatia*. The final AL should be NAL, *soitze*, natus, as other bilinguals indicate. That there was an intention to assimilate the Etruscan to the Latin in this inscription is plain, from the unusually prominent place given to the name *Papiba*.¹⁰⁹

¹⁰⁹ For other inscriptions bearing the same name, see note 64. The characters FEL, as constituting the word *aginza*, an offering, are of constant recurrence on Etruscan monuments. As in this case, *egin-ezaumeki*, FE represents the common verbs *egin* and *agin*. The tendency I have had to resist is one in the direction of translating all *agins* and *aginzas*, which can only be corrected by a careful comparison of inscriptions.

Mr. VanderSmussen calls my attention to the tomb of the gens Volturina, near Perugia, which contains urns with the following inscriptions:

Fabretti 1480. LA · FELOVPNAM · FI,IAL
sara aginsamapitukarano agubaurasa
zarra Aginzamaiepatugarri no gai bahi eritsa
writing Aginzamai-Epatugarri of good consort honours

The long name Aginzamai-Epatugarri, which has been read Velthurnas, is one like *Eginzamaika* of note 64, derived from the occupation or craft of the family. It means "the setter up of memorial tablets;" adding to the already familiar *aginza mai*, the compound of *epatu*, fix, set a limit, and *ekarri*, bring. The name of the consort is not given, unless I am in error in reading FI,II as *gai bahi*. In the Eugubine Tables FI frequently occurs for *gai*, fitting capable, suitable. The following *bahi* now means, a pledge, but many instances of its use serve to show that in Etruscan it also indicated one who is pledged or engaged to another. I do not know if the Japanese *stifu*, husband and wife, represents this word. In Choctaw *ibafohkah*, to unite, add to, probably exhibits the original meaning of the root.

1481. SE · FELOVPNA · AVLEM
none aginsamapitukara rapisaneno
non Aginzamai-Epatugarri erpetzen no
which Aginzamai-Epatugarri holding of

This inscription is elliptical if I read it correctly.

1482. LO · SEYPI · FELOVPNAM
asma nonekutuu aginsamapitukarano
asma non chedee Aginzamai-Epatugarri no
indication which sets the mark Aginzamai-Epatugarri of

The word YPI, *kut:u*, appears more than once in the Eugubine Tables (I. b. 16, &c.), denoting limit, boundary, which in Basque is *chede*, *gede*. In Japanese *kiwa* generally bears this signification and forms verbs of defining and limiting, but *kata*, a side, border, answers to *kiwa*.

1479. SE · FELOVPNA · SEYPE
none aginsamapitukara nonekutune
non Aginzamai-Epatugarri non ekiten

I cannot translate this as it stands with a double *non* and *kutune* instead of *kutuu*. In the Eugubine Tables, the extent and historical nature of which give abundant opportunity to discovering and confirming the values of words, *kutune* stands for the Basque *ekiten*, undertake.

Fabretti 794. OTACILIVS · RVFVS · VARIA · NATVS

AO · VNAYA · ΔAPNAL AP

erma bekari gori	baratu karasa	artu
arama (darama) Beharri Gorri	Baratu sortze	artu
it bears Beharri Gorri	Baratu natum	hold!

The verb *eraman*, to bear, makes *daruma* in the 3 sing. pres. indic. In Etruscan this initial *d* is consistently dispensed with. In this inscription it is evident that the Etruscan characters do not coincide with the Latin. This is no case of correspondence like *Caulias*, *Sentis*, *Licini* and *Volumnius*. The artist has been honest as well as ingenious. Wishing to translate the name *Bekari*, now *beharri*, *belarri*, an ear, the original form of which probably survives in *pikero*, the ass, (long ears), by a recognized Latin proper name, he took that of the *Otacilian* gens in which, rightly or wrongly, he recognized the Greek *otikos*. The following *gorri*, red, he translated *Rufus*. The name read *Varia* is harder to explain as an equivalent of *Baratu*. The present Basque word *nabar*, *bigurré*, answering in a measure to the Japanese *mabure*, would perfectly reproduce *Varia*. In my paper on the Aztec and its Relations I have shown how, in Aztec, *palli* denotes both colour and contents, like the Japanese *iro* and *iru*, which in composition become *biro* and *biru*; and have suggested a similar relation between the Basque *bar*, within, and a primitive *bal* or *bar*, the root of *baltz*, *baltz*, black, meaning colour. The Japanese for *Varia* is *iro-dori*. As the equivalent of this I suppose an ancient Basque or Etruscan *baratu*, of which *baitu*, spotted, may be the representative.

Fabretti 793. C · VENSIVS · C · F · CAIVS

FEL · FENILE · ALSNALISLE

aginza egin kaitch u sane	rasalakarasunosune
aginza egin Kaitch Usena	Rusellae sortze onetzen
offering makes Kaitch,	Usena <i>Rusellis natum</i> to esteem

In this case *Kaitch* or *Kaich* is *Caius*, and *Vensius* is the Latin translation of *Usena*. The latter word now means "a leech." Of

Mr. VanderSmussen also points out the frequent recurrence of the gentile names *Vibia* *Vercinia* as:

1453, &c. FIAI · FEPCNAM

These characters read: agubau aginduchikarano

The first may be *gai bahi*, see 1480, or it may be a name. The second word contains *agiadu*, the verb, to command or promise. It is premature to pronounce on the meaning of *chikara*, *eskari*. The final *no* is probably the genitive.

its derivation as well as of that of Vensius I am ignorant. Should Vensius derive from the Greek *phcinisso*, or from the Latin *vena*, the words may coincide as the two significations of "leech" in English. The native of Rusellae may have been a primitive physician or phlebotomist.

Fabretti 792. C · ALFIVS · A · F
 CAINNIA NATVS
 FL · ALSM · NVFI
 CAINAL
 egi so rasalami kabe egiu
 zerua karasa
 egi so Rusellae imi Kofa egiu Look Rusellae places Kabegio
 Zerua sortze Zerua *natum*

This is another native of Rusellae. The final *m* or *imi* is very unusual. Kabegio is plainly meant for Alfius, and Zerua for Cainnia. Now Zerua is a form of *zeru*, the sky, so that Cainnia must stand for Cyanea. Also Alfius, if it mean anything, is Alveus, and to this *kofa*, hollow, corresponds. Van Eys derives *kofa*, *koba*, *kavi*, *gabia*, &c., from the Spanish and Provençal, but the Japanese *kuboi*, concave, hollowed, and *kubomi*, a concavity, a hollow place, restore them to their rank as native words. The Choctaw also has *kafakbi* a dent, hollow, and *kafakbichih*, to make hollow. Such a form as the latter must Kabegio be, the latter part of the word being the verb *egiu*, to make.

Fabretti 934. SPEDII · TVLLIO
 LAVYNAYA SEPYVPVS
 sarapi kuka rakura nonetakupitupino
 Zarrapo egoki irakurri non Idoki *pitu* banu
 Zarrabe belongs the reading ; where Doku lower I did

Spedius is not a Latin word, and must represent the Greek *spadón*, a tear, or a rough sharp sound, which is not indeed the meaning of *zarrapo*, but of the related *zarrasta*, "bruit que fait la toile quand on la déchire." The other name, Tullius, translates Idoki, which means "to take away," by *tollo* rather than by *tuli*. The verb *pitu* or *betu* is unknown to modern Basque. The commonest use of *V*, *be* is as the postposition "under." It may be that *betu* is an old form answering to *beheititu*, *beheratu*, to lower.^{102a} It

^{102a} It is more likely that *pitu*, *betu* is the original of the Basque *epatu*, to fix, set a limit or mark. See Tomb of Sarapikuka, line 1.

is followed by *pino* or *benu*, the Etruscan equivalent of *nuen*, I did. The lineal descendant of *benu*, namely *banu*, has now subjunctive force, if I did. YN is *eyoki*. But it is hard to say what is its grammatical value. As "it concerns me" the form in Basque would be *dagokit*; as "it concerns him" *dagokio*. The latter in Etruscan is YNI *gokao*, as has already appeared.

Fabretti 936. A · TITIVS · A · F · SCAE · CALIS
 A · TITI · A · FANIAL
 ra kuukuu ra agerkaurasa
 ara Koikoi ara ezkerka au eritza
 behold Koikoi, behold Agerka this esteems

Titius is the name of a Roman gens, but it is hard to say what its meaning is. If borrowed from the Carthaginians, it and Titus would, like Dido, mean "beloved;" and as such, Titius would fitly translate Koikoi, a superlative of repetition, "the greatly desired." The name Agerka represents the Latin ScaeCalis, which itself needs translation. The present Basque word for left is *ezker*, supposed to come from *esku-oker*, *esku* being hand, and *oker* oblique, tortuous, awry. Agerka, however, is neither *ezker* nor *oker*. It is probable that the present *ezker* has been conformed to the Spanish *esquerro*. Still, the Lesghian forms *kisil* and *kuzal*, indicate that the original Basque word resembled the Spanish. It is unfortunate that no text contains the Etruscan word for hand, which I hardly expect to find as *esku*, the Basque term. The Lesghian *kua*, *kak*, *ker*, *kuer*, *kulg*, Circassian *oyg*, Mizjejian *kuki*, *kuik*, and Georgian *ke*, *che*, *cheli*, favour *iu* or *ker*. The Basque *ahur*, hollow of the hand, accords with *ker*, *kuer*, &c. It cannot at present, therefore, be decided that Agerka is, or is not, the Etruscan for "left-handed." Such a name is not uncommon among the Khitan. The Abbé Cuoq, *Lexique de la langue iroquoise*, p. 42, cites "Skanekwati, nom de femme, la gauchère, Shanekwati, nom d'homme, le gaucher."¹¹⁰

¹¹⁰ Among the bilinguals may almost be reckoned a Latin and an Etruscan inscription on distinct ossuaria, which however were found in close proximity.

Fabretti 714. L · SCAEVIVS · L · F · ARN · · · · · AEVNVS
 LO · SCEFA · MAYNAL
 asma nochineager norakukarasa

The construction is somewhat peculiar, yet I think the *ager* of *nochineager* corresponds to the *ager* of *agerka au eritza* in 936, especially as the Scaevius of the twin ossuarium answers to the Scae of the other inscription. The peculiar construction of 714 is due to the attempt of the engraver to present an apparent accord between the Latin and the Etruscan. He has

Fabretti 1888. L · F · TIITIA · GNATA
 MIISIA · ARVN
 AP · MESI ·

The last line is written in the original from right to left, and thus it is supposed to be the only Etruscan part of the inscription. But the Etruscans and all the Khitan wrote frequently from left to right, and boustrophedon, as in this case. MIISIA · ARVN is not like part of a Latin inscription. I read it as Etruscan.

nota no ura artupika
 artu mine nou
 Nata no aur *Artupika*
 artu min nau
 Nata of child Artupika
 receive grief she me does (she receives my grief)

Nata is the *Gnatu* of the Latin, which is here a proper name, and not the participle of *nascor*. Artupika represents Tiitia. This peculiar name can only connect with Taeda, pitch-pine, a pitch-pine torch. In bilingual, Fabretti 69, *piku* has appeared as the Etruscan form of *biz* in *biztu*, to light. Here, however, we have not *piku* but *pika*, doubtless a different word. The first part of the word is probably *arte*, a tree, rather than *ardai*, tinder. The second part, *pika*, some Basque scholar may be able to explain.

Fabretti 980. Q · SENTIVS · L · F · ARRIA · NATVS
 CVINYF · MϕNV · APNYNAL
 chipi u ka kuagi no ma gabe artu kaku karasa
 Sipi uga Kuagi une mai gabe artu gogo sortze
 Sipi's mother Kuagi this table without holds memory child

Here I have taken a license in making M, which in the original has an imperfect second limb, thus giving prominence to the first, the equivalent of *une*. I am not sure that the bisected O is *mai*. It may be *ma*, which elsewhere, following *zarratu*, is unmistakably the same as *mai*. The word Sentius I take to have the same meaning as Sentia in Ianzi's bilingual 2, that is, thorn-bush, brier, bramble. It is here translated by Chipi or Sepe, not a modern word. The Basque *zapar*, *sapar*, means bush, brier, bramble, and is

violated grammatical construction by placing the verb *nochine* or *aintzin* before Ager for this end. I read

asma aintzin Ager Noraku sortze
 indication to present Ager Noraku *natus*

In this way *Ager* is the original of the Basque *czker*, left.

the same as the Japanese *shiba*, brushwood, and the Choctaw *shauwa*, brush, bushes. Perhaps *chibe* or *shibe* was the Etruscan form, being a variant of *chipi*, little, to denote undergrowth. Were the meaning of the Latin *Arria* clear, some connection might be found for *Kuagi*, or better, *Goegi*. If it be an expedient for *arrigo*, then *go egi* will be an allowable form of *goilitu*, élever, and a sufficient translation of the mother's name.

Fabretti 794. L · PHISIVS · L · LAVCI
LEVCLE · φISIS · LAFYNI

From Fabretti's various readings I have only adopted Y in the last group instead of a doubtful I.

su ne pi chi sune mai unouno sari egi kukau	
zuen Pisisu ne mai on oan	Sari-egi egokio
ye who Pisisu to tablet?	Sari-egi belongs.

This inscription has been intentionally obscured in meaning, for the purpose of putting an apparent Phisis into the Etruscan text. If this be not the case, how is it that all the bilinguals do not yield to the same key? In the same way *zuen* is placed before the true Pisisu, to make it look like *Levcle*, reproducing *Lauci*. This *Lauci* is a barbarous disguise of *laus*, for *Sari-egi*, from *sari* and *egin*, means praise, or praising. The unusual verbal form *onoono*, or *onoan*, is similar to that of *joun*, to go, *jan*, to eat. It is probably a compound of *on*, good, and an old verb, *oan*, to pay attention or regard, answering to the Japanese *uyamai*, which is now represented in Basque by *o-artu*. The inscription will thus read: "Ye who kindly regard the tablet to Pisius, to Sari-egi it belongs."

Fabretti 460. C · CASSIVS · C · F · SATVRNINVS
F · CFS‡ I · C · CLAIY
age chiagnoitchu chi chisarauku
age Chiagnoichio age Isats arauki
behold Chiaganichio, behold Isats conformable

This text is far from clear. The C which stands alone in the third place should, I think, be F *agi*, for *che*, even, is always an affix. The final IY in my copy are so close to one another as to suggest that they represent an original N. In this case *rako*, now *rako*, towards, would take the place of the uncommon *arauki*, conformable. The most important word is CL, which I read *isats*, but which originally must have been *chisa*, inasmuch as it is the Etruscan

cassis, which Isidore says means a helmet. The analogy of *cassita*, the crested or tufted lark, would give "plume" rather than helmet as the meaning, the helmet being merely the plume-bearer. In Basque *egatz* is a feather; *ejuzti*, plumed, covered with feathers. But there is another form *isats*, which now denotes, equally with *egatz*, a fin, and is also applied to a small feather brush without a handle. These two forms, *egatz*, the guttural, and *isats*, the sibilant, point to an original *chatz* or *chas*, whence the Latin *cassis*, a plume or plumed helmet. The Circassian *kutz*, a feather, retains a better form of the word than the Basque. The Choctaw has *hishi* and *hoshishi*, but the Japanese applies the corresponding *gushi* exclusively to the hair. In many Khitan languages, as in the Choctaw, the same word denotes hair, feathers, and leaves.

Saturninus is a case of "first catch your hare." What word does it intend to set forth, *sator*, *satur*, *satura*, *Saturnus*, *Saturni sacra dies*? I find the initial *chiag* or *izag* in the augural templum of Piacenza forming *chiag-sarasaba* and *kusapino-chiag*. As the templum is astronomical in character, Chiag-Noitchio may denote the planet Saturn. There is room here for wide conjecture, and a foundation perhaps for a system of Etruscan mythology. The word Noitchio may equally be read Anichio. Unhappily, little or no mythology has been preserved by the Basques.

The last of the bilinguals is one not generally regarded as such, the whole having been read as Etruscan. The first line, however, is Latin, the two names being feminine, and the last probably in the ablative case.

Fabretti 949. ARIA · BASSA

ARNTHAL · FRAVNAL

artu kaku karasu	egiaterbe karasa
artu gogo Karasu	Egi-Aterbe sortze
to keep memory Karasu	Egi-Aterbe nata

The Latin names are still puzzling. The scribe evidently translated the Etruscan into Latin or Greek in his own mind, and then cast about him for a Latin name having some likeness to the translation. If Aria stand for Aëria, the only modern Basque word answering to it and approaching *karasu* is *egurastu*, aérer, exposer au jour. It is a compound of *egun*, day, which in Lesghian is *kini*. I very much doubt that *karasu* is *eguraz*. It is strange that the Japanese equivalent of *egurastu* should be *sarasu*. The name I give

provisionally to Karasu's mother is Egi-Aterbe, which means "making shelter." Van Eys defines *atherbe*, *atharbe* as "lieu pour être à l'abri de la pluie; par extension, maison, toit." It is derived from *athari*, the Basque equivalent for the Latinized Etruscan *atrium*. The Greek *pustus*, a kind of porch, may be the translation out of which the scribe evolved Bassa. A difficulty in the way of the reading given is that R is rendered in one case *tu*, and in the other *at*, which is an inconsistency very unlikely to take place. Could we find the Etruscan word given by the Romans as *atrium*, it would decide the value of one of the *t* syllables. This and similar arrivals at the exactitude desired will require time and coöperation, just as they were required in the case of Egyptian, Assyrian, and other decipherments.

LARGER TEXTS.

In Fabretti, Table XXXVIII. No. 1914, appears the Cippus of Perugia. The front and left side of this monument are covered with Etruscan characters. As those on the left side furnish the key to the narrative, and are uninjured, I present them first. As the lines are very short I give them in groups of four.

Left Side of Cippus.

- 1-4. FELOINAM · AYENAꝞVCIENESCI · I / AM / AELANE ¹¹¹
 aginza maukarano rakunekara ichpichiu nekanenochiu ubara-
 nobanesarakane
 aginza mai ekarri no aragune *kara* ichpichio nekian *nochiu* obi rano
 banaiz eragin
 offering tablet bringing of accordant states contribution I did request
 grave towards I am causing to make

¹¹¹ Cippus of Perugia, Left side:

Lines 1-4. *aginza*, Van Eys *agintza*, offering: in genitive of position to *mai*. *mai*, table, here used, like the Japanese *mei*, to denote tablet, inscription. *ekarri*, to bring, in Etruscan probably *kara*; the participial form governed in the genitive by the postposition *no*.

no or *na*, the Etruscan postposition of. In modern Basque *no* or *na* is reduced to *n* or *en*. The Japanese genitive particles *na* and *ga* answer to the Etruscan *no* and *go*, the Basque *ni* and *go*, and the Iroquois *ne* and *ke*, which are also locative. The Choctaw genitive *in* belongs to the same series.

ara gune kara. For *kara* see *kakara*, Front of Cippus, lines 1 and 5. The meaning of *kakara*, of which *kara* is an abbreviation, is plainly a state. It is not modern Basque, but may answer to the Japanese *kori*, a division of a country, or province. It is possible that the Basque *herri*, *erri*, a country, is a descendant of *kara*. The preceding *gune* is literally a place, but forms compounds like *on-gunc*, bon accord. Here it is preceded by *ara*, more fully *arau*, right. In modern Basque *arau* makes *ar-alde*, *ar-aldetu*. So here, *ar-gunc*, accordant or conformable, indicating the states which conformed to the terms of the Tuscan confederacy.

ichpichio: the commoner word is *ichpi*, which in Basque means "petit morceau d'un corps dur," and is a synonym of *pikor*. The Basque *ichpicho*, derived from *ichpi*, means "pari,

5-8. OI · 8VLVMJL FAM/ÆLOIPENEIOIEMY ACFELOINA ¹¹²
 mau albeaspi mi go ager no bauesa maunte kanemaunenoku rachi
 aginsa mau kara
 mai albo azpi ini go agerrian banaiz ema autune kian mai ne naga
 eritsi aginza mai ekarri
 tablet side under placing of information I am giving choose who did
 tablet to hate estimation offering tablet bring

9-12. ACILVNE YVPVNEMC VNEÆEAÆVCI · ENESCI · AO ¹¹³
 rachiusapikane kupitupikauenochi pikaneichenra ichpichio nekanen-
 ochiu rama
 eritsi utsa bakine jabe tobe kian aintzi bakine etsain ra ichpichio
 nekian nochiu Roma
 to esteem fails to communicate lords instead he did warn to com-
 municate opposite to contribution I did request Rome

gageure," but in Etruscan *ichpi* and *ichpichio* evidently denote a contribution. The Japanese *tsubu*, a grain or morsel, is the equivalent of *ichpi*.

ne kian nochiu : I do not recognize *nochiu* in Basque, although its meaning "desire" is contained in the verb *nai*. It answers to the Japanese *nozo-mu*, desire, wish for. The Japanese verb corresponding to *nai*, *nahi* is *negau*. In Basque the auxiliary *kian* follows the verb as in *n-eraius-kian*, the 1st sing imp. ind. of *eraius*. Here it is attached to the pronoun.

ohi rano, in Etruscan *oba rano*. The word *ohi*, *hohi* means a grave, and forms *obi-ratu*, bury. The Choctaw has the simpler form *hoppih*, bury. The postposition *rano*, towards, also occurs as *ra*, *rako*, *rukano*, *runoku*. In Japanese it survives in an old form *gu-ri*, towards.

banaiz eragin : *banaiz* is now a modified 1st sing. pres. ind. of *naiz*, meaning "if I am." As I have already stated, the Etruscan employs these forms constantly in a categorical sense. The verb *eragin* is the present Basque equivalent of *ANE*, but see what I have said of the two Etruscan verbs *FE*, *egin*, and *NE*, *kane* : note 49a.

¹¹² Lines 5-8. *mui*, the regimen of *eragin*.

albo azpi ini go : the Basque *albo* was *albe* in Etruscan, and is the Choctaw *alapa*, side. The postposition *azpi*, often *be* or *pi*, means under, but here must rather signify on. The verb *ini*, probably *mi* in Etruscan, is in Basque *imini* or *ipini*. It probably survives in the final *mi* and *mu* of Japanese derivative verbs, as in *tsuka-mu*, to grasp, from *tsuka*, a handle, *ina mu*, to refuse, from *ina*, no. These will thus mean "to place a handle, to place a no," which are thoroughly Etruscan idioms. The Choctaw *mata*, *maiaehih*, to put in, is a form of *mi* or *imi*. Here the verb is participial, governed by *go*, the postposition "of."

agerrian banaiz : the first word means "à découvert" : for *banaiz*, see end of line 1-4.

ema autu ne kian : *ema*, now *eman*, give, makes *emaiten* in the infinitive, and *emak*, *bema* in the imperative. Here it is used as an infinitive. It is the Choctaw *imah*. The verb *autu*, now *auta*, *autetsi*, *hautatu*, is separated from its auxiliary *kian* by the relative *ne*, which modern Basque preserves as final *a* or *en*.

mai ne naga : *mai* is in the dative "to *ne*," the postposition to, in. The following *naga* is the Etruscan original of the Basque *nagatu*, detest. Van Eys says: "Ce nom. verb. doit dériver de *naga* ou *nazka*, que ne se trouvent pas." It is the Japanese *niku-mu* and the Choctaw *nuk-killih*. Here *naga*, or in Etruscan *nago*, is in the infinitive to *autu*, or may form a compound verb with the following *eritsi*, like *oneritsi*, to esteem, *gaitzeritsi*, hate.

eritsi aginza mui ekarri : *eritsi* is here infinitive in form.

¹¹³ Lines 9-12. *eritsi utsa baki ne* : the two Basque words *utsi*, to leave, and *utz*, empty, appear to have had a common origin. The Japanese *ochi*, *ochiru*, to fall, fail, leave, decline, is evidently the same word. Here the meaning of *utsa* is "he fails," which in Basque would be *utségin da*. In Etruscan apparently *utsi*, to fail, dispensed with the auxiliary, and in the 3 sing. pres. ind. became *utsa*. The preceding *eritsi* is in the infinitive to *utsa*. The following

- 13-16. VMICM · ASVNAM · AENONA · AMAFELOINA · A8VN ¹¹⁴
 bemiuchino ralapikarano banekamakara ramira aginsa maukara
 ralapika
 beimi oyeche no Ralapika rano bane gomu ekarri eramira aginza mai
 ekarri Ralapika
 subject these of Ralapika towards united memory bring causing to
 see offering tablet bringing Ralapika
- 17-20. OVPVNI · EIN‡EPIVNACLA · OILOVNI VLLOL · IL · CA ¹¹⁵
 mabetubekau neuka ichentuube kara chigora mauasmabekago
 pisamasa ugo chira
 ambat begai nayago etsainta obe ekarri zigor mai asma begogo Pisa
 emaitza uko ezarri
 great regard I desire inimical chief to bear scourge tablet meaning
 regarding Pisa gift refusal throws

bek *ne* or *baki-ne* I read as a form of the Basque *baki-datu*, communicate, the final *ne* being the postposition "to." The sense would be clearer could VNE be read VYE, *bekune*, which is the Etruscan for only, alone: "one only fails to honour."

jabe tobe kian aintzi; *jabe*, Etruscan *kobe*, is here used as a plural without sign, as in Japanese. It is governed by *tobe*, a purely Etruscan word, answering to the Basque *bidean*, in place of. It may be a compound of *toki*, place, and *be*, under. In Choctaw *ulh-tobah* means in place of. The auxiliary *kian* precedes the verb *aintzi*, now *ainzindu*, *aitzindu*, devancer, prévenir.

bakine etsuin ra ichpichio: here *bekane* or *baki-ne* means to communicate. The following word, ‡E, should, according to Front of Cippus, line 16, be ‡M, unless it be a different word of like signification. It means to oppose, and the following *ra* euphoniously takes the place of *ne*, to.

nekian nochiu: for *nochiu* see line 1. The relative *ne* is probably omitted to avoid the repetition of the same sound. Therefore *nekian* may be translated "which I did."

Romi, now *Erroma*: the Basque form exhibits the peculiarity of that language as compared with sister tongues, which I have illustrated in my papers as the Khitan languages, namely, the prefixion of vowels to many words whose original initial letter was a consonant. There is no evidence that the Etruscans did the same. The Cippus evidently belongs to a period when Etruria, although maintaining its ancient constitution, was in recognized subjection to Rome.

¹¹⁴ Lines 13-16. *bemi oyeche no*: the present Basque words for subject are *mendeko*, *botoya*. This *bemi* is a compound of *be*, under, and *imi*, to place, meaning the same as *subjectus*. In Basque *oyechek* is "even these," and *oyechen* "of even these." The Etruscan genitive is marked by the stronger *no*.

Ralapika rano, towards Ralapika. This is the name of the Lucumo, probably a native of Perusia, in whose honour the Cippus was erected. Etruscan proper names, like the Basque and American Khitan, seem to be significant. I leave the determination of their meaning to Basque scholars. The name may read *Aralbeka*.

bane gomu ekarri; *bane* is the abbreviated form of *banetu*, answering to the Basque *batu*. The Etruscan *gamu* represents the *gomu* of the Basque *gomuta*, remembrance. Compare Etruscan *gago* and Basque *gogo*. The verb *ekarri* is used participially.

eramira oginza mui ekarri: the only word to note is *eramira*, which is not modern Basque. It is, however, regularly formed by prefixing the causative *era*, as in *eraman*, *erakarri*, to the verb *mira*, *miratu*. *Ralapika* is in the genitive of position to *ambat begai*.

¹¹⁵ Lines 17-20. *ambat begai*: Basque lexicographers suppose *ain* to be the root of *ambat*. It is more probable that *ain* is a corruption of an original *am*, for the Basque is hardly tolerant of the letter *m*, save at the beginning of a word. In Japanese *omoi*, meaning weighty, important, great, seems to present the same root. As *ambe*, the Etruscan uses the word to represent

21. CELA†ILVLE¹¹⁶

chingora ich ugo begone
chingar etsaigo beko ne
spark enmity of prince to . .

Front of Cippus.

I. EVLNY · YA · NNA · LAPE†LV¹¹⁷

nepisakaku kura kakara saratu ne ichsa be
ni Pisa gogo gure kakara zarratu ne itsas be
I Pisa's mind desiring states writing to adhesion under

the adjective great. Here, as in Basque, *ambat* seems to mean "so much, how much." The following *bugai* is Etruscan, not Basque, which has the verbs *begiratu* and *begistatu*, meaning to regard. It is evidently a noun, signifying regard, esteem.

nayago etsain a obe ekarri zigor: *nayago* is a comparative of *nai*, meaning "rather desire," or "prefer"; the pronoun *ne* is omitted, perhaps because the word in Etruscan begins with *ne*. The verbal adjective *etsainta* I do not know in Basque, but *etsain-tasun* is the noun "enmity." It is spelt in this place as in lines 9-12, †E. The noun *obe* means literally "better," and in its use answers to the Greek *aristeus* and Latin *optimas*. In the Evgubine Tables it frequently replaces *jabe*. The verb *ekarri* is in the infinitive to *nayago*, which also governs *obe*. The last word, *zigor*, was probably *zigo-a* in Etruscan.

mai asma begogo: *asma*, signification, governs *mai* in the genitive by position. This genitive of position is not uncommon in Japanese, and is the usual form in Choctaw and many other Khitan languages. The verb *begogo*, Etruscan *begago*, is not Basque. It seems to be a compound of *gogo*, the mind, rather than of *begi*, the eye, and to mean considering. It answers in signification to the Basque *behatu*, the *be* of which is doubtless the *be* of *begogo*.

Pisa emaitza, in Etruscan *emats*: *Pisa* is governed in the genitive by *emaitza*, which is governed in the same way by the following, *uko*, refusal, denial.

ezarri; thus I read CA, which characters often stand for *zeru*, heaven, and for an Etruscan word, the nearest to which in signification is the Basque *jarri*. Here the sense calls for a verb meaning to place or throw, both of which significations are included in *ezarri*. It is here conjugated without regular auxiliary, and following the analogy of *ekarri*, should be *ezâr*.

¹¹⁶ Line 21. *chingar etsai go beko ne*: *chingar*, in Etruscan perhaps *chinggora*, means, a spark. The initial *chi* may represent *su*, fire, which appears in the Lesghian dialects as *zi*, *za*, *zo*. The Japanese word for fire is *hi*, and *hinoko* is a spark. But the same language preserves *su* as a word for fire in *subitsu*, the hearth, *sumi*, charcoal. The noun *etsai* now means an enemy, and *etsaigo*, enmity. There is no doubt, however, that the word should be read *etsai go*, of enmity, because its regimen *chingar* precedes it, and thus demands the postposition.

The word *beko* followed by the postposition *ne*, to or in, is not Basque. It appears in a Celtiberian inscription in the form *Roma beka*, replacing *Roma jabe*. It must, therefore, be an Etruscan and ancient Basque word for prince, connecting with the present *behoki*, which Van Eys renders "front, audace." It is the same word as the Japanese and Choctaw *miko*, a prince, chief or governor. Immediately above it in the Choctaw dictionary appears *mika* or *bika*, both answering to the Basque *biya* or *miga*, two.

¹¹⁷ Cippus of Perusia. Front, line 1. This line is defaced in the part of the first group which I have restored as LN, and in the end of the last group where I read LV.

ni Pisa gogo gure. The *ni*, I, is at once the subject of the participial *gure* and the verb *agerrikatu* in the second line. *Pisa* is in the genitive of position to *gogo*. The word *gure* is used as a participle, desiring, and governs *erimini* in the next line in the infinitive.

kakara, the states, without sign of plurality, has been referred to in lines 1-4, left side. It is in the genitive of position to *zarratu*.

zarratu ne itsas be: *zarratu* is employed as a noun in the dative to *ne*. In Basque *itsaskor*, from *ich*, means adhering. In this place *itsas* is used as a noun and is governed by *be*, under, the whole signifying "under adhesion."

2. AMEFALDLAVYN · FELOINAM · E¹¹⁸
 eramine ager gotu sarabe kuka aginsa maukarano ne
 erimini agerri katu zarrapo egoki aginza mai ekarri no ni-
 cause to place declare writing suitable offering tablet bringing of I
3. MYLAA8VNAMSLELEI.EOCAPV¹¹⁹
 nokusaralapakaranonosanesanesanemachiratupi
 -on ikusi ra Ralapika rano nas antsa antsa ne ema jar tobe
 him did see cause Ralapika towards together caring care to giving
 attention instead of
4. YE†ANSVMLEPIYESNMVEIM¹²⁰
 kuneichrakalabenosanetuukunenokanokuncuno
 gune itcherik albo nas nituo gune noku naga ne on
 us to adhering side together I to them do us to failing hates who good

¹¹⁸ Line 2. *erimini agerrikatu zarrapo egoki*. The verb *erimini* is not Basque, but it is regularly compounded of the causative *eru* and *imini*. It is in the infinitive to *gure*. The following *agerrikatu* should perhaps be *igorri-katu*, send, which will remove the syntactical difficulty of leaving *zarrapo egoki* without a governing word. Neither *agerri-katu* nor *igorri-katu* are Basque words, but *katu* is a common termination of Basque verbs, as in *igeri-katu*, to swim. Etruscan *zarabe*, Basque *zarrapo*, scratching, writing, is used as a synonym of *zarratu*. The Choctaw verbs to scratch are *shulufih*, *kalufih*. YN is always the Etruscan form for *egoki*.

aginza mai ekarri no, has appeared so frequently as to need no further explanation. The final *ni* belongs to the next line.

¹¹⁹ Line 3. *nion ikusi ra*; *nion* is good Basque, "I it to him did." The following *ikusi ra* is an inversion of *erakusi*, cause to see, instruct. I know of no corresponding Basque form of *ikusi*, but *ikasi*, to learn, becomes causative not only as *erakasi*, but also as *ikasarazi*.

Ralapika rano, needs no further explanation.

nas antza antza ne; *nas*, Etruscan *nosa*, *nasa*, is still employed in one Basque dialect to mean together. It is evidently a compound word, as the Japanese represents it by *isho-ni*. The following *antza* repeated superlatively I cannot explain. The usual form of *antsi* to care for is EC, and here the word is plainly in the infinitive to *ne*.

ema jar tobe: here *jar* and *eman* come together as in the Basque word *jaramon*, faire cas de, faire attention. It seems to be used participially as "giving attention." The adverbial postposition *tobe*, instead of, has been considered.

¹²⁰ Line 4. *gune itcherik*: *gu* was the Etruscan pronoun, we, as it is the Basque, but in the dative it takes *ne* instead of *ri*. In some of the sepulchral inscriptions appears the long form *itcheirikik*, from *itcheiki*, to hold to, adhere. The final *rik*, of which *r* is for euphony, forms partitives and ablative absolutes. Here it seems to form a verbal adjective, adhering.

albo nas nituo; *albonas* is in this place used as a compound verb with the auxiliary. The Etruscan had a pronominal form of *dut* in *nio*, answering to the Basque *diot*, as well as one in *nau* agreeing with the Basque *nau*. This *nio*, I to him do, is here in the plural of the regimen, *nituo*, I to them do, which answers to *nio* as *naute* does to *nau*.

gune noku naga ne; *gune* is the pronoun "we" in the dative. The following *noku* has for its subject the *ne*, who, following *naga*. It survives in Basque as the noun *noku*, defect, and seems the same as the Japanese *nai*, *naku*, which with the auxiliary *naru*, means, to fail. In Etruscan it was *noka* and took rank as a verb. Here it should be in the 3 sing. pres. ind. without auxiliary. Its neighbour *naga*, in Etruscan *noku*, means, as has already appeared, to hate or oppose. It also is in the 3 sing. pres. ind. without auxiliary. The final *on*, in Etruscan *ono*, the adjective "good" belongs to the next line.

5. PAMNEMI/AAAMABIENNA/ÆP¹²¹
 turano kaneno ubaramira ulne kakara banetu
 Turano ganaino obi ra eramira Alin kakara banetu
 Tyrrhenia towards grave to cause to see Dominion states united
6. XII · FELOINAOVPAMAPAM/ÆE¹²²
 xii aginsa mau karamapi turano ratura no bane
 12 aginza mai ekarri ambe Turano ardura no bane-
 12 offering tablet to bring great Tyrrhenia care of uni-
7. DAMCEMVLIMLESCVLꝞVCIEN¹²³
 turano chine mipisa misane nochipisa ichpi chi oneka
 -tu ra aintzin imi Pisa imi ezan nauche Pisa ichpichio ne ki
 -on to warning places Pisa place refuse he myself does Pisa contri-
 bution I

¹²¹ Line 5. *Turano ganaino*: the Greco-Latin form Tyrrheni, and the Umbrian form Tarsin-ater indicate that the Etruscan word was Turaan rather than Turano. It is very probable that the word is the same as that Turan which has given a designation to the greater part of the human race, the Turanians. In his history of the reign of Feridun, Mirkhond, the Persian historian sets forth Turan as embracing Chin, Machin and all the lands of Turkestan, that is, the countries north and north-east of Persia. Sadik Isfahani, in a geographical treatise, says that Turan extends from the Oxus to the extremity of the east, and northwards to the regions of darkness. The name Turan did not designate any one people, but was applied generically to many allied tribes or nations. The same word is probably found in *druna*, a gloss of Hesychius, who makes it equivalent to the Greek *arche*. Mr. John Fraser, in his "An Etrusci Celtæ?" appropriately compares this word with the Tyrrhenian name and with the Greek *turanos*. The latter word has been derived from *koiranos*, but it is very probable that the Greeks picked it up in Asia Minor from the Hittite aborigines. The derivation of *druna* I have already suggested as being from the Basque *iturri*, source, fountain head. The Etruscans were the western Turan. The compound postposition *ganaino*, in Etruscan *ganeno* or *ganean*, now means as far as, but in Etruscan seems to have meant simply towards.

obi ra eramira: *obi* has appeared already (Left Side, 1-4), and *ra* needs no explanation. For *eramira* see Left Side, 13-16.

Alin kakara banetu XII, the 12 united states of the Dominion. The modern word for power, dominion, is *almen*, and this I have found in a Celtiberian inscription. In Etruria *alin* takes its place. Then follow the lost *kakara*, state or states, and *banetu*, united, the equivalent of the Basque *batu*. These 12 united states constituted *ono Turaan*, good Tyrrhenia.

¹²² Line 6. *ambe Turano ardura no*: *ambe* means great in Etruscan. See note on *ambat*, Left Side, 17-20. *Turano* is governed in the genitive of position by *ardura*, a Basque word meaning care, which is itself governed by the postposition *no*, of.

bane belongs to the following line.

¹²³ Line 7. *baneru ra aintzin imi Pisa*: *banetu* is employed in this place as a noun, the union, and is governed by *ra*, to, towards. Also *aintzin* is a noun which means warning. But its composition with *imi* is precisely that of the Japanese to which I have referred in notes on Left Side, 5-S. *Pisa* was not one of the twelve states: Pignotti, Storia di Toscana, T. 1, p. 12.

ezan nauche Pisa; *ezan*, now *ez*, *eza*, is here a verb conjugated with *dut*. The compound auxiliary *nau* is the Basque "he me does." The final *che*, self, qualifies the *ni*, and serves to denote the double action of *Pisa*: "it warns the union and refuses myself"

ichpichio nekian nochiu. See Left Side, 9-12.

8. ESCIE/ALYVLAPV¹²⁴
 nenochiu neb asakupisaratube
 -an nochiu nabusi jabe sari tobe
 did request master lord rewarding instead of
9. AVLEMI · FELOINAMAPꞤNALCI¹²⁵
 rapisanenou aginsamai karano artu ichkarasachisa
 arrapatzen nau aginza mai ekarri no artu itchekiri so chitsu
 accuse me he does offering table bringing of to receive adherents
 regard precedence.
10. ENMI · OII · OILMCVNA · CENV · E¹²⁶
 nekanou mata mausanochipikara chinekabe ne
 neke nau emat mai asantsipikor zein gabe na-
 fail he me does to give tablet to erect contribution which without
11. /ALC · SELICLAPOALMASVNEM¹²⁷
 basachi lanesauchisaratumarasanoralapikaneno
 -busitze lanesa hitzzarratu mara asan Ralapika nen
 command workman word to write monument erected Ralapika to

¹²⁴ Line 8. *nabusi jabe sari tobe*: *nabusi*, in Etruscan *nebusa*, is an old Khitan word for master. It occurs in the long Phrygian inscription in Texier's "Asie Mineure," T. II., p. 157, the first group in which is not Kelokes, as it has been read, but *utzi nabusi utzi nion*, "lost master, I have lost him." It appears also in the Hittite inscriptions, Hamath I., II., IV. in the group I incorrectly read *tu basanesa sara*, which should be *nabusinesa zari*. Another Basque form of *nabusi* is *nausi*, answering to the Japanese *nushi*, master. The conjunction "and" is omitted between *nabusi* and *jabe*, which present the Japanese order. The word *sari* is employed as a participle, meaning "honouring" rather than "rewarding." It now means reward, and *saristatu* is to reward. The adverbial postposition *tobe*, instead of, governs *sari*.

¹²⁵ Line 9 *arrapatzen nau*, in Etruscan probably *arpetzen*: *arrapatzen* means literally to seize, but here signifies to accuse. A somewhat analogous case is *iratcheki*, meaning "attacher, joindre," but which in *iratchekitzen nau* signifies "il m'en veut."

artu itchekiri so chitsu: the verb *artu*, to take, receive, is one of the commonest occurrences in the Eugubine Tables. With *itchekiri* compare the attributive *itcherik* in line 4. The Etruscan equivalent for the Basque *gile, ille, gille* is *sa*, as in *lanesa*, workman, *zekesa*, muggard. This leads me to ask if the word in this group be not *itchekirisa*, he who adheres, an adherent, that is, to the confederacy, rather than *itchekiri so*, the regard of the adherents? The final *chitsu* I read as precedence, from *chitcea*, précéder, a word of Lecluse.

¹²⁶ Line 10. *neke nau*, he fails me; *neke* is not the same word as *noku* in line 4, although they agree in signification. It is the Basque *neke*, travail, peine, *nekezi*, disette, *nekatu*, se fatiguer, the original meaning of which seems to have been privation, failure.

emat; the form OII appears in the Eugubine Table I. a, lines 21, 25, and elsewhere, but with auxiliaries. Here it is an intuitive, governed by the preceding verb.

mai asantsi pikor, in Etruscan *pikara*: *asantsi* I find in Lecluse as *asantateca*, maçonner, *asantua*, mur, muraille. The *as* must be *aitz*, a rock, used instead of *harri*, stone. This *aitz* is the Japanese *ishi*, a stone. In *pikor* or *pikara* we have a synonym of *ichpi*.

zein gabe, without which, namely, the *pikor* or contribution.

ne belongs to next line.

¹²⁷ Line 11. *nabusitze*: the pronoun *ni* is wanting, probably because *nabusitze*, really *nebusitze*, begins with E. As Lecluse says (p. 103): "Tout mot basque, nom, pronom, substantif,

12. CLENOVN.LVLOE¹²⁸

chisane kamabe kago pisamane
 zazu neke ambe gogo Pisa eman
 have you inability great mind Pisa to give

13. SALAM · JIEM8VMLE · FELOINA¹²⁹

larasarane gounemialpenosane aginsamaukara
 lurrez rano goye ni imi albo nas ne aginza mai ekarri
 grave towards word I place side together to offering tablet to bring

14. BINOACALEMVNICLEYMASV¹³⁰

ulukamaerchirasaniemipi kauchisanekumiranobe
 al auka ema eritsi ra esan imbe kio zazu naiku mira nabe
 Lucumo honour to saying send he does have you desire admiration to
 extend

adjectif, particule quelconque, peut se convertir en verbe en ajoutant *tea* ou *cea*, selonque le mot est terminé par une voyelle ou par une consonne; exemples:

<i>bai</i> , oui	<i>baitcea</i> , affirmer
<i>aita</i> , père	<i>aitatcea</i> , devenir père

Thus *nabusi* makes *nabusitcea*; but the final *a*, representing the article, has no place in Etruscan. It is better to adhere to one mode of orthography; therefore I take the *itz* of Van Eys rather than the *itce* of Lecluse.

lanesa, now *langille*: see note on line 9 for *sa* as the Etruscan termination denoting an agent.

hitz zarratu mara as-n Ralapika nen: *hitz*, word, is governed by *zarratu* which is in the infinitive to *nabusitze*. The common sepulchral *marakara*, *maragogo* is reduced to *mara*, a monument. In *asan* I find an abbreviation of *asantsi* in line 10. The postposition should follow *mara*, but is carried to the end of the clause and follows *Ralapika*. This postposition *nen* in Etruscan seems like a combination of *ne* to, and *no*, of. It answers to the *naino* of *ganaino*. In the Euboean Tables it is found after names of places as in *arten banion Arretiaj neno*, and thus appears to mean "into."

¹²⁸ Line 12. *zazu neke ambe gogo Pisa eman*: *zazu*, in Etruscan *zezu*, 2 pl. imperat. of *dat*. With *neke* it may read "fail ye," or "have ye inability." The only point of grammar to note is the absence of the postposition *ne* after *Pisa*. This detached passage, perhaps a quotation, seems metrical, a dissyllabic hexameter, so that poetic license may account for the missing *ne*.

¹²⁹ Line 13. *lurrez rano*: *lur* still makes *lurrezko* as well as *lurreko*, of the earth, terrestrial; but here *lurrez* is employed as a synonym of *obi*, the grave.

goye ni imi; *goye* in Lecluse is conversation. In Japanese it is *kojo*, a verbal message. The following *ni* is the pronoun I, which accompanies the verb *imini*, to place, in an Etruscan form identical with the root, but which may, by a trifling change of the second vowel, have represented the 1 sing. pres. ind. without auxiliary.

albe nas ne: *albo nas*, see line 4; *ne* is the postposition *to* used as infinitive sign.

¹³⁰ Line 14. *Alauka ema*: the translation is literally "power choice given," probably meaning "the elected potentate." In Basque, choice is *auta* or *aukera*: in Etruscan it seems to have been *auka*. This is the *Lucumo* of the Roman writers. The groups which I read *alkamane* in the Hittite Inscriptions, Hamath I. II. and which I translated "I the powerful," may represent this ancient title of authority. The *Lucumo* is *Ralapika*.

eritsi ra; infinitive.

esan imbe kio; *esan* is the present participle, which is really the radical part of the Basque verb. See Max Müller, Science of Language, 2nd Series, Lecture I.; also Lecluse, Manuel de la Langue Basque, p. 63, for the analogy of the English "I am saying, I do say" with the

15. NA/EPMPANC†LOIISALMYI · F¹³¹
 karabanetu noturaka chiichsamatarasanokuu ag
 ekarri banetu ondoreak chiotssa emat lurreznokoi ag-
 to bring uniting descendants let them to him give tumulus
16. ELOINABVY · NA/1EP · AENE†M¹³²
 nesamaukarauipiku karabanetu banekaneichno
 -inza mai ekarri al beko ekarri banetu bane kian etsain
 offering tablet to bring powerful lords to bring uniting to join he did
 oppose

Basque use of auxiliaries. Celts who speak English imperfectly frequently employ the present participle with the verb substantive instead of the direct present. The verb *imbe* is not Basque, but in Etruscan regularly takes the place of *bialdu* and *irion*. It occurs very often in the Engubine Tables, and in every case satisfies the sense in this signification. If it be allowable at this stage to suggest etymologies, I would be disposed to see in *imbe* a compound of *imi*, *imini*, to place, and *bide*, a way. In Chortaw *pi* as a radical denotes a way, as in *pimma*, that way, *pillah*, away yonder. The same language renders the Basque *ibilli*, march by *bai-ullih*, of which the latter part is the verb *ulak*, to come. The Basque *ibilli* may by analogy be regarded as a compound of *el*, *eldu*, to come, and a primitive *ib*, *bi*, *be*, the root of *bide*, a way.

The final *kio*, in Etruscan *kau*, is the 3 sing. pres. ind. sign of verbs conjugated without auxiliary.

zazu naitu mira nabe: for *zazu*, see line 12. *EY*, *neku*, *negu* is the commonest form of *nai*, *nahi*, in Etruscan; it agrees with *zazu*. Of the two following words one must be a noun and the other a verb, but their simple forms do not indicate which is one and which the other. In Basque *mira* means astonishment; but it should rather be admiration. The word *nabe* means a plain in Basque, and *nabari* means to perceive from afar. In Japanese *nobe* and *nobara* designate a plain or moor, but *nobe*, *noberu*, *nobashi* mean to extend, stretch, lengthen, reach out. In this passage *nabe* may mean to extend, or *mira nabe* may be a compound word denoting wide or extensive admiration. The chief objection to the latter reading is that it places the adjective after the noun.

¹³¹ Line 15. *ekarri banetu*, uniting to bring.

ondoreak: it is rare to find M and S representing initial *on*, *un*, which generally require a prefixed I as in IS *ono*, good. In a Celtiberian inscription, however, I have found MP for *ondo*. This *ondo*, though perhaps modelled upon the Spanish *hondo*, deep, is a genuine Basque word. In Japanese it is inverted as *ato-ni*, with the significations after, behind, posterity, descendants, remains, ruins. This Japanese *ato-ni* is to *ondo* as *issho-ni* is to *nae*. The Circassian *yeytahney*, after, agrees with the Japanese *ato-ni*. It is most improbable that a loan word should have so many compounds as *ondo* has in Basque.

chiotssa emat: I do not know *chiotssa*, or more correctly *chiichsa*, as a Basque pronominal auxiliary. He them to him does, is *diozta*; they it to him *de*, is *cioten*; and let them do, is *bezate*. I suppose *chiichsa*, *ciotssa*, *ciotssa*, to be a compound imperative, "let them to him do." For *emat*, see line 10.

lurreznokoi: *lurreznokoi* and *maranokoi* have appeared in the short inscriptions. I have queried *koi* as answering to the Japanese *koya*, a small house or chamber. Thus *lurre* has virtually two genitive signs like the Basque *lurrezko*. An earthen chamber must be a tumulus, the common mark of honour to the dead among the Khit', as seen in the Pictish barrows of Britain, and the mounds of Siberia and North America.

¹³² Line 16. *aginza nai ekarri al beko*: *al* is probably here used as an adjective, powerful, rather than as a noun denoting the Dominion in the genitive to *beko*. For *beko*, see notes on Left Side of Cippus, line 21. It must be in the plural without sign.

ekarri banetu, uniting to bring.

17. MASV · ACNINA · CLEL · ASVNAFEL¹³³
 miranobe rachikaukara chisanesa ralapikara aginsa
 mira nabe eritsi kio ekarri zazu antsa Ralapika ra aginza
 admiration to extend opinion he does bring have you care Ralapika
 to offering
18. OINAMLEPINA · INYEMAME¹³⁴
 maukaranosanetuichukara ukakunemiramine
 mai ekarri no izanda etsai ekarri uka gune mira imini
 tablet bringing of perhaps enmity it brings refuse us to consideration
 to place
19. P · CNL · FELOINA · IANAYENE¹³⁵
 tu chikasa aginsamaukara ichurakaragunekane
 du zekesa aginza mai ekarri etsai erakarri gune kian
 he does niggard offering tablet to bring enmity cause to bring us to
 he did
20. YESNE · ESA · FELOIANOV DAMO¹³⁶
 kunenokane nenora aginsamaurakamapituranoma
 gune noku ne ni narri aginza mai rako ambe Turaano ema
 us to fails who me incites offering tablet towards great Tyrhenia
 gift

bane kian etsain: *bane* for *banetu*, to join; *kian*, 3 sing. imp. ind. of verbs conjugated regularly, united with *etsain*. I cannot account for the difference of form in *etsain*, here !M, and on Left Side 9-12, 17-20 !E. Judging by the context they are the same words.

¹³³ Line 17. *mira nabe*: see line 14.

eritsi kio ekarri: *eritsi* or *eritzi* is here, as in Basque, a noun signifying, opinion; *kio ekarri*, he brings.

zazu antsa: for *zazu*, see line 12. Here again is *antsa* instead of *ansi*, care.

Ralapika ra aginza mai ekarri no, of bringing a tablet of offering to Ralapika.

¹³⁴ Line 18. *izanda etsai ekarri* or *akar*: *izandaite* (Lecluse), perhaps. For *etsai*, see Left Side, line 21. The defective Etruscan syllabary marks no distinction between the participle *ekarri* and the 3 sing. pres. ind. *akar*, now *dakar*.

uka gune mira imini du: *uka* is the verbal form, now *ukha*, *ukatu*. The substantive form is *uko*, Left Side 17-20. The auxiliary of *uka* is at the end of the sentence, *du*, he does. The pronoun *gu* is in the dative, to us. In this case *mira* is a noun, regard, consideration. The verb *imini* is in the Etruscan infinitive; otherwise *imi* would suffice.

¹³⁵ Line 19. *zekesa* is formed from *zeken*, *cheken*, stingy, penurious, by replacing the final *n* with the Etruscan mark of agency *sa*. See *lanesa*, line 11. It is here vocative.

etsai erakarri gune kian: *erakarri*, cause to bring, *kian*, he did, *gune*, to us. Perhaps Pisa persuaded some of the minor powers to refuse contributions.

¹³⁶ Line 20. *gune noku ne*, to us who fails.

ni narri: the Etruscan has the same form of the pronoun E, *ni* or *ne* for the nominative and accusative, but oblique cases change it to S, *no*. The verb *narri* is now *narritatu*, incite, annoy.

aginza mai rako: *rako*, in Etruscan *raka*, is a synonym of *rano*.

ambe Turaano ema: *ema* for *emasa*, in Basque *emaita*.

21. AVPABELVYESNEDAMNECEI¹³⁷
 rapitura ulnesapikunenokaneturanokanechineu
 arrapatura Alin azpi gune noku ne Turano kian eznai
 accept to Dominion under us to fails who Tyrrhenia he did despise
22. YESNMYEIMDAMNEMLLIMOM/A¹³⁸
 kunenokanokuneunoturanokanenogoumimonoba
 gune noku naga ne on Turano ganaino goye imi ema no ba-
 us to fails hates who good Tyrrhenia towards word place giving of
23. ELOVYAMCVNAASVNAMEA¹³⁹
 nesamabekuranochipikaralarapikaraminekara
 -nais ambe gure aintzi pikor Ralapika ra min ekarri
 I am very desirous to inform contributions Ralapika to grief bringing
24. BEN · NA/AEP · CICONLBAPEVYVME¹⁴⁰
 ulneka karabanetu chiuchikasaulartunépikupinone
 Alin ka ekarri banetu chehe zekesa abal arten bu jabenen
 Dominion by to bring uniting little niggard contempt receive does of
 the lords

¹³⁷ Line 21. *arrapatu ra*: *arrapatu*, in Etruscan *arpetu*, *erpetu*, is often used as a synonym of *artu*, to hold, receive. The *ra* marks the infinitive to *narri*.

Alin azpi gune noku ne: *Alin*, the dominion, *azpi* under, *gune*, to us, *noku*, fails, *ne*, who.

Turaan kian eznai: there is a change of tense which I have elsewhere observed in Etruscan construction, but cannot account for. The preceding *noku* is in the present, while *kian* marks the past of *eznai*. As for *eznai*, literally, to wish not, it is not Basque so far as I know. An analogous form *ez-zeren artu* means, to despise. The Japanese forms verbs of contempt and dislike with *iya*, the equivalent of *ez*, such as *iyagari*, *iyashime*. The Choctaw does the same with *ik*, *ikahninchoh*, *ikalobutoh*.

¹³⁸ Line 22. *gune noku naga ne on Turaan ganaino*: for this peculiar construction see line 4. *goye imi ema no*: for *goye imi* see line 13; *ema no*, of giving.

¹³⁹ Line 23. *banais ambe gure aintzi*: for *banais* = *naiz*, see Left Side 1-4. The following *ambe*, great is an adverb qualifying *gure*, very desirous. This *gure* governs the preceding clause, *goye imi ema no*, and on the *goye imi* depends *aintzi*, to warn or make known.

pikor Ralapika ra min ekarri: for *pikor*, contribution, see line 10. The Basque *min*, Etruscan *mine*, means grief, pain, and desire. This must be read: "the contributions bringing (testifying) grief to Ralapika."

¹⁴⁰ Line 24. *Alin ka*: *ka* is the postposition, by. Thus it reads: "By the dominion, *ekarri banetu*, uniting to bring, *pikor*, &c., contributions."

chehe zekesa: for *zekesa*, see line 19. The preceding *chehe* means little, a synonym of *chipi*. In Etruscan *chipi* is used in a good sense, *chehe*, in a bad.

ahal is the same in form as *ah*, *ahal*, power, but here, as in the Eugubine Tables sometimes it signifies shame, contempt, being the radical of the present *aha'ge*.

arten bu jabenen: the verb *artu*, *artzen*, is here *arten*, the Etruscan equivalent of the latter. The accompanying auxiliary is Etruscan *be*, but I have represented it by *bu* as that 3 sing-imperative form is the only one in Basque which preserves the old synonym of *du*. The Etruscan has *beno* or *pino* for "he did," answering to the modified imperfect *banu* in Basque. The form of *banu* or *beno* in the present tense in Etruscan was *be*. *Jabenen*, in Etruscan *gubenone*, is the genitive plural.

CLOSE TRANSLATION OF THE CIPPUS OF FERUSIA.

Left Side.

For bringing a tablet of offering I requested the contributions of the accordant states, *saying*: I am causing a tablet to be made towards the grave, *and* on the side I am giving information, as to who chose to bring disesteem to the tablet of offering. Only (one) fails to honour. Instead he warned the lords to oppose to communicate the contributions I requested. Of these subjects of Rome bearing united memory towards Ralapika, bringing a tablet of offering causing to be seen *their great regard* for Ralapika, I desire the inimical lord to bear the scourge, considering the signification of the tablet. The refusal of the gift of Pisa throws the spark of enmity at the prince.

Front.

I, desiring to cause the mind of Pisa to be placed under adhesion to the writing of the States, declare *by* suitable writing *the intention* of bringing a tablet of offering. I instructed him (the ruler of Pisa) together caring (testifying regard) to care for Ralapika, giving attention *to this, that* instead of *them* adhering to us I take part together with them. He who fails us shows enmity towards good Tyrrhenia, causing to be seen towards the grave the twelve united states of the Dominion.

Pisa gives warning to the Union of the care of great Tyrrhenia to bring a tablet of offering. To myself Pisa refuses the contribution I requested instead of honouring *his* master *and* lord. He accuses me of bringing the tablet of offering *in order* to gain the precedence of the adherents. He fails to give me a contribution to erect the tablet, without which I command the workman to write the word *on* the monument erected to Ralapika:

“BE YE UNABLE TO GIVE A GREAT SOUL TO PISA.”

I give word to take part together to bring a tablet of offering towards the grave to honour the Lucumo. He sends, saying: “Do you have the desire unitedly to bring an extensive spectacle, *but* let *his* descendants give him a tumulus.” He opposed joining the powerful princes uniting to bring a tablet of offering to extend admiration. He brings *his* opinion: “Do you have a care of bringing a tablet of offering; perhaps it brings enmity.” He refuses to pay us consideration, the niggard! Bringing a tablet of offering he caused enmity to be brought to us. He who fails us incites me to accept the gift of great Tyrrhenia towards the tablet of offering. He who under the Dominion fails us despised great Tyrrhenia. He who fails us shows enmity towards good Tyrrhenia.

I am very desirous of giving *command* to place a word setting forth the contributions bringing (testifying) grief towards Ralapika. By the Dominion uniting to bring *these*, the little niggard receives the contempt of the lords.

The following inscription is found in Lanzi, Vol. II., p. 438, No. xxiii., but is given with the emendations of Fabretti. It was

found in a tomb about two miles from Perugia, although the subject of the epitaph was a native of Sena :

TOMB OF SARAPIKUKA.

1. FEBEN · SVOI · BINOIV · OVEM · SIANM · EYFE · OAVDE ¹⁴¹

agin ulneka nobemau ulukamaube mapineno nourakano nekuegin marapitune
agin Alinka nabe mai Alaukama obe Ampineno nau rakone nauku egin
mara epaten

offered Dominion by extended tablet Lucumo lord Ampineno he me does
approach desiring to make monument to fix

2. LAVYNEMCLE · CADESDI · AVLEM · LAPIAL · ADECA · OVDAMI ¹⁴²

sarapikukane noehisane chiratunenotuu rapisaneno saraturasa batunehipi
mabeturanou

Sarapikuka ne aintzitzen jardun natiu arrapatzen no zarratu au eritza batu
inyubi ambe Turanoi

Sarapikuka to to present pay attention they me do taking of writing this
honours army beloved great Tyrrhenia to

¹⁴¹ Tomb of Sarapikuka.

Line 1. *agin Alin ka*: *agin* is the verb, to promise, command, offer, which forms *aginza*, offering. For *Alinka*, see Cippus of Perugia, Front, line 24.

nabe mai: *nabe* is here an adjective, extended, great.

Alaukama obe: for *Alaukama* see Cippus, Front, line 14; for *obe* see Cippus, Left Side, 17-20. The whole is equivalent to "the lord Lucumo," who is not in this case the subject of the inscription.

Ampineno or *Mabineno*, the name of the Lucumo.

nau rakone: the common pronominal auxiliary *nau* indicates that the postposition *rako* with the increment *no* has become a verb, meaning "he towards, or approaches me."

nauku egin: for *nauku* see Cippus, Front, line 14. *FE* may be *agin*, command, as well as *egin*, make.

mara epaten: for *mara* see Cippus, Front, line 11. The following *VDE* I read as the Basque *epaten*, fix a limit. If *mara* represent the modern *marra*, the two words will mean "to set a mark."

¹⁴² Line 2. *Sarapikuka ne aintzitzen*: *Sarapikuka*, the name of the deceased general, in the dative to *ne*. The verb *aintzindu*, to go before, seems in Etruscan to have assumed an infinitive form *aintzitzen*, meaning to present, combining *praesum* and *praesento*.

jardun natiu: the common Etruscan verb *CA*, *chira*, *zira*, more fully *CADE*, *chiratune*, *ziratune*, I have already referred to several times. It means "to pay attention to," and thus connects with the modern *jar*, attention. I am not aware that *jardun*, which generally means "to be occupied," ever conveys such a notion, yet as corresponding in form I have taken it to represent *chiratune*, which stands in this place for "compliment, do honor."

The auxiliary is the plural of *nau* in Etruscan, which in Basque is *nautc*. As in Basque *nuen* makes in the plural *nituen*, so in Etruscan *nau* made *natiu*.

arrapatzen no: in Etruscan *erpetzen no*, of taking.

zarratu au eritza: the construction is not clear. One would expect the infinitive *eritzi* rather than the indicative *eritza*. The demonstrative *au*, *hau*, this, must stand for the personal pronoun.

batuinyubi: in the Eugubine Tables *batu* is one of the commonest words and unmistakably denotes "an army." It is not found in Basque, but *painpots*, brave, *farfatzea*, strike, *botz*,

3. LADOLALISFLE · CESYNAL · CLENAPAMI · EO SANV · LAVYN¹⁴³
 saratumaursasano-agsane chinonokukarasa chisanekara turanou nema
 larakabe sarapikuka
 zarratu mai eritza on agisa ne Senanako sortze etsitzen ekarri Turaoui
 ni ema laragabe Sarapikuka
 written tablet honours good commander which Sena born honour to bring
 Tyrrhenia to I give (permission) Sarapikuka
4. APECVM · I/A · MVP†VA · CEDVDVM · EIN · BEC†DI¹⁴⁴
 batunechipino ubara mipituichpi ra chinetupitupimi neuka ulnechiichtau
 batu inyubi no obi ra imbetu ichpi ra Sena tobe tobe imi nayago Alin che
 itsatui
 army beloved of grave to send contributions to Sena instead instead to place
 I desire Dominion even adhering to
5. YVNV · CLVYFA · †ELVP * * * * p¹⁴⁵
 kupigabetu chisapiku ager ichensapitu * * * * tu
 jabe Sabetu etsitzbeko agerri _____
 lord deprived appreciative regard to manifest _____

butatu and *abaztorra*, drive away, repulse, seem to preserve the root *bat*. The corresponding Japanese word is *butsu*, to strike, whence comes *bushi*, a soldier.

The following word in Etruscan is *nechipi* or *inchipi*. It may answer to the Basque *nehabe*, a servant, or be a compound of *ansi*, as *ans ibe*, one who cares for, or represent *inyubi*, great desire. For the present I translate it as the beloved or darling of the army.

ambe Turaani: for *Turaan*, see Cippus, Front, line 5. The word is here in the dative without postposition to *arrapatzen*.

¹⁴³ Line 3. *zarratu mai eritza on agisa ne*: *eritza* is in 3 sing. pres. ind. agreeing with the relative *ne* at the end of the clause, its antecedent being *zarratu mai*. The Etruscan *agisa*, formed from *agin* as *lanesa* from *landu* and *zekesa* from *zeken*, is a synonym of the commoner *agintzari*, a commander.

Senanako sortze: Sena takes an additional *n* before the genitive *ko*; compare *Bayonako*, cf *Bayome*.

etsitzen ekarri Turaani: this presents what in Etruscan is an unusual form of *etsi*. It is Basque however. *Turaani* is dative as in line 2.

ni ema, I give.

laragabe is an enigma. It seems to be a negative expression composed of *gabe*, without, having the positive meaning, permission. In Basque permission is *baimen* or *zilhegi*. In the Eugubine Tables *menimi* represents *baimen*. Perhaps *laragabe* is literally "without opposition," but I do not know with what Basque word to connect *lara*.

¹⁴⁴ Line 4. *obi ra imbetu ichpi ra*: for *obi*, see Cippus, Left Side 1-4, and for *imbe*, Cippus, Front, line 14. This is the first appearance of the full form *imbetu*, which with *ichpi*, contribution, constitutes a compound verb, with *ra* as the sign of the infinitive.

Sena tobe tobe imi: for *tobe*, see Cippus, Left Side 9-12. The first *tobe* qualifies Sena; the second apparently forms a compound verb with *imi*.

nayago: see Cippus, Left Side 17-20. It has comparative power: "I prefer."

Alin che itsatui: the *che* means "even." The noun *itsatu*, here in the dative, shows the root *itsat* of *itsatsi*, *atztu*, hold, seize, but which in *itsaskor* means, adhere. Thus *itsatui* will mean, "to the adherents."

¹⁴⁵ Line 5. *jabe gabetu*: *gabetu* means deprived. Here it should signify departed. The Basque uses *zen* for late, defunct, answering to the Iroquois *kenha*. The Japanese *shini*, death, agrees.

CLOSE TRANSLATION OF THE INSCRIPTION ON THE TOMB OF SARAPIKUKA.

An extensive tablet offered by the Dominion the Lord Lucumo Ampineno approaches me desiring to make, to set up a memorial to present to Sarapikuka. They do me the honour of taking to great Tyrrhenia the inscription which honours the beloved of the army. The written tablet which honours the good commander I willingly allow Tyrrhenia to bring to show regard to the native of Sena. Instead of Sena I prefer to grant to the adherents of the Dominion to send contributions to the grave of Sarapikuka, the beloved of the army, to manifest *their* appreciative regard of the departed lord.

The last inscription I present is that on the leaden tablet of Magliano, which has been variously read by Deecke, Bugge, and Pauli. The text is apparently corrupt, and many characters are confessedly uncertain. The meaning, however, is evident.

THE LEADEN TABLET OF MAGLIANO.

Front.

1. CAVOAS · YVOIV · AFILS · LXXX · Eꝯ · JIMOM ¹⁴⁶
 chirapimarano kupimaube raagusano 80 neitch goumimami
 zeru pimo rano Kupima obe irago atsono 80 ni itech Goumimami
 heaven first towards Kupima lord passing age of 80 I thank Goumimami
2. CASOIALO · LACO · BEFN · AFIL · NENL · MAN ¹⁴⁷
 chiranomaurasama sarachina ulneagka raagusa kanekasa miraka
 jar no mai eritza ema — alin egi ka irago atso kian — miraka
 attention of tablet honours to give — authority exercising in pass age he
 did — seeing by

etsitz beko agerri: for *etsitz*, see line 3. I regard *etsitz* as an adjective, meaning appreciative, but only on the authority of analogy. *VY beko*, I suppose an abbreviation of *VNY begogo*, consideration, regard. Some such meaning seems to be required by the following *agerri*, to manifest.

¹⁴⁶ Leaden Tablet of Magliano: Front.

Line 1. *zeru pimo rano*: *zeru* Basque, heaven; Lesghian *ser, sur*; Japanese *sora*; Iroquois *karonkia*. The following *pimo* is the Etruscan one, here used as "first." *Kupima obe*, may be the lord of Kupima or lord Kupima, the living subject of the inscription.

irago atso no: the common formula for stating age, the *avil* of Etruscologists, which with *ril*, Niebuhr thought to be the only words satisfactorily translated. In Etruscan it is *irag* rather than *irago*. For *atso*, see remarks under Lanzi 46. The following *no* is the postposition of.

ni ūch: *ni* is the pronoun, I. The verb *itech* only exists in Basque with the significations shut, leave, and as the root of *icheki*, hold. I suppose an old meaning, to thank, as the root of *es-ker*, thanks, gratitude. The Japanese has *sha-kuru*, to thank.

Goumimami, the name of Kupima's colleague and successor, see lines 4, 5.

¹⁴⁷ Line 2. *jar no mai eritza ema*. Owing to the uncertainty and obscurity of the next group, I translate this one according to the analogy of the last group in line 4, the meaning of which is clear. It seems from it that *eritza* is an attributive or adjective form, unless it stands in the genitive of position to *mai*, when it will be a substantive.

3. MVPINAMIE · FALYAOI · AISEPAS · IN · ECS · MENE ¹⁴⁸
 mipituukaranoune agersakuramau raunoneturano uka nechino minekane
 _____ agerri askor mai irion ne Turano uka ni che no imini
 kian
 _____ manifesting joy tablet send to Tyrrhenia refusing I self
 of place did
4. MLAOCEMApNI · YVOI · YIV · JIMOM · CAOIALOI ¹⁴⁹
 misaramachinemiratukau Kupimau kuupi goumimami chiramaurasatnau
 misa erama zein miratu kio Kupimai koi bu Goumimami jar mai eritza mai
 monument to bring which show does Kupima to desire has Goumimami
 attention tablet esteem tablet
5. AO · MAPIML · MĒNIYLA · AFPS · CI · ALAO · JIMOM ¹⁵⁰
 rama miratuunos a minekkausara raagtuno chiu rasarama goumimami
 erama miratu au aintza men zahako zari irago du no sei urte erama
 Goumimami
 to bring to show this predecessor power besides chief pass does until 6
 years to bear Goumimami

alín egi ka, literally, by doing sovereignty, that is, in exercising authority.

irago also kian kasa miraka: *kian*, he did, belongs to *irago*. The final *mira-ka* means "by beholding," but probably forms an idiom with the untranslated *kasa*, signifying "rarely seen."

¹⁴⁸ Line 3. *mipituukaranoune*: the first part of the group is plainly *imbe*, send, or it may be *imbetu*. If *imbe*, then *tuu* is *dio*, he to him does. The sentence is obscure owing to the uncertainty of the last characters and the blanks I have been compelled to leave in the preceding line.

agerri askor mai: here also Y is doubtful. Also I question the propriety of reading LYA, *askora* which now means, joyous, but can suggest no better reading.

irauu ne Turaan uka: *irauu* means to continue, preserve, extend. The true equivalent of AIS is probably *irion*, to send. The *uka* following *Turaan* is the verb, to refuse.

ni che no imini kian; I of myself did place. Here *imini* means decide.

¹⁴⁹ Line 4. *misa erama zein miratu kio*: *misa* is a new word, unknown in Basque, but connecting probably with *mira* like the Japanese *mise*, an exhibition. It is a common word in the Lycian inscriptions, constituting the first part of the words hitherto read *mete*, *mene*, and translating the Greek *mnema*. The verb *miratu* has here the meaning to show. *Kapimai* is in the dative.

koi bu: Etruscan *be*, as I have already sufficiently indicated, is the equivalent of Basque *du*. The preceding *koi* now means desirous, but here forms a verb with *be*=he desires.

jar mai eritza mai: tablet of attention, tablet of esteem. See line 2.

¹⁵⁰ Line 5. *erama*, in infinitive to *koi bu*.

miratu au aintza: the sense is not clear. I read *aintza* as predecessor, from *aintzindu*, precede. It may be a synonym of *eritza*. If it means predecessor, the dative sign is omitted.

men zahako zari: this also I give with hesitation. After *men*, power or authority, comes *kahako* and then *zari*, a chief. The Japanese *hoka* means other, besides, outside, answering perfectly to the Basque *zahako*, outre. I suppose therefore that this is the only way in which the Etruscan indicated a colleague, namely as "another lord of authority."

irago du no: the Etruscan had the auxiliary *du* as well as *be*, but I have not yet discovered any rule for their respective employment. The final *no* I regard as the postpositive until, (Lecluse, Manuel, 112).

6. AFILSL · ECA · CEÆEN · YVOIV · OVL · ILVYEPF ; BESNI ¹⁵¹
 raagusano go nechira chinebaneka kupimaupi mapigo ugopikuneagit
 ulnenokau.
 irago atso nagi ni che ra zein bane ka Kupima obe mopigo ogoi bakan egit
 alin no kio
 passes age idle myself to who joining by Kupima lord twice 20 alone
 exercise authority of does.
7. MVLFENI · EO · YVCI · AM · APS ¹⁵²
 mipisa agin kau nema kupichiu rami artuno
 imbesa agin kio ne ema jabetzio — artu no
 messenger command he does me to give to rule — receiving of

Reverse.

1. MLAOAN · CALVSC · EONIA · AFIL · MIMENICAC ¹⁵³
 misaramaraka chiraspinochi nechikaura raagusa miuminekauchirachi
 misa erama rako jarritza banuche anzeko hiri irago atso imini kio
 jarritze
 monument bringing towards request I did self like cities passing age
 little place he does attention.

chiu arsa erama, or in Basque *sei urte derama*, six years to bear. The subject is Kupima; the double object, Goumimami and *men zahako zari*, in apposition.

¹⁵¹ Line 6. *irago atso nagi*: I read SL *nogo* as the Basque *nagi*, idle, but in the good sense of the Japanese *nagu*, Choctaw *nukchito*, calm, quiet. The verb must be in the 3 sing. pres. ind. without sign.

ni che ra zein bane ka: *zein* is the subject of *irago*, the rest being an adverbial clause. One would expect to find Goumimami speaking of Kupima joining the younger man to himself in authority. On the contrary, he says: "who, by uniting to myself, passes a quiet *old* age." In *bane* we have the shorter form of *banetu*, Basque *batu*, followed by the postposition *ka*.

mopigo ogoi bakan egit alin no kio: *mopigo* is the Etruscan twice, from *mopi*, two. The final *go* answers the purpose of the Basque *etan*. In *bekune* we have already found the Etruscan equivalent of the Basque *bakar* and Japanese *bakari*. The verb *egin* becomes *egit* as in *egiten*, and finds its auxiliary at the end of the sentence. Also, differently from the *alin egi ka* of line 2, *alin* takes the postposition *no*, of.

¹⁵² Line 7. *imbesa agin kio*: *imbesa* is formed like *lanesa* and *zekesa* of the Cippus. It means, a messenger, and is probably the original of the word embassy. Here the word may denote an officer of the Confederacy: see Reverse, line 3. There is no distinction in Etruscan between *egin* and *agin*, both of which are represented by FE. The context determines that the verb here is *agin*.

ni ema jabetzio rami artu no: instead of *ni* one would expect *no*, as *eman* governs the dative. The word *jabetzio* is a form of *jabetu*, to rule or command. It is in form like *ichpichio* of the Cippus. The following *rami* is an enigma. The same characters AM in the Eugubine Tables frequently give the Etruscan equivalent of the Basque *irria*, division, showing that the Basque here as elsewhere has changed final *m* to *n*. The sense of the passage rather favours the idea that, having shared the authority for six years, Goumimami was now to rule alone. In one of the bilingual Lycian inscriptions I find *ramira*, translated by the Greek *panta*. This would connect it with *arrunt*, rather than with *irrin*. The Basque *arrunt* means commonly, but also "all without exception," and thus answers to the Japanese *aremasshi*, in the main, generally. The verb *artu* is in the genitive to *ema*.

¹⁵³ Reverse:

Line 1. *misa erama rako*: for *misa*, see Front, line 4.

2. MAPCALVPCAC · EOYVOIVNESL · MAN · PIFAL¹⁵⁴

miratuchirasapituchirachi nemakupimaupikanenosa miraka tuuagergo
 miratu zero kupida jarritze ni ema Kupima obe kian aintza mira ka
 dio agerri go
 to show heaven compassion attention I give Kupima lord did present
 beholding by it him inform will

3. LECTEM · YNVCASI · MVPISES · YEIS · EFIYVDAS · MVLISLE¹⁵⁵

sanechinemi kukapichiranou nopituunoneno kuneuno neagukupiturano
 mipisanosane
 zuen zein imi egoki ——— nabetu ona nion gune ona ni age jabe Turano
 imbesa aintza ne
 did who place suitable ——— extend goodness I him did to us goodness I
 inform Tyrrhenia messenger presents who

jarritza banu che: it is hard to say why we have *jarritza* rather than *jarritze*. *Banu che*, in Etruscan *beno che*, I myself did.

anzeko hiri: the city of Kupima and Goumimami is not mentioned. The root of *anzeko* is *anz* or *antz*, resemblance, connecting rather with the Japanese *nise-ru*, to make like, than with *onaji*, like.

mehe imini kio jarritze: *mehe*, little, slender, lean, probably the same as the Lesghian *mici*, *mitshi*, and Georgian *smia*, little. Here *jarritze* seems like *jar* to be a noun governed by *imini kio*.

¹⁵⁴ Line 2. *miratu zero kupida jarritze*: *miratu* again means to show; see Front, line 4. Heaven, *zero*, is personified; it is doubtful that the Etruscans had a deity of this name. Yet in Lanzi, Vol. II. Tav. VI., p. 6, an angel is called LASAFELV *sarunoru agintzabe*. The latter word *agintzabe* should mean a servant or messenger. In the Eugubine Table syllabary C does not appear, so that L does duty for all powers of s. If it be so in the case of LASA, as seems probable from the rare appearance of C, we may read *zerunora*.

The word *kupida* may in Etruscan be read *supida*. The corresponding word in Japanese is *itawashii*. These three forms *kupida*, *supida*, *itawashii*, suggest as the Etruscan original *zupida*, inasmuch as z may easily, by laying stress on the dental element, become t as in Japanese, and the permutation of z and k is not uncommon in Basque. For *jarritze* see line 1.

ni ema kupima obe kian aintza: this is one of the numerous instances in which the Etruscan exhibits the entire independence of its various parts of speech. The pronoun *ni* is separated from the auxiliary *kian* by three words, and *aintza*, which means either a present, or precedence, and is the direct regimen of *ema*, follows it at a similar distance. I cannot account for the absence of the dative sign after *kupima obe*. It must be understood.

mira ka dio agerri go: the only words needing explanation are *dio* and *go*. The former is the Basque auxiliary with included pronouns "it him does." The Iroquois has the same complex system of included pronouns; e.g. *rak*, he me does, *tak*, thou me dost, *kon i thee do*. The Japanese entirely dispenses with such pronominal reinforcers. The final *go* is the sign of the future tense in Etruscan, as it still is in the Spanish Basque dialects. Another Basque future suffix is *en* answering to the Japanese *n*. The Iroquois future suffix is *en* or *ne*: that of Choc-taw, *ching*.

¹⁵⁵ Line 3. *zuen zein imi*, literally, did who place. Here the Etruscan uses the common Basque 3 sing. past indic. of *dut*.

egoki pichiranou. This expression I cannot explain. YN in Etruscan as regularly denotes *egoki* as NY gives *gogo*.

nabetu ona nion. *nion* Basque, I him did; *nabetu*, extend, here seems to mean, publish widely. The inherent dative of *nion* combining with *ona*, goodness, to make "I to him the

4. **MLAJ · ILALE · YINS · LVPSO · YEF**¹⁵⁶
 misarago usaragone kuukano sapitunoma kuneag
 misa rako atso rakone goijaun kupida no ema gune ag-
 monument towards age acknowledging high lord compassion of gives
 us to
5. **AVFIOVN**¹⁵⁷
 rapiagumapika
 -erri Begiaumabeka
 manifestation ——— ———
6. **LVDSOSAL**¹⁵⁸
 sapitunomanorasa
 kupida no ema no eritza
 compassion of giving me he honours
7. **ESDS · NAC**¹⁵⁹
 nelatuno karachi
 ni lotu no ikheretsi
 me joining of to show gratitude

goodness widely proclaimed," in English idiom gives the possessive, "I widely proclaimed his goodness."

gune ona, goodness to us, a case of anadiplosis.

ni age jabe Turano imbesa aintza ne. The verb *age*, root of *agerri*, in Etruscan means inform. I think *jabe* and *imbesa* are in apposition, the lord, the envoy of Tyrrhenia, that is the representative of the Confederacy or Dominion, appointed probably by the Lucumo. I read *aintza ne* as "who presents."

¹⁵⁶ Line 4. *misa rako*, towards the memorial.

atso rakone. the final *ne* seems to change the postposition *rako* into a verb. In the Eugubine Tables *ratno-ne* is similarly employed, meaning to approach, join, yield to, recognize, be of the same party. Here *rakone* seems to signify acknowledging or paying respect to.

goi jaun. this inversion of *jaungoi* or *jaungoiko*, the name of divinity among the Basques, has already appeared in these pages in connection with votive inscriptions. It is in the genitive of position to the following:

kupida no ema: for *kupida*, see line 2. It is in the genitive governed by *no*. The verb *ema* has *ne* at the end of line 3 for its subject. It governs the following *agerri*.

gu ne agerri, to us declaration.

¹⁵⁷ Line 5. *begiaumabeka*: the first part is probably *begi*, eye. It may be the name of a god or an old form for Providence; *nescio*.

¹⁵⁸ Line 6. *kupida no ema*: see lines 4 and 2.

norasa, may be for *nau eritzi*, he honours me.

¹⁵⁹ Line 7. *ni lotu no*: the verb *lot*, *lotu*, *lotzen*, now means to bind. In Etruscan it had a more extended signification, being a synonym of *banetu* in the Eugubine Tables. The Choctaw *hollotti* means bound; but many words of similar form, like *hli-toha*, mean unbound.

ikheretsi or *ikherreste* in Basque means gratitude. In this place it seems a verbal form, namely *eritzi*, preceded by *ka*. As a noun the Basque *ikherreste* is a synonym of *esker*. The original signification of *etsi*, whence *onetsi*, *eritzi*, *ikerhetsi*, *gaitzetsi*, is given, I think, in the Choctaw, which has a verb *eshih*, *ishih*, *isht*, meaning to hold, receive, take. In Basque *artu* has superseded *etsi* in these original senses of the word, but in composition it may be detected

CLOSE TRANSLATION OF THE LEADEN TABLET OF MAGLIANO.

Front.

To Heaven first I, Goumimami, render thanks for Lord Kupima passing the age of 80. The tablet of regard to give honour ——— in the exercise of authority he passed an age *rarely* seen. ——— Tyrrhenia refusing to send a tablet expressing gratulation, I of myself resolved to bring a monument which shows *that* Goumimami has the desire to provide a tablet of regard, a tablet of honour to set forth his predecessor. Until he passes six years having Goumimami *as* colleague, by which union to myself he passes a quiet *old* age, the lord Kupima exercises authority alone *forty years*. He commands the envoy to give me *the power* of receiving *entire* authority.

Reverse.

I myself requested the coördinate cities *to help* towards bringing the memorial. Little does he care for attaining *so great* an age. To pay regard to the compassion of Heaven I gave Lord Kupima *this* offering. By beholding, it will inform him who placed a suitable ———. I published abroad his goodness, *his* goodness to us. I inform the lord, the envoy of Tyrrhenia, *that he* who presents towards the memorial, acknowledging the age, gives us an indication of the compassion of God. ——— giving of the compassion, he honours me by joining me to show gratitude.

I conclude this paper with a transliteration of the groups of characters contained in the Augurial Templum of Piacenza to which allusion has been made on page 222. This I do in the hope that scholars possessing a better knowledge of Basque and of the subjects likely to be set forth in such a Templum than I possess may be able to shed light upon it. The Templum consists of a number of compartments indicated by a double series of numbers as follows :

1. ANI ONE rakau makane ? raka = argi, light.
2. VNI ΩAD pikau baratu pikoya burdax, end of the plough
3. YEO ΩΩ kunema agba See 13' gune ema *agba*, place gives —
4. LEON sanemaka See 9
5. EO nema
6. CAO chirama zeru ema

as the verbal termination—*tze-tzen*, just as *artu* appears in—*artze-artzen*. To gain the heart is in Basque *goga-tu, goga-tze*; in Choctaw it is *chukush-eshih*. Thus *on-etsi* originally meant to hold good, and *gaitz-etsi*, to hold bad, and *etsi* is but another form of *atchiki*, to hold. Also *er-itsi* may be derived from *arau*, rule, right, proportion, fitness, with the original signification to hold aright or fitly. It is only by careful and full comparison of words and constructions in the different Khitan languages that the radicals can be detected and a scientific system of etymology be made to take the place of conjecture.

7. 8V8LVSLNC alpilasapinosakachi; ilbeltz bena sokache; ilbeltz = moon, January.
8. IFN uagka
9. LEONE sanemakane See 4, 17, 2', 9'.
10. YLVSCF kusapinochiag; eguzbena *chiag-*; eguz = eguzki, the sun.
11. CE chine
12. CFLAL/A chiagsarasaba; compare final *chiag* of 10
13. FEYISL aginkuunosa
14. CILENSL chiusanekanosa
15. YINCILEN kuukachiusaneka
16. YINOF8 kuukamaagla see 1'
17. LEOAΩ sanemuraba
18. ΩAPS baratuno
19. OEPCL manetuchisa
20. O ma
21. N/A gaba; gaba, gau, night
22. LEYA sanekura
23. ΩAPISL LAO baratuunosa sarama
24. O ma
- 1'. YIHS OF8 kuukano maagla; Goi-jaun makilla, the sceptre of God
- 2'. LEON sanemaka see 4. 9. compare 17, 9'.
- 3'. N ka
- 4'. LASL saranosa
- 5'. 8V8LVS alpilasapino ilbeltz beno compare 7 and 10
- 6'. CAO A chiramara, zeru marra, heaven limit = the horizon
- 7'. CILEN chiusaneka see 14
- 8'. SELFAN nonesaagerka; non su agerri ka, where fire manifest?
- 9'. LEOΩS sanemabano
- 10'. YLVSC kusapinochi; eguzbena che
- 11'. LFSL FELL saagnosa aginsago; su eginsa aginza go, the burner of offerings
- 12'. SAYPES norakutuneno; nora gedenen, to the four quarters
- 13'. OYELFΩD manekusa agbatu; eman eguz *agbatu*, gives the sun—
- 14'. YLVSC A/AC kusapinochi; rabachi eguz bena che &c.
- 15'. YI O SO kuu ma noma
- 16'. OV8LOAS mapilasamarano; mopila sa mora-no, the eighteenth

The translations I have suggested in a few cases are merely hints. Of 16', *mopila sa morano*, I can speak more confidently. It is the only numeral which I recognize as such. No. 21 *gaba* is, I think, correctly rendered by the Basque *gau*, *gaba*, night. Also 6' *zeru-mara* or in Basque *zeru marra*, the line or limit of the sky, should mean the horizon. No. 1' *Goi jaun makilla* should be *sceptrum Jovis* but in note 38 (translation of supposed alphabet) *makilla* is written OLS, not OF8. In 7 and 5' *ilbeltza* appears, and may indicate the

moon in some phase; literally it means "black month" and now denotes January. In 10, 10', 14 *kusa* may stand for *eguzki*, the sun. Egubena for *egunbena* or *eguzbena* denotes the fifth day of the week, Thursday, in Basque, but its derivation is obscure. According to Festus, *buris*, the tail of the plough, was an Etruscan word. It may appear in 2 *pikoya buratu*, the extremity or bending of the ploughshare. The Basque verb *burdatu* means to bend, and from it *burdax*, an extremity, is supposed to be derived. Such a term must be astronomical, as the whole of the contents of the Templum appear to be.

With this arcane subject I close for the present my survey of the Etruscan inscriptions, which I have pursued with ever-increasing sympathy for the many and distinguished scholars who have read them by a totally different system, in view of the numerous apparent confirmations of their process, yet with ever-increasing confidence that by that process no light can be shed on Etruscan antiquities nor a solid basis be gained for a consistent reading of the documents themselves. Conscious of its many imperfections, I send this article forth from my study as a first essay in decipherment calling for the honest criticism and collaboration of scholars to whom truth is more than theory, rather than a decipherment itself of the documents with which it deals. Nor can I, in closing, forbear to express to one whose name occurs frequently in these pages, my sense of indebtedness for long hours stolen from the engagements of a busy life to add to my Etruscan material, to read with critical eye the results presented, and to furnish me with many valuable suggestions which cannot but be useful to the student of the new process.

ETRUSCAN VOCABULARY.

In this vocabulary, as in the first reading of the inscriptions in the text, I have given the same conventional phonetic values to the Etruscan characters. Thus I read A as *ra*, O as *na*, S as *no*, E as *ne*, P as *tu*, &c. For the extent to which this conventional reading may be departed from I refer to the analysis of the syllabary, without a careful study of which this vocabulary cannot be understood.

1. A ra, Basque *ra*, to, towards.
2. A ra, Basque *ara*, interjection, behold.
3. A ra, Basque *ere*, also.
4. A ra, B. *erre*, to burn.

ABC, *raulchi*, B. *iraulzi*, to overthrow.

AC, *rachi*, B. *eritsi*, to esteem, judge.

1. ACE, *rachine*, B. *eritzen*, fuller infinitive form of the above ; *ne*, the postposition, to.
 2. ACE *rachine*, *erezein* = B. *zein-ere*, however, but in Etruscan whosoever.
- AD.AP *artu*, B. *artu*, to hold, take, receive, treat, lead.
- APA *artura*, B. *ardura*, care.
- APE *artune*, fuller infinitive form of AD.
- APNO *artukama*, B. *artu* and *gomuta*, remembrance, to hold memory.
- APNY *artukaku*, B. *artu* and *gogo*, mind, memory.
- APNYLE *artukakusane*, B. *artu* and *gogatu*, *gogatzen*, to think, dream. In Etr. is a fuller form of the preceding.

AF *arag*, B. *irago*, to pass, ascend.

AFE *aragan*, fuller infinitive of AF.

1. AH, AN *raka*, B. *rako*, towards, for. Also A L.
2. AN *raka*, B. *rako*, as above, but in Etruscan employed as a verb and verbal adjective "to towards," "the towarding," thus meaning approach, offer, present, sympathize, join. As a noun it is the B. *erruki*, *urriki*, compassion, sympathy, regret.

1. ANE, ALF *rakane*, *ragone*, the infinitive form of AN.

1. ANA *rakora*, noun form of the same postposition, an offering or sympathizing.

ANCAD *rakachiratu*, B. *rako* or *erruki*, and *jardu*, *jardun*, to be occupied = paying attention to.

ANIA *rakaura*, B. *rako* and *arri*, *harri*, a stone = an offered stone.

2. ANA *rakara*, B. *erakarri*, cause to bring.

2. ANE *rakane*, B. *eragin*, cause to make.

ANL *rakasa*, B. *erakasi*, to teach, cause to learn.

ANM, ANS *rakano*, synonym of AN and ANA. 1.

AI *rau*, B. *arau*, rule, right.

AIY *rauku*, B. *araukide*, conformable, *arauka*, in proportion.

1. AIS, AIM *rauno*, B. *irion*, to send.

2. AIS *rauno*, B. *iraun*, continue, endure, persevere.

1. AL *rasa*, B. *eritsa* or *deritza*, 3 sing. pre. ind. of *eritsi*.

2. AL *arsa*, B. *urte*, *urthe*, year : Lesghiau *reshin*, Circass. *tlaysee*, Georgian *tzelitzadi*.

AM, AS, *rano*, B. *rano*, synonym of A. 1.

ASY *ranoku*, Etruscan compound of *rano*, denoting a thing presented, an offering.

1. AM *rami*, B. *irrin*, *irritu*, split, crack, divide.

2. AM *rami*, B. *arrunt*, all without exception, whole ; Japanese *aramashi*.

AMA *ramira*, compound of *mira*, B. *miratu*, to see, and the causative *era* ; *eramira*, cause to see.

AME *ramine*, compound of B. *imini*, to place, and the causative particle ; *erimini*, cause to place.

- AO rama, B. *erama* or *darama*, 3 sing. pres. ind. of *eraman*, to bring; also stands for the following.
- AOE ramane, B. *eraman*, to bring.
- AV rapi, synonym of *artu*, agreeing in general meaning with B. *arrapatu*, to seize; *erpetu*, to claw; *irabazi*, to gain. It often means hold, take heed, behold!
- AVP rapitu, B. *arrapatu*, to seize: a fuller form of AV.
- AVLE rapisane, B. *arrapatzen*, another form of the preceding.
- AYA, ATA rakura, B. *irakurri*, to read.
- AYE rakune, B. *aru* for *arau*, and *gune*, place, standing; like *ongune*, accord.
- A¹ raba, B. *arriba*, sister of a brother.
1. B ul, B. *al*, *ahal*, power: in Etruscan often used as an adjective.
 2. B ul, B. *ahalye*, suame.
- BE ulne, B. *almen*, power, dominion.
- BINO ulukama, B *al*, *auka*, *eman*, power, choice, to give: the Lucumo, or elected president of the Etruscan confederacy.
- C che, B. *che*, even, self.
- CA chira, B. *zeru*, heaven, sky.
2. CA chira, B. *ezarri*, to place, set.
 3. CA chira, B. *jar*, attention; also used as a verb in Etruscan.
- CAC chirachi, a verb formed from B. *jar*, E. *jarritze*, to pay attention.
- CADE chiratune, B. *gardun*, to be occupied with or at.
- CAE chirane, fuller verbal form of CA. 3, to pay attention.
- CAL chirasa, E. 3. sing. pres. ind. of CAC, and a noun synonym of CA. 3.
1. CE chine, B. *zen*, defunct, late.
 2. CE chine, B. *zeña*, who, which.
 3. CE chine, B. *zein*, how.
- CEI chineu, ? B. *ez*, not, and *nai*, *nahi*, wish = contempt, contempt.
- CELA chinegora, B. *chingar*, spark.
1. CI chiu, B. *sei*, six.
 2. CI chiu, B. *chehe*, small.
- GNL chikasa, from B. *zeken*, niggardly, parsimonious, by changing *en* to *esa*, *zekesa*, the niggard.
- CLA chigora, B. *zigor*, a scourge.
- CV chipi, B. *chipi*, little.
- CVP chipitu, synonym of *chipi*, and used to denote a little one, a child.
- CVNC chipikachi, an Etruscan word formed like *azpikache*, the B. *azpikoche*, even a slave. So chipikachi is: "even a child."
1. CL chisa, B. *zazu*, 2 pl. imperat. of *dui*, have ye, do ye have.
 2. CL chisa, B. *chitsu*, to precede.
 3. CL chisa, B. *izats*, a feather brush without handle.
- CLE chisane, B. *etsitzen*, to esteem.
- CLVY chisapiku, E. word composed of B. *etsitz* and *beko*, abbreviation of E. *begogo*, consideration, regard = appreciative regard.
- CLAN chisa raka, B. *zazu erruki*, have compassion.

CLII chisata ? B. *sistatu*, pierce, or *ezeztatu*, annihilate.

C†L chiichsa, ? B. *cioten*, they to him do, and imperative *za* = *ciotza*, let them to him.

1. D.P. tu, B. *da*, 3. sing. pres. ind. of *naiz*, he, she, it is.

2. D.P. tu, B. *du*, 3. sing. pres. ind. of *dut*, he, she, it does or has.

3. D.P. tu, B. *eta* of *etan*, *hetan*, &c., old 3. personal pronoun.

DAM, PAM, DAS, Turano, properly Turaan, Tyrrhenia.

1. PE tune, B. *den*, *dena*, who is, he who is.

2. PE tune, B. *duen*, if he has or does. In E. *duen* is categorical, he has or does.

PEY tuneku, B. *tanka*, *tunkatu*, strike.

PI tuu, B. *dio*, he to him does.

PV tupi, an E. word meaning "instead of"; perhaps from B. *toki*, place, and *be*, under.

PY tuku, B. *toki*, a place.

II.I ta, perhaps B. *da*, he is : see D. I.

IV tabe, B. *debe* of *debeku*, prohibition, *debekatu*, forbid.

1. E ne, B. *n*, *en*, sign of dative, to, at, in.

2. E ne, B. *ni*, I, *ene*, my.

3. E ne, B. *n*, *en*, with relative power, who, which.

1. EC nechi, B. *ansi*, care ; in E. more frequently a verb than a noun.

2. EC nechi, B. *neska*, girl, daughter.

ECN nechika, B. *anzeko*, like, similar.

ECV nechipi ? B. *nehabe*, servant, or *inyubi*, fond.

EPI nctuu, E. *nituo*, answering to B. *diotet*, I to them do. See EI.

EN neka, B. *neke*, trouble, difficult ; in E. generally a verb, to be unable, fail, have difficulty.

ENA nekara, B. *negar*, *nigar*, tear ; in E. it is a verb without added *egin*.

ENE nekane, B. *negian*, I did.

EI neu, E. *nio*, answering to the B. *diot*, I to him do.

EIN neuka, B. *nayago*, to prefer.

EL nesa, from B. *ansi*, E. 3 sing. pres. ind. of verb, to care for, and noun, care.

ELI nesau, B. *nizayo*, I to him am.

1. ES neno, B. *nion*, I to him did.

2. ES, EM neno, E. compound postposition, into, for.

EY neku, B. *nai*, *nahitu*, to wish.

E/L nebasa, B. *nabusi*, master.

E/ALG nebasachi, E. *nabusitze*, to command.

1. F ag B. *age*, appearance ; in E. apparently, an interjection, behold !

2. F ag B. *agi* of *agin*, command, promise ; in E. 3. sing. pres. ind. of verb.

3. F ag B. *egi* of *egin*, to do ; in E. 3 sing. pres. ind. and imperat. of verb.

4. F ag B. *igo*, ascend ; in E. 3 sing. pres. ind. or imperat. of verb.

FA ager B. *ageri*, to appear, declaration ; in E. generally a verb, to manifest.

FAS ageran B. *agerrian*, discovered, exposed to view.

- FAL agergo B. *ageriko*, verb *ageri*, with future suffix *go*.
 FP agtu B. *egit* of *egin*, *egiten*, to do.
1. FE agera B. *agin* ; see F. 2.
 2. FE agen B. *egin* : see F. 3.
- FEP agentu B. *agindu*, fuller form of *agin*, command, promise.
 FEL agensa B. *agintza*, promise, offering.
 FELA agensara B. *agintzari*, chief, commander.
 FNE agkane B. *iyokian*, he ascended : in E. equivalent to *iragokian*, he passed.
- FI agu B. *gai*, apt, capable : in E. means excellent.
- FIA agura B. *jayera*, inclination, *jayeratu*, to incline : in E. used as postposition, meaning inclining to.
- FIL agusa B. *hatzegin*, to scratch, with inversion *egihatze* : in E. means to write, also.
- FIS aguno, composed of B. *age* = *agertu*, declare, and *on*, good : it may mean to show good omens.
1. FL agsa B. *so egin*, with inversion *egi so*, 3. sing. pres. ind. and imperat., to look.
 2. FL agsa, formed of *agin*, to command, with contraction, and *sa*, the E. mark of agency : see SEL, CNL. It is the equivalent of *agintzari*.
- FY agku, E. compound of *age*, appearance, meaning as *ageko*, a declarer.
- F3S agtala, B. *gatillu*, a cup, vase.
- H. N ka, B. *ka*, postposition, by.
1. NA kara B. *ekarri*, to bring ; *dakar*, he brings.
 2. NA, NNA kara, kakara, E. words meaning a state : perhaps connected with B. *herri*, *erri*, a country.
- NAC karachi, B. *ikherreste*, gratitude : compare AC. *eritsi*.
- NAL karasa, B. *sortze*, the birth, *natus*, *nata*.
1. NE kane B. *egin*, to make : *kane* is an independent E. verb with the meaning of *egin*.
 2. NE kane B. *gan*, postposition, in : in E. it generally means towards.
 3. NE kane B. *kian*, *kion*, termination of the past tense of regular verbs : in E. denoting 3 sing., he did.
1. NEI kaneu from B. *gan* as represented by *ganatze*, to attract, is an E. verbal use of the postposition in the 3 sing. pres. ind., meaning, it is towards, *i.e.*, it concerns, regards, presents.
 2. NEI kaneu ? a combination of NE 3, with the pronominal I, as in LI *zayo*, PI *dio*, EI, *nio*, meaning, he to him did.
- NEM kaneno B. *ganaino*, as far as : in E. seems simply to mean towards.
- NEY, HEY kaneku B. *ganako*, towards, for : in E. means, that which is given towards, namely a sacrifice or offering.
1. NI kau B. *kio*, termination of regular verbs, 3 sing. pres. ind., he does.
 2. NI kau B. *kiko*, postposition, for.
- NIY kauku ? B. *zahako*, besides, other, outside, beyond.
- NL kasa B. *ikasi*, to learn, perhaps in 3 sing. pres. ind.
- NV kapi B. *gabe*, postposition, without : in E. often used for the following.

NVD kapitu B. *gabetu*, to deprive, to be deprived.

NVN kapika B. *gabeak*, indigent, deprivation.

NY kaku B. *gogo*, mind, desire, memory.

NYI kakuu, E. dative or locative of *gogo*, answering to B. *gogoan*.

1. J go B. *go*, sign of genitive.

2. J go B. *go*, mark of future.

JJ gou B. *goye*, conversation : in E. it means word, verbal message, intimation.

1. I u B. *au, hau*, this : sometimes in E. is personal or possessive rather than demonstrative.

2. I u B. *o* in *o-artu*, heed, attention : comp. Japanese *uya-mau*, to reverence, respect.

1. IA ura B. *aur*, child.

2. IA ura B. *oar*, imperat. of *oartu*, pay attention, take heed.

3. IA ura B. *hiri*, a city.

4. IA ura B. *harri, arri*, a stone.

IAP uratu ? B. *orde*, place.

IANYI urakakuu, compound of B. *oroitu*, remember, and *gogo*, in oblique case *gogoi*, meaning to keep in memory.

IAI urau B. *oroi* of *oroitu* ; see above.

IAL urasa, answering to B. *aurkeztu*, to present ; in E. is often a noun, denoting, homage or offering.

IC,K, uchi B. *hitz*, word.

1. IP utu B. *aita*, father.

2. IP utu B. *auta, haulu*, choice, to choose.

IPE utune E. *oaten* answering to B. *oartu* : see I.1 and IA.2.

IES uneno B. *hunen*, of this : see I.1.

IES unela B. *onela*, thus.

1. IN uka B. *ogei, ogoi*, 20.

2. IN uka B. *uga* in *ugatz*, breasts, mother's milk : E. for mother.

3. IN uka B. *ukha, ukatu*, to deny, refuse.

INE ukane B. *ukan*, to have, to be.

IIL ugo, B. *uko*, refusal, denial.

1. IL usa, B. *atso*, old, now only said of women : in E. it means age, thus answering in meaning to the Basque *adin*.

2. IL usa, E. 3 sing. pres. ind. of B. *utzi*, to leave : read *utza*.

IM umi, B. *hume*, child.

1. IM, IS uno B. *on*, good : in E. also employed as a noun, goodness.

2. IM, IS uno B. *humi*, dative of *han*, this.

ISAC unorachi B. *oneritsi*, to esteem, love.

ISAL unorasa, the 3. sing. pres. ind. of the above.

ISIS unouno, compound of *on*, good, and E. verb *oan, oaten*, to pay attention : see IPE. The verb *onoan* thus means, to pay kind attention.

ISL unosa B. *onetsi*, to esteem good, in 3. sing. pres. ind. : *onetsa*.

ISLE unosane B. *onetzen*, infinitive form of above.

ISLAN unosaraka, attributive form *onetsirik* not found in B. : beloved.

1. IV upi B. *obe*, better : in E. denotes a noble.
2. IV upi, sometimes used for I/A.
3. IV upi B. *opa*, *opatu*, desire, to desire.
1. IVP upitu B. *opatu* ; see above.
2. IVD upitu B, *obeto*, better.
- IVPS upitula ? B. *obi-tille*, a title or inscription on a grave.
- IVOI upimau for I/AOI, which see.
- I/A uba B. *obi*, *hobi*, the grave.
- I/AOI ubamau B. *obi mai*, a grave-tablet.
1. K uchi B. *hitz*, word.
2. K uchi B. *utzi*, to leave.
- KA/A uchiraba ? *aiserreba*, a plaything.
1. L sa B. *so*, a look ; in E. also used as interjection, Behold !
2. L sa, abbreviation of E. /L, *basa*, and.
3. L sa B. *su*, fire.
1. LA sara E. three, in B. *hirur*.
2. LA sara, abbreviation of LAP *zarratu*, writing.
3. LA sara B. *sari*, reward, praise : used as noun and verb in E.
4. LA sara B. *zari*, a chief, commander.
- LAP saratu, verbal form of B. *zarrapo*, scratching, meaning in E. to engrave, write : is employed as verb, noun and adjective, *zarratu*.
- LAF saragi, fuller form of LA. 1.
- L AFC saragichi, E. thrice.
- LAV sarapi B. *zarrapo*, a synonym of LAP.
- LC sachi, an E. verb formed of *so*, look, and the termination *tse* : *solze* answers to the B. *so-egin*, to look.
- LP satu B. *azli*, a diviner.
1. LE sane B. *zuen*, 3, sing. past ind. of *dut*, he had or did.
2. LE sane B. *zu en*, ye who.
3. LE sane B. *esan*, to say.
4. LE sane from B. *ez*, not ; E. *ezan*, refusal.
- LEP sanetu B. *izandaite*, perhaps, in abbreviated form *izanda*.
- LF saag B. *so egi*, look !
- LN saka R. *so ka*, by the sight.
- II sau B. *zayo*, he to him is.
- LM sano B. *asantatze*, build masonry.
- LMC sanochi B. *asantze* = *asantatze* ; see above.
- LO sama B. *asma*, an indication.
- LOT, LOY - samaku, E. adjective derived from *asma*, indicating.
- LV sapi B. *azpi*, under, below.
- LVP sapitu B. *kupida*, comparison.
- LVNC sapikache B. *azpiko che*, servant even, even a servant.
- LYA sakura ? B. *askor*, joyous : in E. it seems to denote pleasure.
- M mi B. *imini*, *ipini*, to place : for fuller form see ME.
- MA mira, B. *mira*, *miratu*, to see : in E. also denotes a sight, spectacle, admiration, and regard.

- MAP miratu B. *miratu*, to see: in E. often means to show.
- MAN miraka, compound of B. *mira*, to see, and *ka*, by.
- MAJ mirago, E. equivalent of B. *bortz*, five.
1. ME mine, B. *imini*, to place.
2. ME mine, B. *men*, power.
3. ME mine, B. *min*, grief.
- MI miu, B. *mea*, *mehe*, small, thin.
- ML misa, E. memorial, monument: in Lycian bilinguals = Gr. *mnema*.
- MV mipi, E. verb, to send: derivation unknown.
- MVD mipitu, fuller form of *mipi*.
- MVL mipisa, E. a messenger, envoy: perhaps the original of "embassy, as *imbisa*. Compare the *sa* with that in SEL, CNL, FL.
1. M.S no, B. genitive termination *en*.
2. M.S no, E. oblique cases of E *ni*, I, as: of me, to me, to my.
3. S no B. *no*, hold! behold! when speaking to a woman; when to a man, *to!*
4. S no B. *no*, verbal postpositive, until.
1. SA nora B. *anre*, *andre*, wife, lady.
2. SA nora B. *laur*, four.
3. SA nora B. *narri* of *narritatu*, incite, annoy.
1. SC, MC nochi for B. *aintzi* of *aintzindu*, to present, come before, warn.
2. SC nochi for B. *nau che*, he to me does even, or, he to myself does.
- SCE, MCE nochine, B. *aintzin* of *aintzindu*: see SC.1.
- SCI nochiu, E. verb, to desire or request: comp. Japanese *nozo-mu*.
- MCLE nochisane, B. *aintzitzen*, same as *aintzindu* MC.1.
- MPAN noturaka? B. *ondoreak*, descendants.
- SPI notuu corresponds to B. *naut*, they me do.
1. SE none, B. *non* where: in E. has also relative power.
2. SE none, answers to B. *noiz*, in sense of: "times."
3. SE none, E. termination of genitive plural.
- SEA nonera? E. nine.
- MEC, SEC nonechi? E. seven.
- SN noka B. *noku*, lack, defect: in E. is a verb, to lack, fail.
- SL nogo B. *nagi*, idle.
- SI nou, B. *nau*, he me does.
- SINV noukapi B. *nau gube*, he to me does deprivation.
1. ML nosa B. *aintzi*, see SC.1. In E. it is 3 sing. pres. ind. of the verb "to present before, to warn," and a noun meaning a "present," and perhaps "a predecessor."
2. ML nosa B. *nas*, together: also as ML or MLE it becomes in E. a verb, to be or do together, to unite.
- SV, MV nopi B. *nabe* in *nabari*, to see from afar: Japanese *nobe-ru*, to stretch, extend. In E. it is a verb, to extend, put far away, and an adjective, far, extended, great.
- MVP, SVP nopitu, fuller E. form of the verb *nabe*, extend.

- MY.SY noku, B. *naga* of *nagatu*, to hate.
- SYIE nokuune, B. *nuqueyen*, I should have had or done : in the only case in E. it is rather "would that I had."
- S/A noba, B. *nebia*, brother.
1. O ma B. *ema* of *eman*, to give : in E. is sometimes infinitive, at others marks the present indicative.
 2. O ma, abbreviation of OI, which see.
 1. OA mara, B. *marra*, limit, rule, line, stroke : in E. it denotes a monument, probably as *marking* or *defining* the place of sepulture.
 2. OA mara B. *amar*, 10.

OANA marakara, compound of *marri* and *ekarri*, a monument, the mark brought.

OANIA marakaura B. *marka*, line, sign, and *harri*, stone, a signal stone or stone of indication.

OANY,OANL. *marakaku*, *marakago*, E. compound of *marra* and *gogo*, meaning, a memorial, but the construction of which is not clear.

OAS marano, E. 10th, *amar*, with E. genitive particle *no*.

OPE matune, B. *ematen*, to give.

OII mata B. *emat* of *ematen*.
 1. OE mane B. *eman*, to give.
 2. OE mane for OL which see.
 3. OE mane B. *amona*, mother.

OESA manenora B. *amandria*, lady mother.

OF8,OLS *maagla*, *magola*, B. *makilla*, stick, staff, rod.

OI mai B. *mai*, *mahi*, table : in E. means a space for an inscription, a tablet. Japanese *ma*, a space.

OL masa B. *emaitza*, a gift.
 1. OV mapi E. two : B. two, *bi*.
 2. OV mapi E. great ; root of B. *ambat*, and original of *ain*.

OVA mapira E. eight.

OVP mapitu B. *ambat*, so much, how great.

OVJ mapigo, E. twice ; *go*, the genitive sign.

OVS mapino, synonym of preceding : *no*, genitive particle.

OVS mapila, same as OVA.

OSES molaneno, same as OAS, tenth.
 1. V pi E. 3. sing. pres. ind. of *dut* or a similar auxiliary : now represented by 3. sing. imperat. *bu*. In E. *be*, he has or does.
 2. V pi B. *be*, under.

VP pitu B. *epatu* fix a limit ; in E. seems to mean, to set, set up, as a monument.

VPE pitune B. *epaten*, fuller infinitive form of above.

VFIL begiusa, a doubtful word. In E. VF is B. *begi*, eye, and *behatz*, consider, is V \ddot{K} or VIC : also IL represents B. *hatz* or *hatza*. If VFIL be a true E. word, IL must be a verbal form of *hatz* answering to B. *atzitu*, seize, take, in 3. sing. pres. ind. or imperat., *hatza* ; and the whole will mean, take eye, or behold !

- VN pika? abbreviated form of B. *bakidatu*, to communicate.
- VNE pikane, fuller infinitive form of above.
- VNA pikara, B. *pikor*, a morsel: in E. a small contribution.
- VNI pikau, in Cippus of Perusia takes the place of VNY in Eugubian Tables. VNY is formed of V *be*, under, and NY *gogo*, mind, and means regard, consideration; B. equivalent unknown.
- VNL pikago, is the same as VNY, *beyogo*, and is used as a verb, considering.
- VL, VY pigo, piku, an E. word probably connected with B. *bekoki*, forehead, but meaning foremost person, *princeps*.
- VI pin? V. I, with pronominal increment, a synonym of *dio*, he to him does.
- VM pimi B. *bean*, below: B. changes final syllables in *m* to *n*. Originally the compound meant "placed under," *be* and *imi*.
- VMIC pimiuchi, composed of B. *bean*, placed under, and *oyeche*, better *oyechek*, these even, the whole, meaning "these subjects."
- VS pino, B. *banu*, if I had or did: in E. categorical, I had or did.
- VO pima, E. one, B. *bat*.
- VYE sometimes VNE, pikune, pikane, equivalent of B. *bakar*, alone, only.
- Y ku, B. *gu*, we.
1. YA kura, B. *gu ra*, us towards.
 2. YA kura, B. *gure*, desirous, *gura*, desire.
 3. YA kura, B. *gur*, reverence, salutation.
- YP kutu, B. *ekil of ekiten*, undertake, attack, begin, advance.
- YPE kutune, B. *ekiten*, see above.
- YPI kutuu, B. *gede, chede*, boundary, end, resolve: used in E. for *chedatu*, limit, define.
- YPVY kutupiku, B. *chistmista*, lightning.
1. YE kune B. *gu ri*, to us: E. uses dative and locative *ne* after *gu*.
 2. YE kune B. *gune*, place, position, standing, moment, accord.
- YN kuka B. *egoki*, to concern, regard, belong to: also as adj. suitable, fit.
- YNI kukau B. *dagokio*, 3 sing. pres. ind. of *egoki*.
- YI kun B. *koi, khei*, desirous: in E. is verb, adjective and noun, to desire, desirous, desire.
- YIYI kuukuu, E. superlative of reduplication, like B. *onona, handihandia*, very desirous, most desirous. It is also used for beloved or dearly beloved.
1. YL kusa, B. *ikusi*, to see; in E. may represent as *ikusa*, 3 sing. pres. ind.
 2. YL kusa, probably original of B. *eguzki*, the sun.
- YLA kusara, inverted form of B. *ra-kusi*, cause to see, show.
- YV kupi, B. *jabe*, lord, master.
- YVP kupita, B. *jabetu*, to command, lord it, possess.
- SA lara, B. *lur*, earth.
- SANV larakapi, E. word compounded with B. *gabe*, without. It means permission, or without objection.
- SAL larasa, B. *lurrez*, pertaining to the earth; in E. = a grave.

- SALMYI' laras-anokuu, compound of *lurrezno* = B. *lurrezko*, of earth, and *koya*, a lost word for chamber, receptacle. The whole denotes a tumulus or earthen mound.
- SASYI.SASY, laranokuu, laranoku, other forms of the above.
- SAYE laragune, B. *alargun*, a widow or widower.
- SP latu B. *lot*, *lotu*, to bind : in E. also denotes husband or wife, a consort.
- SE lane B. *lan*, work : in E. also takes place of *landu*, to work.
- SEL lanesa B. *langille*, a workman ; for the formation of the E. word, see OVL, FL, CNL. In E. *sa* marks the agent.
- SFI alegiu B. *alegin*, what is possible : in E. *alegio*.
- SV alpi B. *alaba*, daughter.
 - SV alpi B. *albo*, side ; in E. also takes place of B. *alboratu*, to side with, approach.
- SVL alpisa B. *alabichi*, god-daughter ; in E. little daughter ?
- SVO alpina, fuller form of VO, *pimo*, one, B. *bat*.
- ^1 ba, B. *ba*, if.
- ^1A bara, B. *para*, *paratu*, to place.
- ^1AN baraka, B. *berek*, his, her, its.
- ^1AYD barakutu, B. *borrokatu*, to wrestle, contend : in E. it means to fight.
- ^1ATRA barakutura, compound of *borrokatu* and *tar*, a fighter, warrior.
- ^1A^1A barabara, B. *barbar*, a confused speaker, foreigner, barbarian.
- ^1A^1AN barabaraka, compound of B. *barre*, *farre*, laughing, smiling : E. *barrebarrek*, the laughing.
- ^1P batu, E. army ; lost in B., yet the root may appear in *bota*, to hurl, in *fatzea* of *farfatzea*, to fight, etc. This is the Japanese *butsu*, 'to fight, strike, whence *bushi*, a soldier.
- ^1E bane, E. to join ; also means, united, and union. Is same as B. *batu*.
- ^1ED banetu, fuller form of above.
- ^1EL banesa, B. *banais*, if I am : in E. it is categorical, I am.
- ^1EYP banekutu, perhaps the equivalent of B. *bakidatu*, to communicate.
- ^1I bau, B. *bahi*, a pledge, engagement : in E. also means a consort.
 - ^1I bau, B. *bai*, a spot, stain.
- ^1L basa, E. and ; perhaps B. *baita*, also.
- ^1LA basara, B. *fetcho*, pretty, dear, with increment.
- ^1LAN basaraka, form of above, *fetchorik*.
- ^1LE basane, ? B. *epaitzen*, to cut.
- ^1M bano, E. within ; ? B. *barruan*.
- ^1V bapi, B. *paba*, a support, aid : in E. is also a word for father.
- ^1VIA bapiura, ? *pabe aurre*, forefather or grandfather : from B. *aurre*, before, which makes *aurrekoak*, ancestors.
- ^1‡A baichra, E. name for a multiplication table.
- ‡ itch, ich, ? E. verb, to thank.
- ‡AN itchraka, compound of B. *itcheki*, hold, adhere to, and *rik*, adhering to.

- ‡DI itchtuu, B. *itsatu*, to hold to, used as a noun, the adherent, in the dative plural : plurality unexpressed, dative by final *i*, *itsatui*.
 ‡E itchne, B. *etsai*, an enemy, converted by final *n* into an E. verb, to be inimical, *etsain*.
 ‡EP itchnetu, comp. B. *etsaintasun*, enmity : in E. *etsainta* is an adjective, inimical.
 ‡NA itchkara, compound of B. *itchekei*, hold to : *itchekeiri*, adhering.
 ‡NAL itchkarasa, the same with mark of agency : *itchekeirisa*, the adherent.
 See SEL, &c.
 ‡I itchu, B. *etsai*, enemy.
 ‡L itchsa, B. *itsas* in *itsaskor*, adhering.
 ‡M itchno, another form of ‡E : the final E and an added E *ne*, to, may constitute the longer M.
 ‡V itchpi, B. *ichpi*, a morsel : in E. a contribution.
 ‡VCI itchpichio, B. *ichpicho*, a wager, bet : but in E. same as *ichpi*.

ETRUSCAN PROPER NAMES.

Masculine.

Those of which the sex is doubtful are indicated by a mark of interrogation. Basque names of persons and places are generally significant ; so apparently were the Etruscan.

- AP. Artu, a Celtic name ; in Eugub. Tables, Hertei is king of Umbria.
 APY, Artuku, perhaps, Wredech, Feredech, a Pictish name.
 APYCE, Artukuchine.
 ARR, Artutu.
 APMN, Artunoka ; comp. Pict. Gairtnoch.
 AEL, Arnesa, called Folnius in Latin ; perhaps in E. Arnias.
 ANA or ANAIN, Rakara or Rakarauka.
 AN OAPE, Arka Maratune.
 ALNI, Arsakau.
 AOVNI, Ramapikau : comp. Ralapika, Rabapika, Laturapika, Artupika.
 ASV, Ralapi.
 ASVN, Ralapika.
 A/VN, Rabapika ; compare Pict. Erp. .
 ?CAP, Chiratu.
 CAPCV, Chiratuchipi.
 CAPNA, Chiratukara.
 CANA, Chirakara.
 CAN‡NA, Chirakaitchkara, Latin Caesius, hence Zerukoitchekeiri.
 ?CAL, Chirasa.
 CALE, Chirasane.
 CALEI, Chirasaneu.
 CAVLI, Chirapisau, translated Caulias, hence Zerbazuha in E.
 ?CAY, Chiraku.
 CPAC, Chiturachi.

- CEICNA, Chineuchikara; comp. Pict. Cineoch. Perhaps Sinhetsgarri.
- ? CELA, Chinesara.
- CFENLE, Chiagnekasane may be Cecinna, Sisenna.
- CFSIL, Chiagnoitcheu, translated Saturninus.
- CNA, Chikara.
- CNV, Chikapi.
- CICV, Chiuchipi.
- CINA, Chiukara.
- CL, Chisa, translated Cassius, probably Chisa in E.
- CSY, Chinoku.
- COMLN, Chimanosaka.
- CV, Chipi, translated Sentius, probably Sepe in E.
- CA, Chiba.
- PY, Tuku, translated Tullius, hence Tuku or Idoki in E.
- ERN, Netuka, probably Entuka.
- FA, Ager, translated Scaevius, probably Ager in E.
- FAN, Agerka, translated Scae Calis, probably Agerka in E.
- FELINN, Aginsaumika, translated Volumnius, hence Egeinezaumik in E.
- FELOVPNA, Aginsamapitukara.
- ? FESI, Aginnou.
- FESCV, Aginnochipi.
- FEYE, Agingune.
- FIACI, Agurachiu.
- FISCV, Agiunochipi.
- ? NALE, Karasane.
- NVFI, Kapiagu, translated Alfius, hence Kofegio in E.
- Nt, Kaitch, translated Caius, probably Caitch in E. : comp. Pict. Cait.
- JIMOM**, Goumimami.
- ? ICIA, Uchiura.
- ILE, Usane, translated Vensius, probably Usena in E. : Osin, a Japanese name.
- ? LAS, Sarano.
- LAV, Sarapi, translated Spedius, hence Zarrabe in E.
- LAVYN, Sarapikuka.
- ? LAY, Saraku.
- LECNE, Sanechikane, translated Licinius, hence Zuntzejin in E.
- LIC, Sauchi.
- LSV, Sanopi.
- ? M¹APC, Miratuchi : comp. Pict. Muirethach.
- ? SFN, Noagka.
- MVN, Nopika.
- SYD, Nopitu.
- SVANI, Nopibakau.
- OA, Mara, translated Niger, hence Mairu in E. As Mairubaita, comp. Pict. Morbet.
- ? OPA, Matura.

- ? OEP, Manetu : comp. Pict. Moneth or Munait.
OVES, Mapineno.
- ? OVI, Mapio.
- ? OVMV, Mapinopi.
OYANI, Makurakau : comp. Pict. Maicerce.
VCL, Pichisa, translated Phisius, probably Pisia in E.
VNAYA, Pikarakura, translated Otacilius Rufus, hence Bekarri Gorri in E.
- ? VKAL, Piuchirasa.
VLN, Pisaka, translated Fuscus, hence probably Pesca in E.
YAD, Kuratu : comp. Pict. Cruidae.
- ? YAN, Kuraka : comp. Pict. Kirkui.
YAYNA, Kurakukara.
YEYI, Kunekuu.
YNA, Kukara.
YIYI, Kuukuu, translated Titius, hence Koikoi in E.
YIS, Kuuno.
YR, Kutu : comp. Pict. Get and Gede.
YLA, Kusara.
YVD, Kupitu is Cupid.
YVO, Kupima.
SPAVN, Laturapika.
SPB, Latuul, translated Atius or Fatius.
/AP/Λ, Batuba.
/AV/Λ, Bapiba, translated Violens ; comp. Pictish Fivaid, Latin Fabius.

Feminine.

- APVN, Artupika, translated Tiitia.
AJ, Argo.
AVL, Arpisa.
AVLA, Arpisara.
AYIV, Arkuupi.
AYVS, Arkupino.
A/10, Arbama.
CA, Chira is probably Zeru.
CAI, Chirau, translated Cainnia, hence Zerua in E.
CAV/Λ, Chirapiba.
CASAY, Chiralaraku, translated Cafatia, hence Zerulurrekoi in E.
CASAYI, Chiralarakuu, same name.
CPE, Chitune.
CEFL, Chineagsa.
CEIC, Chineuchi.
CVS, Chipino.
FAP, Agertu, translated Varia.
FPAV, Agturapi, translated Bassa.
? FES, Aginno.
FILI, Agusau, translated Sentia, hence Egihatzaui in E.

- FI/11, Agubau.
 FVSI, Agpinou.
 FVSI, Agpinou.
 NAL, HAL, Karasa, translated Aria, perhaps Egurasa in E.
 NI, Kau, perhaps Caia.
 HON, Kamaka.
 LAF, Saraag, translated Lauci, probably Saregi in E.
 LEITE, Saneukune.
 LIA, Saura.
 MAPCI, Miratuchiu.
 ? MAPIC, Miratuuchi.
 MEOL, Minemasa.
 MIYPA, Miukutura.
 SAD, Noratu, probably Nortia.
 MAY, Noraku.
 SCIVN, Nochiupika.
 SCY, Nochiku.
 MII, Nota, Latin Gnata, hence Nata in E.
 SVSI, Nopinou.
 SYVM, Nokupino.
 OVI, Mapiu.
 VP, Pitu.
 VL, Pisa.
 YF, Kuag, translated Arria, perhaps Goegi in E.
 YIN, Kuuka.
 YIYE, Kuukune.
 YIYI, Kuukuu, probably Koikoi.
 SANAC, Larakarachi.
 SPEΩ, Latuneba.
 ΩAP, Baratū, translated Varin.
 ΩADC, Baratuchi.
 /IP, Bautu.

Names of Divinities.

- CA, Chira, Zeru, Coelum.
 YINA, Kuukara, Goikara.
 YINM, Kuukano, Goijaun.
 YVD, Kupitu, Cupido.
 SEP, Lanetu, Hercules.
 ‡VN, Itchpika, Istapeko, Venus.

Names of Places.

- AL8, Rasala, Rusellae.
 AO, Rama, Roma.
 ? CAI, Chiran.
 CALIS, Chirasanno.

CE, Chine, Sena.
 CESY, Chinenoku, of Sena.
 MVP, Nopitu, ? Nepete.
 OAL, Marasa.
 VL, Pisa.
 YEFAY, Kuneagerku.
 YVSNVY, Kupinokapiku.
 YVY, Kupiku.

Within the comparatively small compass of this paper, NAL, *sortze* appears 30 times, IA, *aur* 20, NA, *andre* 26, and IN, *uga* 9. The verb LAD, *zarratu*, alone or in composition with OI *mai*, appears about 50 times, AP *artu*, 33, NEI *ganio*, 31, AL *eritza*, 35, NA *ekarri*, 27. The word FEL, *aginza*, exclusive of its appearance in proper names, occurs 30 times; NY, *gogo*, occurs 20 times, and NO, *gomu*, 15. OA, *marra*, appears in *marakara* 11 times and as often in other connections. The word IL, *atso*, occurs 13 times, the postposition AS, *rano*, 15, and the adverb or relative SE, *non*, 18. These sixteen fairly determined Basque words thus represent about 400 of the words presented in the inscriptions here set forth, and make the reading of Etruscan a simple matter.

ADDENDA.

The following, extracted from Deecke and compared with the copies in Fabretti's three supplements and Gamurrini's Appendix, have just been sent me by Mr. VanderSmissem. The first number is Deecke's; F. 1, F. 2, F. 3, denote respectively the three supplements of Fabretti; and A. marks the Appendix.

Lat.—A · FABI · IVCNVS

4. F. 3, No. 105. Etr.—AV 8A /ILAPOIAL

arpi larabausaratumaurasa

arve ilhar abe-zarratu mai eritsa

behold Bean prop written tablet esteems

The Basque *ilhar* translates the French *haricot*. The Etruscan shows that the medial *h* is no part of the original word. The only term in modern Basque that approaches the form of the Etruscan *bai* and the meaning of the Latin *juncus*, which I suppose is what the scribe meant by *jcnus*, is *abe*, a prop, stay, tree. This must surely be the original Jack of the Bean-stalk, whom I had not expected to have the pleasure of meeting among the graveyards of Etruria.

5. A. 401, Tav. VI. *Lat.*—AR · TRIIBI · HISTRO
Etr.—AO · YPE/1I · OANA · SA
 rama kutunebau marakara anre
 erama Kutunebai Marakara andre
 it bears Kutunebai Marakara's wife

What the sculptor meant by Kutunebai as Triibis I cannot imagine. The *Etr. kutune* answers generally to the Basque *ekiten*, to undertake; hence *bahr ekiten* would mean to undertake a pledge, or to engage oneself. The name Marakara is identical in form with the term commonly designating a memorial. Here, however, it translates *Histro*, itself an Etruscan word. The *B. arrokeria* means boasting, romancing, rodomontade; *marraka*, which seems to connect with it, means any strange noise, such as mewling, bellowing, bleating. The element *mara* appears, a little altered in form, in *churimuri*, *zurumuru*, a vague rumour, the final *maru* denoting the noise or sound. The modern *B.* word for the poet or improviser is *koblakari*, *kobla* being a Provençal term meaning strophe or stanza. He is thus a stanza-bearer; and the *mara*, *marra* or *murukari* must have been the bearer of strange or inflated sounds, the actor.

8. A. 719, Tav. VIII. *Lat.*—L · SCARFVS · SCARPIAE · L · TVCIPA
Etr.—LAPNO · SCAP/AP · LAVYNI

In the *Etr.* the /P of SCAP/AP are peculiar in form, the / being rounded at the top and the P having a lower horizontal limb, making it appear like a combination of P and L. Also final YNI are indistinct.

zaratu kama · nochiratubatu · sarapikukau
 zarratu gomu no jarri du Batu Sarapi egokio
 written memorial which present does Batu Sarapi concerns

The name Scarpus is the Basque Sarapi, probably pronounced Sharpi. That most unclassical word Tucipa translates Batu, the common *Etr.* word for an army, which I have already shewn the relation of to the *Jap. butsu*, to fight and *bushi*, a soldier. It must, therefore, be a barbarous derivation from the Greek *teuchea*, answering to *teuchophoros*, an armed man.

9. A. 774, Tav. IX., is on a seal. The first line, supposed to be Latin, is, in the original, written from right to left: the second, from left to right. The initial letter of the first line is obscure, and so are the two in the second, which I have treated as Y or T.

ÆEL · AAX

REL · TETII

banesa para ku

banaiz parago

tunesa · kunekuda

duenza gune gudu

"I will be placed for who does to us fight;" which I suppose means "I am at the disposition of any one who wishes to attack us." It is thus probably an armorial motto. The Etr. equivalent of the B. *naiz*, namely *banaiz*, is now well known. The verb *para*, *paratu* to place, extend, is in the future with the suffix *go*. The compound *duenza* consists of *duen*, who does or has, and *z*, the post-position. In the Eugubine Tables VII denotes the modern *gudu*, a fight, in distinction from YP, now *ekit*, undertake. In Etr. *gudu* or *gudu* is a verbal form. There is no Latin in the inscription.

15. *Lat.*—C · ANNIVS · L · F · COELIA · GNAT

Etr.—FEL · ANNE · CVASNAL

aginza rakakane chipibanokarasa

aginza Erkaka ne Chipibano sortze

offering Erkaka to Chipibano *natus*

The name Annius must stand for Annulus. The B. for ring is *erhaztun*, from *erhi*, the finger. Finger-tip is *erkain*. The Jap. *kake*, to hang, hook, put on, &c., which makes *kake-gane*, a ring and staple for fastening a door, agrees with the B. *kako*, translated by the French *crochet*. I suppose, therefore, an old B. or Etr. word *erkaka*, a finger ring. The translation of Coelia by Chipibano I cannot explain. Were the second character A instead of V, some sense might be made of *zerubano*.

17. *Lat.*—C · ARRIVS · C · F · Q

Etr.—AO · APNYNI · VM PANAL

rama artukakukau pimiturakarasa

erama Artukakukai Bemitura sortze

it bears Artukaku Kai Bemitura *natus*

Artukaku, or in modern B. *artugogo*, means, to hold the memory, and is a common formula in sepulchral inscriptions. Here it is a proper name. It may have been used technically to denote the *arra* or earnest money which kept the seller in mind of the bargain with the intending purchaser. The final Kai is, I think, an Etr. form of Caius.

18. *Lat.*—C · ARRI · ARN · ARRIA · NAT

Etr.—APN · APNYNI · APPI ·

APNYNAL

artuka artukakukau artu tuu

artukaku kurasa

artuka Artukaku Kai artu dio

Artukaku sortze

receptacle Artugogo Kai receive it him does

Artugogo *natus*

Here, I think, the playful fancy of the Etruscan scribe has disported itself in heaping up *artu's*. The only doubtful word is *artuka*, literally, by holding, which I read receptacle, that which contains.

22. F. 3, No. 101. *Lat.*—Q · SCRIBONIVS · C · F

Etr.—FL · †ICV

ag sa ich u chi pi

egi so Ichauspe

behold Ichauspe

The exclamation or imperative would now read *so egi*. Ichauspe is a very Basque looking word, but I do not know how it translates Scribonius. To shut, enclose or hold, is *ich*, and ICV may be *hitz be*, under word, or *ospe*, sound, fame, renown. The compound is not in any Basque lexicon known to me. The Basque has lost its original words denoting writing, and letters generally.

Three other Scribonius inscriptions were found in company with the above, one in Latin and two in Etruscan.

F. 3, No. 102. A · SCRIBON

C · F

F. 3, No. 99. FL · †ICV · VL · MVYVAL

F. 3, No. 100. FL · †ICV · FL · MVY

egi so ichauspe pisa mipikupirasa

egi so ichauspe egiso mipiku

A comparison of the two latter leads me to regard Mipi, Mebe as a local name, answering in a measure to Meva in Mevania. Thus I read No. 99:

egi so Ichauspe Pisa Mebe jabe critsa

behold Ichauspe: Pisa Mebe's lord esteems

Pisa is a woman's name, and may be the widow of Ichauspe. I read No. 100:

egi so Ichauspe egi so Mebego

behold Ichauspe behold Mebe of

The genitive Mebe^go will be equivalent to "a native of Mebe."

27. A. No. 402, Tav. VI. L · /AFPNI · L · S
L · /AVRNI · L · F

The upper line is written in the original from right to left. The F of the second group is archaic, as are the L and S which constitute the third and fourth groups. The L is of the same form as that which appears in the *azti* of Atius, the haruspex (page 213). If the lower line be Latin it affords an argument in favour of the present reading of Etruscan. Translating it tentatively as Etruscan, I make:

zu abegi Tukau azi Al
sa babe Tukau so egi

"you welcomes Tukau's progeny Alsa; father Tukau behold."

The B. noun *abegi*, welcome, I treat as an Etr. verb. In B. *azi* means seed, and also to nourish, train, bring up: hence it may be an old word for *aur*, child, or *seme*, son. The separation of the word Alsa into two parts is not without parallel, but tells against the translation given.

26. SEDINA
MLABRI

These two lines, the first of which I have inverted, are found on different sides of an amphora. Neither can be Latin. They may read:

lanetu Ukara
Nosara ahal dio

"The Lanth Ukara—he governs Nuceria."

The word *lanetu* I have already referred to as an officer in the Etruscan confederacy frequently mentioned in the Eugubine Tables. The noun *al*, *ahal*, power, here conjugated with *dut* in its compound pronominal form, must be a verb meaning to exercise power, to govern. Nuceria, however, is a city name belonging to Campania, Umbria and Cisalpine Gaul.

27. A. No. 754, Tav. VIII. OA · FENI · LA
SIITRA

The upper line of this also was written from right to left. The T of the lower line is in the original a compound character, a semi-

circle above the base giving it the appearance of a tripod. I suppose it, therefore, to be composed of L and Y and to represent *gogo*.

mara · Aginkau · Sara
no di gogotu ra
memorial Aginkai Sorano from to remember

Here again a proper name is separated by the lines. The inscription was found between Bolsena, the ancient Vulsinii, and Sorano, which is not mentioned by the classical geographers. The postposition *di* or *dik* from, by, after, out of, is well represented by II, the first element in *debe*.

29. A. 954. LO	CINAE · B
LO	C · IVPIC ·
AO	AM · COIFCE
A	EREITO · QVES
	OVAME

I do not think it possible to make Latin of the right or perfect side. Of the mutilated left, *asma*, *asma*, *erama*, *ra*, give no connected sense. The right reads in Etruscan :

chiukarane · ahal
chi · upituuchi ·
rano · chimauagchine
netuneukuma · mipineno
chipiranone

I read Q as *mi* and the inverted C as if it were not inverted :

Chiukarane · al	Chiukarane · poten-
tzu · obeto hitz ·	-tate · best word ·
raño . seme au Agizen	towards · son Agizen
entun uko ema · imbe nion	to obey refusal giving · send I him did
chipi ranone	the youth to reconcile

Chiukarane is evidently the name of a place. It can hardly denote Clusium, where the bronze plate containing the inscription was found. The following *alchi*, *altsi*, analogous in form to the B. *altsu*, powerful, I suppose to be an Etr. noun, the power-holder or potentate, governing Chiukarane in the genitive of position. Literally *obeto hitz rano* means "towards the better word." It is probably a polite acknowledgment, answering to the hackneyed "your esteemed favour" of the English letter-writer. The following *seme*,

In the former its phonetic value is *ha*, constituting the first syllable in the word Hamath (Hittite Inscription, H. V., line 2). In the latter it has the values *e*, *eu*, bean being *etl* in Aztec. The Aztec hieroglyphic for *atl*, water, takes the place of the bean in the Hittite H. V., line 3, showing that *ha* was the original power of both symbols. Pliny (*loc. cit.*) speaks of religious practices connected with the bean among the Romans. It was regarded as impure by the Egyptian priests (Herodot. II. 37, Diod. Sic. I. 89), and by the Pythagoreans (Diog. Laert. VIII., 19, 21), who are supposed to have derived their lore from Egypt. The reasons for the aversion of the Egyptians and the regard of the Romans for this vegetable are historical. The lunar and bean name *ilar* or *hilar* was a tribal one, denoting a Hittite family, the Alarodians of Herodotus and the Allurians of the Assyrian monuments who dwelt in Armenia, the Illyrians opposite Italy, the Ilergetes and Ilercaones of Spain, and the Silures of Britain. Iluro, now Oléron, north of the Pyrenees, represents the same word. It was connected by the classical geographers with Lapurdum, whence the Basque Lapurta or the Labourd, just as Illyria connects with Liburnia, and Allapur with Alluria. So also Etruria furnishes Solaria and Portus Liburni, and in Liguria we find Ad Solaria and Libarna. When the Lupercalia were instituted at Rome, two families were appointed to preside over them, the Quintiliani and the Fabiani (Festus, 87). The latter, like the Fabii, were doubtless Etruscan Ilars, who understood the rites of the old Accadian Lubara, god of pestilence, and worshipped him under the twin names Lupercus and Februus. For the connection of this ancient deity with Jupiter Labradeus of Caria and the Irish royal hero Labradh Loingseach, see my essay on Monumental Evidence of an Iberian population of the British Islands, in *Trans. Celtic Society of Montreal*, Vol. I.



SEVENTEENTH ORDINARY MEETING.

The Seventeenth Ordinary Meeting of the Session 1884-'85, was held on Saturday, March 7th, 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

The following list of donations and exchanges was read :

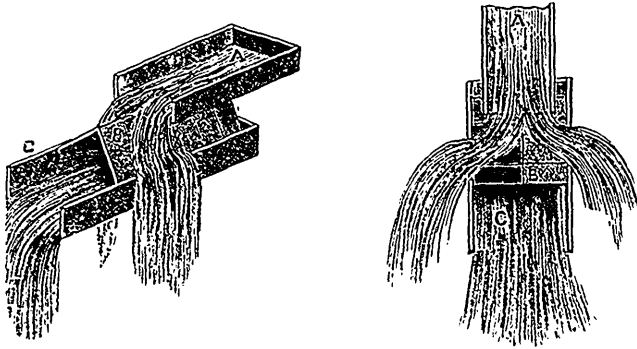
1. Transactions of the Manitoba Historical and Scientific Society, Nos. 12—18, Annual Report for 1884-5.
2. Canadian Practitioner, Vol. X., No. 3, March, 1885.
3. Science, Vol. V., No. 108, February 27, 1885.
4. American Journal of Science, March, 1885.
5. Monthly Notices of the Royal Astronomical Society, Vol. XLV., No. 3, January, 1885.
6. Journal of the Royal Microscopical Society, Series II., Vol. V., Part 1, February, 1885.
7. Bulletin de la Société Géologique de France, 3e Série, Tome XIII., 1885, No. 1.

Mr. T. H. Lennox was elected a member.

Mr. Charles Levey read a paper on "Gold Mining on the Saskatchewan," of which the following is an abstract :

The gold fields referred to are at and near Edmonton, on the North Saskatchewan River, N. W. T., Canada. The deposit, through which the present river cuts, is said to extend some sixty miles east and west. The northern and southern limits are not known. The thickness of the deposit is partly seen by the height of the river banks which, at the point referred to, are at least two hundred feet high. At the highest points, on some of these banks, gold can be washed out, but the quantity per cubic yard of dirt increases as we near the present water level. On the gravel bars the yield by hand working is about \$1.60 per cubic yard. The gold is in the shape of very fine dust and minute nuggets. The largest of these nuggets is not larger than the smallest mustard seed. The hand-mode of separating the gold from the dirt will be understood by reference to the sketches in which A is the Dump Box, B the Grisley, and C the Blanket Box. The Dump Box is filled with gravel, after which water is dashed upon it by the aid of a long handled dipper. This

washes the gravel from A to B. The coarse parts fall on either side of the double-inclined grate, while the finer parts fall through the



grates on to the blankets in the box C; all but the black sand and the gold are discharged. The latter adheres to the blankets. The Dump Box is filled and emptied repeatedly for say ten hours, after which the blanket is washed in an ordinary tub, to the bottom of which the gold and black sand fall. The water is next poured off, and two or three charges of fresh water are poured into and out of the tub in order to further cleanse the gold and black sand. When these are sufficiently clean, they are removed from the tub to the gold pan. This is done by tipping the tub over the pan, and then by dashing water from the pan into the tub. The gold cannot be successfully removed from the tub in any other way. The pan is now held under water and shaken until the mass it contains is much reduced in bulk, by the separation of the lighter portions of the sand. Some quicksilver is poured in, together with clean water, and the pan is shaken until the quick silver has taken up all the gold. It is then again placed under water, and violently shaken to remove all the black sand. The remaining contents are then poured into a wash-leather which has been previously wetted and stretched. The edges of the leather are secured in the right hand, when the centre of it assumes the shape of a pounce. The neck of this is wrung until all the free quicksilver is squeezed through the pores of the leather, and falls in fine beads into the pan placed for its reception. When opened the bag is found to contain a ball of amalgam of silver colour and of about the consistency of putty. This is moulded in the fingers to the required shape, and then placed upon an iron shovel.

Heat is applied beneath the shovel to drive off the quicksilver that could not be removed by pressure. After a sufficient application of heat, the button of amalgam assumes a gold colour and is allowed to cool. This is the gold amalgam of commerce.

The rest of the paper was descriptive of the machine methods of recovering the gold.

In answer to questions from Messrs. Murray, Miles, Bain, Livingston and others, Mr. Levey said that hand-work had been going on for nine years, and machinery work five years; the first was not commonly satisfactory, and the other produced about \$6 per day; that the tract was 200 miles north of Calgary, and extended 50 miles; that the yield per pan was about two cents; that the sand contained magnetic iron and a little platinum; that there were from 1,500 to 2,000 settlers; that there were large boulders of gneiss and granite which, he thought, came from the Laurentian to the north-east; and he thought hydraulic mining would pay after a very large expenditure.

EIGHTEENTH ORDINARY MEETING.

The Eighteenth Ordinary Meeting was held on Saturday, 14th March, 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

The following list of donations and exchanges was read:

1. "Some Historical Names of Places of the Canadian North-west." By Charles N. Bell, Esq.
"Our Northern Waters." By the same. Presented by the Author.
2. Science, Vol. V., No. 109, March 6th, 1885.
3. Journal of the Franklin Institute, March, 1885.
4. Essex Institute, Historical Collections, Vol. XXI., Nos. 4, 5, 6, April, May and June, 1884.
5. The Pennsylvania Magazine of History and Biography, No. 32. Vol. VIII., No. 4, December, 1884.
6. Trübner's American, European, and Oriental Literary Record, Nos. 205-206.
7. Annual Report and Proceedings of the Belfast Naturalists' Field Club, 1883-84, Series II., Vol. II., Part IV.
8. Journal of the Tuckett Microscopical Club, Series II., Vol. II., No. 11 March, 1885.

9. Journal of the Asiatic Society of Bengal, Vol. LII., Part II., 1883.
Proceedings of the Asiatic Society of Bengal, No. X., November, 1884.
10. Verhandlungen der Gesellschaft für Erdkunde zu Berlin, Band XI., Nos. 6-10, Sitzungen vom 7 Juni, bis 29 November, 1884.

Mr. A. McCharles read a paper on "The Extinct Cuttle-Fish in the Canadian North-west."

This paper has been separately published by the author.

In answer to a question by the President Mr. McCharles said sixteen species had been found.

Mr. McDougall remarked on the immense number of shells he had observed in the sand at Selkirk, and with reference to the S. E. glacial drift meeting the other S. W. one suggested that possibly it might be the same drift which had turned N. W. at the supposed place of meeting.

Mr. Bain objected to this that there was no dividing ridge, but that the western limit of the Laurentians was the Lake of the Woods.

Mr. Levey drew attention to the occurrence of boulders in clusters, and stated that in the Lake of the Woods some islands were Laurentian, others Silurian.

Mr. Dale, referring to the interesting specimen produced, alluded to the too extended use of the term "cuttlefish," which should properly be restricted to the belemnites.

Mr. Livingston having asked if any theory was proposed to account for two glacial flows, Mr. McCharles said that it was supposed at that time the Red River flowed south and was a branch of the Mississippi.

NINETEENTH ORDINARY MEETING.

The Nineteenth Ordinary meeting was held on Saturday, 21st March 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

Mr. VanderSmussen presented the following Report from the Committee appointed to consider the advisability of

dividing the Institute into sections, in accordance with the suggestions contained in the President's Inaugural Address.

To the Members of the Canadian Institute :

"Your Committee beg to recommend that the Institute should request the Natural History Society to appoint a Committee from that body, to confer with them on the best mode of dealing with the recommendations and suggestions contained in the Address."

On motion by Mr. VanderSmissem, seconded by Mr. Marling, the Report was adopted.

It was moved by Mr. Marling, seconded by Dr. Kennedy, and carried, "That the Secretary be instructed to correspond with the Secretary of the Natural History Society, requesting him to convey the wish that the Society would appoint a Committee to meet a Committee of the Institute."

The following list of donations and exchanges was read :

1. Monthly Weather Review, Dominion of Canada, for February, 1885.
2. "On the Superficial Deposits and Glaciations of the District in the Vicinity of the Bow and Belly Rivers," by George M. Dawson, D.S.F.G.S., F.R.S.C. Presented by the Author.
3. Proceedings of the American Antiquarian Society, N.S., Vol. III., Part 3.
4. Science, Vol. V., No. 110, March 13th, 1885.
5. Minutes and Proceedings of the Institution of Civil Engineers, Name-Index, Vols. I. to LVIII., Sessions 1837 to 1878-'79.
6. Proceedings of the Royal Geographical Society, Vol. VII., No. 3, N.S. March, 1885.
7. Correspondenz-Blatt der Deutschen Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte, XVI. Jahrgang, No. 1 u 2, Januar und Februar, 1885.
8. Le Globe, Journal Géographique, Organe de la Société de Géographie de Genève, Tome XXIV., Quatrième Série, Tome IV. Bulletin No. 1, Novembre, 1884—Janvier, 1885.

Mr William Dick was elected a member.

Mr. A. B. Macallum, B.A., read the following paper on "The Alimentary Canal in Ganoid Fishes :"*

The Alimentary Canal in *Acipenser*, *Amia*, and *Lepidosteus* shows several peculiarities of structure over and above what are

*The subject-matter of this short description is treated more fully in a paper communicated to the English Journal of Anatomy and Physiology

usually observed in fishes. In some respects these peculiarities may be considered as due to a derivation accompanied by little differentiation from structures which were probably present in the primitive type of fishes.

Of these, pouch-like diverticula of the epithelium in the œsophageal portion of the fore-gut in the genera named, are in their inflated portion wholly lined by flattened, almost squamous, epithelial cells, each with a flattened nucleus and a quantity of clear protoplasm. The cells in the neck of the pouch are cylindrical, strongly ciliated; and but little differentiated from the common epithelial cells of the œsophageal mucous membrane. The neck varies much in diameter and length, being as a rule about half the diameter of the inflated portion. Pouches of this description are most highly developed in *Acipenser*, least so in *Lepidosteus*. It is impossible to say at present what their function is, but I believe that it is transudatory. They are not glandular in the present definite acceptation of the word, and they cannot be for the purpose of absorbing digested food matter, since they are too far in front of the seat of digestive changes. I have seen no description of like structures as occurring in any other vertebrate.

The œsophageal portion of the fore-gut in *Amia* and *Acipenser* possesses glands similar to those found in the stomach in the same genera, and which undoubtedly secrete pepsin. In this same part of the fore-gut there are gland tubules which, in the cells lining them, show all the degrees of differentiation from a simple epithelial crypt to a fully formed peptic gland tubule. In the same two general œsophagus and stomach act together as a digestive structure, both being provided with peptic glands. In *Acipenser* the part of the fore-gut which has hitherto been termed the œsophagus, possesses taste-buds in large numbers and cannot, therefore, be rightly so named. The part following it, and terminating behind the mouth of the air duct, must, from the histological structure, be considered as the œsophagus.

The lining epithelium of the œsophagus in *Acipenser* and *Lepidosteus*, and that in œsophagus and stomach in *Amia*, is ciliated. In all, the stomach possesses peptic glands of the type usual in fishes. In *Acipenser*, glands of this character have been previously overlooked, Leydig having described as such the ordinary epithelial insinkings, or crypts, into which the true glands open.

In the mid-gut and end-gut the epithelium is ciliated, the size of the cilia differing greatly, sometimes being so delicate as to resemble the exceedingly fine protoplasmic processes of the same cells in higher vertebrates. Epithelial insinkings and tubules, to which one can with difficulty attribute a glandular function, are present in large numbers in both sections. The epithelium forming them is ciliated, and contains a number of beaker cells. These tubules are undoubtedly the homologues of the Lieberkühnian glands in higher vertebrates.

In *Acipenser*, tubules are present in the mucous membrane of the spiral valve, which are distinguished from those of the neighboring wall of the intestine, in that they are longer and slenderer than those, the cilia of the cells forming them being shorter and more delicate, while beaker cells are wholly absent, but abundantly present in the tubules of the usual kind. Such structures are not very numerous, and it may be that a study of fresh material may show them to be not materially different from the others. In this genus also the epithelium of the spiral valve is very strongly ciliated, and its shallow crypts are abundantly supplied with beaker cells.

One important point in connection with the histology of the spiral valve in *Acipenser* has yet to be noticed. Usually the valve is thick, and a cross section of it shows to what the greater part of this thickness is due: lymph follicles, often over a dozen in number in a single vertical section. Hyrtl described a large lymph organ as forming the greater part of the thickness of the valve in *Acipenser ruthenus*, and Ayers has found something similar in this species and in *Lepidosiren*. These follicles in *Acipenser rubicundus* are, in all probability, the homologues of Peyer's patches which are therefore, so far as is yet known, confined in fishes to *Acipenser* and *Lepidosiren*.

In *Amia* the epithelium of the mucous membrane is ciliated from the pharynx to the vent. Cilia are present in the same extent in *Acipenser* and *Lepidosteus*, except in the stomach.

The pyloric appendage in *Acipenser* and *Lepidosteus* is lined on its inner surface by epithelium, resembling in every respect that of the mid-gut, and completely lacking a glandular character. These appendages, in some other fishes, have been found to secrete pepsin, trypsin, and diastase. This is not the case in *Acipenser*; no enzymes were found when proper precautions were taken to remove the mucus and food matter, which usually gains an entrance by the

mouth of the large duct of the organ from the chyme as it escapes from the stomach, and which contains traces of pepsin. Trypsin may gain an entrance also, as the pancreatic secretion is poured into the canal nearly opposite the opening of the appendage. Without taking the precaution of removing the matter present, traces of all the enzymes named were found in the extracts of the appendage. Krukenberg came to a different result with *Acipenser ruthenus*, having found the enzymes normally present in the organ.

A pancreas is present in the three genera. This organ in *Acipenser* is disseminated through the right half of the peritoneal cavity in the liver, and between it and the valvate portion of the mid-gut. The distribution of the pancreatic tubules seems to follow wholly the course of the branches of the *arteria coeliaco-mesenterica*, about which they entwine. The duct of the organ opens on the same papilla on the inner wall of the intestine with the bile duct. This papilla is placed about a centimetric from the tip of the pyloric valve. The tubules of the pancreas are much similar to those observed in other fishes, except that structures analogous to the centro-acinar cells of Langerhans have been observed in them.

A pancreas has been described by Balfour and Parker as occurring in young *Lepidostei* in the form of a rounded organ, situated on the posterior face of the pyloric portion of the mid-gut. I find the pancreas in *Lepidosteus* to be much more extended, its tubules being partly imbedded in the dorsal face of the posterior two-thirds of the liver, and partly entwined about the portal vein, as far back as the posterior border of the pyloric appendage. The organ which was considered by Balfour and Parker to be the pancreas, seems to be an accessory spleen for the greater part, with a few pancreatic tubules in it. The duct of the pancreas opens in common with the bile duct into the intestine, the junction of the two taking place immediately outside the intestinal wall.

A pancreas has not hitherto been found in *Amia*. The reason is that it is imbedded to a large extent in the liver, forming the greater part of the bridge between the right and left lobes. The tubules are arranged about the larger interlobular branches of the portal vein. The duct passes straight backwards, to open beside the bile duct into the mid-gut near the pyloric valve.

Mr. Boyle doubted the statement that the digestive process in snakes is rapid ; his experience with snakes and alligators was to the contrary.

Mr. Loudon also held this opinion.

Mr. Macallum replied that animals in captivity or fear do not digest rapidly ; otherwise they do.

Mr. J. A. Livingston then read a paper on "New Discoveries in Gravitation and its Correlations."

The physical circumstances which modify or enhance the digestive process do not differ in any marked characteristic from those of the higher animals save one: the temperature required is considerably lower. The enzymes seem to have more vigorous action than those of mammals and birds. In the sturgeon, digestion is very rapid, resembling in this respect the process as found in reptiles. In the case of the latter, several specimens of *Storeria* digested frogs of small size in less than an hour ; and similar experiments were made with the sturgeon with quite the same results.

TWENTIETH ORDINARY MEETING.

The Twentieth Ordinary Meeting was held on Saturday, 28th March, 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

Messrs. Carpmael and Livingston were appointed auditors for the year.

The following list of donations and exchanges was read :

1. Report on Canadian Archives by Douglas Brymner, Archivist, 1884.
2. The Pennsylvanian Magazine of History and Biography, Nos. 30 and 31. Vol. VIII., Nos. 2 and 3, June and October, 1884.
3. Transactions of the American Society of Civil Engineers, December, 1884.
4. Selected Papers of the Rensselaer Society of Engineers, Troy, N. Y., Vol. I., No. 2, March, 1885.
5. Science, Vol. V., No. 111, March 20, 1885.
6. Annual Report of the Trustees of the American Museum of Natural History, Central Park, N. Y., for 1884-'85.

7. Bulletin of the Illinois State Laboratory of Natural History, Normal, Illinois, Vol. II., 1884.
8. Description of a New Species of Crinoids with Articulating Spines, by George Jennings Hinde, Ph. D., F.G.S.
9. Proceedings of the London Mathematical Society, Nos. 231-234.
10. Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Sitzungen vom 18 Oct., 1884, und 15 Nov., 1884.
11. The National Anthem for India, with Translations into several Oriental Languages.
 An Account of the Proceedings of a Meeting held in the National Club, Whitehall, with the Speeches in favor of the Anthem Movement.
 Report of a Meeting in Grosvenor House, &c., on the same.
 Presented by Henry Rowsell, Esq.

Mr. A. McCharles was elected a member.

Mr. A. B. Macallum, B.A., Fellow of University College, read the following paper on

THE NERVE ENDINGS IN THE CUTANEOUS EPITHELIUM OF THE TADPOLE.

The results attained in the study of this subject have given the following : *

1. There are two plexuses of non-medullated fibres, one wide-meshed, placed some distance below the corium, the other very narrow-meshed, situated immediately beneath the epithelium. The first, which may be termed the primary or fundamental plexus, sends up fibres at various distances which pierce the corium and unite with the secondary or subepithelial plexus. The meshes of the latter are often as narrow as the basal surface of an epithelial cell.

2. From the primary plexus, fibres here and there pass up through the corium to terminate in swollen bead-like bodies between the epithelial cells.

3. From the secondary plexus arise minute fibres, which, ascending between the epithelial cells, terminate either within the latter near their nuclei, or between them, or after branching in both fashions.

4. The fibres which enter cells of the basal and intermediate layers of epithelium, are provided with sheathing structures known as the Figures of Eberth, which decrease in size as the cells con-

*The points treated of in the first part of this abstract, are dealt with fully in a paper published in the Quarterly Journal of Microscopical Science for November, 1885.

taining them show fewer and fewer signs of vitality, that is, as the cells progress towards the superficial layer of the epithelium the Figures of Eberth diminish in size, and in the superficial layer vanish almost completely. This, I think, is an indication that the Figures of Eberth protect the intracellular ends of the nerve fibrils from the vital processes of the cells.

A further study on the same subject has given the following results:

1. The Figures of Eberth are the secretion or rather the production of the intracellular ends of the nerve fibrils, and are not formed from or by the cell protoplasm. This is seen in cases where a Figure of Eberth may be continued outside the cell on the nerve-fibril, or in cases where the cells have been brushed away, but leaving the Figures, which then soon become abnormally large. In the latter no cell protoplasm is present, and consequently the Figures must be produced by the fibrils.

2. Free intercellular nerve endings are produced by the intracellular fibres losing the cells with which they are connected, as in the case when the latter die or are cast off. This is evident from the fact that free intercellular endings are most abundant between the superficial cells.

3. So far as yet observed, the intracellular fibrils never end in the nuclei.

In answer to a question by Dr. Bryce, Mr. Macallum said that the nerves of the retina terminate in the rods and cones, which he illustrated by a diagram.

TWENTY-FIRST ORDINARY MEETING.

The Twenty-First Ordinary Meeting was held on 4th April, 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

The following list of donations and exchanges was read:

1. The Canadian Practitioner, Vol. X., No. 4, April, 1885.
2. Proceedings of the Academy of Natural Sciences of Philadelphia, Part III., November-December, 1884.
3. Journal of the New York Microscopical Society, Vol. I, No. 3, March, 1885.

4. Science, Vol. V., No. 112, March 27th. 1885.
5. Contributions to North American Ethnology, Vol. V., from the Bureau of Ethnology, Smithsonian Institution, Washington, D. C.
6. Curious Facts Concerning Man and Nature, Medical Series, Nos. 3 and 4. Probable Epithelioma cured by Astringent Washes. Reminiscences of Rev. Dr. Wells. Presented by Dr. Samuel W. Francis, Newport, Rhode Island.
7. The American Journal of Science, April, 1885.
8. Bulletin of the United States Geological Survey, Nos. 2, 3, 4, 5 and 6.
9. The Lineal Measures of the Semi-Civilized Nations of Mexico and Central America, by Prof. Daniel G. Brinton, Academy of Natural Sciences, Philadelphia. Presented by the author.
10. Monthly Notices of the Royal Astronomical Society, Vol. XLV., No. 4, February, 1885.
11. Abhandlungen aus dem Gebiete der Naturwissenschaften; herausgegeben vom Naturwissenschaftlichen Verein in Hamburg, VIII. Band, Hefte I., II., III.
12. Bulletin de la Société Royale de Botanique de Belgique, Tome Vingt-troisième, 1884.

Mr. James Bain, jun., read a paper on "The Present Condition of the old French Fort at Ste. Marie":

Mr. Bain briefly summarized the history of the French mission to the Hurons from 1633 until its destruction in 1649 by the Iroquois.

After describing the fort and church built by the Jesuit Fathers at their mission station of Ste. Marie on the River Wye, near the present town of Midland, he exhibited a ground plan, extracted from the Relations des Jésuites, showing the line of fortification and the moat which surrounded it.

He stated that in 1856 some of the walls were six feet high, but on visiting it in 1884 he was grieved to find that the only traces of it were to be found in a few heaps of earth and broken stone. After describing the general appearance of the surrounding country, Mr. Bain presented to the Institute a plan showing the present positions of the earth heaps and of the depressions where the moat and canal had been.

Mr. Boyle stated that the collection of antiquities on the table was intended as the beginning of a collection to be kept in the Institute, and spoke of the necessity of preserving specimens and records. Ruins should be observed, measurements taken, drawings made, &c. Farmers and others should be asked to be careful of discoveries. He himself had made a discovery of beads in a cave on the Grand River. Referring

to Mr. Bain's statement that the Jesuits had planted a hemlock as a memorial of the burial of Brébeuf, he questioned whether a hemlock will last 200 years.

The President, alluding to the statement that some of the Hurons had fled to Manitoulin from the invasion of the Iroquois, said that Manitoulin was not mentioned in the Relations, and suggested that probably Beausoleil Island was meant, where he had seen ruins, which he briefly described.

TWENTY-SECOND ORDINARY MEETING.

The Twenty-Second Ordinary Meeting was held on 11th April, 1885, Dr. G. Kennedy, 2nd Vice-President, in the Chair.

The minutes of last meeting were read and confirmed.

A communication was read from the Governor-General's Secretary, enclosing a despatch from the Earl of Derby, Secretary of State for the Colonies, expressing the high appreciation of Her Majesty's Government of the services rendered by Mr. Sandford Fleming, C.M.G., in connection with the Prime Meridian Conference at Washington.

The following list of donations and exchanges was read :

1. Bulletin of the Essex Institute, Vol. XV., Nos. 10-12, Oct., Nov., and Dec., 1883.
2. Science, Vol. V., No. 113, April 3rd, 1885.
3. Journal of the Franklin Institute, April, 1885.
4. Elephant Pipes in the Museum of the Academy of Natural Sciences, Davenport, Iowa, by Charles E. Putnam, Esq.
5. The Osteology of *Amia Calva*, by Dr. R. W. Shuffeldt, U. S. Army.
6. Records of the Geological Survey of India, Vol. XVIII., Part 1, 1885.
7. Bulletin de la Société d' Anthropologie de Paris, Tome Septième (III. e Série,) 4e Fascicule, Juillet à Décembre, 1884.
8. Bulletin de la Société Géologique de France, 3e Série, Tome XIII., No. 2, 1885.
9. Mémoires et Compte Rendu des Travaux de la Société des Ingénieurs Civils, Janvier, 1885, 4e Série, 38e Année, 1er Cahier.
10. Boletín de la Academia Nacional de Ciencias en Córdoba (República Argentina) Tomo VII., Entrega 3a.

Mr. Ernest E. T. Seton read a paper entitled "Outlines of Ornithology," in which, after outlining the general anatomy of birds, he gave pretty full descriptions of a number of birds found mainly in the Canadian Northwest.

Mr. Boyle had observed the American cuckoo hovering about other birds' nests, and asked if it laid its eggs in them; referred to the fact telegraphed from Australia to the British Association in Montreal of the discovery that the ornithorhynchus lays eggs; and said that the projection on the bill of the female hornbill seemed intended to prevent her from getting out of the nest when imprisoned by the male.

Mr. McDougall had found near Winnipeg four different kinds of eggs in one nest; did not think the prairie lark so musical as the English lark; and referred to the sandhill crane as difficult to approach and swift in running, with a flavour like the wild turkey, although a different species.

In reply, Mr. Seton said there were two species of cuckoo in Canada—the black-bill and the yellow-bill—the former being regular in rearing its young like other birds, but the other very irregular; that the meadow lark has different songs in different seasons; and that the horny projection on the bill of the female hornbill is in breeding time only.

TWENTY-THIRD ORDINARY MEETING.

The Twenty-Third Ordinary Meeting was held on 18th April, 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

The following list of donations and exchanges was read:

1. Transactions, No. 1, 1879-80, of the Ottawa Field Naturalists' Club.
2. Bulletin of the Philosophical Society of Washington, Vol. 7, 1885.
3. From the New York State Library, Albany, Library Reports, 65th and 66th, 1882, 1883; Reports of the New York State Museum of Natural History, 28th, 33rd to 37th; Documents relating to the Colonial History of the State of New York, Vol. XIV.
4. The Opportunities of the Medical Profession and their Demands, by W. H. Bailey, M.D.

5. The Journal of Speculative Philosophy, Vol. XVIII., No. 3, July, 1884.
6. Science, Vol. V., No. 114, April 10th, 1885.
7. Appleton's Literary Bulletin, Vol. IV., No. 2, March to April, 1885.
8. Report of Proceedings of the Seventeenth Annual Convention of the American Railway Master Mechanics' Association in Convention at Long Branch, N. J., June 17th, 18th, 19th, 1884. Presented by J. D. Barnett, Esq.
9. A Primer of Tariff Reform, by David A. Wells, from the Committee of the Cobden Club.
10. "The British Association in Canada," by Sir J. Henry Lefroy, K.C.M.G. Presented by the author.
11. Anales del Circulo Médico Argentino, Año VIII., Febrero, 1885, Tomo VIII., Num. II.
12. Annales des Mines, Huitième Serie, 6^e Livraison de 1884, Tome VI.
13. Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Sitzung von December, 1884.
14. Correspondenz-Blatt der deutschen Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, XVI. Jahrgang, Nr. 3. März, 1885.

It was resolved, on motion by Prof. Pike, seconded by Mr. VanderSmussen: That Dr. Ellis, Mr. Sandford Fleming, Col. Gzowski, Mr. Alan McDougall, Mr. Kivas Tully, Mr. C. Carpmael, Prof. R. Ramsay Wright, Prof. Chapman, Prof. Galbraith, Prof. Pike, Dr. Oldright, and Dr. Bryce be requested to act as a committee to indicate to the City Council the advisability of making an immediate investigation of the currents in the lake near Toronto before taking any steps to decide the position of the trunk sewer.

The following paper on "The Ancient Egyptian Language," by the Rev. George Burnfield, of Brockville, was read by Mr. M. L. Rouse:

ANCIENT EGYPTIAN LANGUAGE.

The small country of Egypt once stood in the van of nations in many departments of arts and science. Egypt proper extends only from the Mediterranean on the north, to Assuan on the south, in lat. 24. The Lybian Desert hems it in on the west, and the Arabian Gulf and the River El Arish on the east and north-east. The area within these limits contains about 100,000 square miles.

The bulk of the arable soil is contained within the triangular shaped Delta. The apex of this triangle may be placed near Heliopolis, a line from this point to Alexandria will represent the perpen-

dicular, another extending towards Pelusium the hypotenuse, while the coast line from Alexandria to Port Said will represent the base.

South of Heliopolis Egypt's arable soil is confined to the Nile valley. Through this valley sluggishly flows the old Nile, of whose source and annual rise Herodotus tells so many marvellous stories. On each side of the river is a level strip of land, reaching back to the flanks of the mountain ranges. The part of this area contiguous to the river only is fertile, while over the remote parts the sands of the Desert maintain the mastery, and a perpetual struggle is carried on by the river on the one hand and the sand on the other.

The valley gradually contracts southward, until the arable land becomes a mere strip which the Fellahin cultivate in the most Primitive method, and from which they derive the most scanty pittance. These green strips and the few palms, under whose shade the toiling Egyptians find shelter from the sun, are merely sufficient to relieve the monotony of barren sand and sun-bleached hills which meet the eye everywhere else. Only a little more than the tenth of the whole area of Egypt is capable of cultivation, so that only ten or eleven thousand square miles are the producing area. It is plain, therefore, the population must always be very limited.

The most reliable statement gives Egypt now a population of about five million. In a country whose soil is so fertile, and which can produce two crops of wheat a year, a much denser population can be sustained. In ancient times the agricultural appliances seem to have been of the same kind as those now used, and as the Nile is Egypt's perpetual fertilizer, the country was capable of supporting as dense a population then as now. Perhaps at no time has the population been so great as to test the producing power of the soil, for from the 12th Dynasty onwards, the period of Egypt's greatest achievements in war, in architecture and literature, the foreign wars were a steady drain on the population.

In that small country were laid the foundations of mathematics, astronomy and literature; and there, too, art achieved some of its mightiest and finest triumphs. On its soil the flag of almost every civilized nation has been unfurled, and the annals of Egypt, on Papyrus Rolls, on the walls of ancient temples and tombs, record victories over now forgotten tribes and over powerful nations. Such a people is worthy of our study, who could erect massive pyramids and temples, that line the banks of the Nile for nearly 1,000 miles,

and where are to be seen columns and capitals carved with a delicacy and fidelity to nature not excelled in the palmiest days of Grecian Art.

In the Egyptian language there is a subject of deep interest to every philologist, as well as to every investigator into the origin and development of the early races to whom we owe so much.

In order to determine the fundamental nature of the Egyptian language, it would be of immense advantage could we determine the original locus of the race prior to its immigration into the Nile valley. One theory is that the race was Hamitic, and came into the Nile valley and the Delta from Ethiopia, which probably represented modern Nubia and Abyssinia. The race, however, seems to have come westward from the Accadian Highlands and the Euphrates valley. They could reach Ethiopia by two ways, either by taking a south-westerly route until they came to the Mediterranean, and thence to the fertile plain of the Delta, or by coming south through Arabia, and then crossing the Arabian Gulf, they could have penetrated the desert, near Suakim, or any suitable landing place in that region, and thence reached any part of the interior. It is scarcely credible, however, that any branch of the primitive stock would have undertaken a march through the terrible desert of the Arabian Peninsula, and would have accomplished a much more perilous task of crossing the Arabian Gulf. A long march southward along the Persian Gulf, and then a passage over the Indian Ocean, south of the Arabian Peninsula, would have been a much more improbable enterprise. The ancient line of travel, between Egypt and the countries on the north-east of her, extended along the Mediterranean shore, through Phœnicia and Syria to Babylon and Nineveh. Moreover, it is an admitted fact that the oldest monuments are in lower or northern Egypt. The Pyramids, the monuments of Memphis, the temple of Heliopolis, and the ancient one at Denderah, are much older than those of the south. This would seem to indicate that the original Egyptians settled first in the north, and gradually moved southward as enterprise or social necessity or war forced them.

Besides it is a logical and forcible inference that there would have been Nigritic blood in the veins of the early Egyptians if they had been either the original inhabitants of Ethiopia, or had by conquest or treaty settled in pre-historic times among the original inhabitants

of that country. But the flesh colouring on the most ancient Egyptian tombs is brown with a tinge of red, and the form of the features is not Nigritic. It is not until the time of the 25th Dynasty that there is evidence of Nigritic blood in the veins of the Egyptian kings. The features of the Sphinx are not Nigritic, and the colouring, yet visible, is of a reddish hue. The lips are full, but that is the case with the Semites, whose original locus was, in my judgment, the same as the first settlers in the Delta. A side view of the Sphinx gives one the impression that the ideal of the sculptor who chiselled the features of that colossal symbol of royalty and wisdom, which has remained a silent and unchanged witness of the rise and fall of kings and of the Egyptian race, was a Caucasian face.

The original immigrants probably came in isolated tribes, and, thus spread over the Delta, would occupy and till an area of soil which would become the property of the tribe that cultivated it. An ancient historic document says that the sons of Mizraim, the people who dwelt in Upper and Lower Egypt, were the Ludim, Anamim, Pathrusim. That is, these were the tribal names of the descendants of the original Egyptians, and some of these names are verified, for they are the names of places in Egypt in historic times. Probably offshoots of those original tribes pushed westward and southward, and though retaining the language of the tribes in the Nile valley, in time they were regarded as an alien people. And we find in the period of the Thothmes and Rameses, and even earlier, that the Egyptians hated the Cushites on the south, and treated them as a foreign people, while they seem to have been able to understand the Cushites, and communicate with them without interpreters.

Whatever their original source may have been, the evidence of the earliest monuments and historical documents is that the Egyptians at that time were a mixed people.

Professor Rawlinson says (R. Vol. I. 100): "Neither the formation of their skulls, nor their physiognomy, nor their complexion, nor the quality of their hair, nor the general proportions of their frames, connect them in any way with the indigenous African races, the Berbers and the Negroes."

Dr. Birch says: "On the earliest monuments they appear as a red or dusky race, with features neither entirely Caucasian nor Nigritic; more resembling at the earliest age the European, at the middle period of the Nigritic races, and at the most flourishing

period of their Empire, the sallow tint and refined type of the Semitic families of mankind." (Egypt from Earliest Times, page 9).

This double element visible in the race is evident in their language also. The essence of the language, its blood and marrow, is Semitic, while its form or structure is to some extent Turanian.

Bunsen says (Vol. V., Egypt's Place in History, p. 87): "The Egyptian roots find their organic development in both the Semitic and Aryan system of languages; the Egyptian grammatical forms also contain germs afterwards developed sometimes as Semitic, sometimes as Aryan forms, sometimes as both."

The Egyptian is an agglutinate, monosyllabic language, expressing the persons of the verb and the declensions of the substantives by pronominal forms and prepositions glued to the verbal root and to the substantive.

Let us take the auxiliary verb *au*, "to be," as an example of the agglutinate form of the Egyptian :

SING.		PL.	
ana	I am	aunu	we are
auek	} thou art	au-ten	you are
aut			
auf	he is	au-sen	they are
aus	she is		

The root is *au*, and the final vowel sounds and syllables are contractions of the personal pronouns appended to the root. By a comparison of this verb with the Syriac or Northern Semitic form, we can see that the fundamental root and the structural form is the same in both :

SING.		PL.	
Hit	I was	Haun	we were
Haut	thou wert	Hautun	} ye were { masc.
Hou	he was	Hauten	
Hout	she was	Hau	they were

The Egyptian and Syriac roots are evidently here from the same source, and if the hieroglyphic or picture form be the most ancient, the Egyptian will be nearer to that original, and while the Syriac and other Semitic forms show they are descendants from that original, yet their modifications are greater. The difference between these two forms is not greater than might be expected from different branches of the same race, isolated for centuries and living under different social and physical conditions. In Egyptian the root is *au*,

in Syriac *hav*, a difference only in the rough breathing prefixed to the latter, while the terminations in both, as far as can be traced, are probably contracted forms of the personal pronouns.

The structure of the personal pronouns in Egyptian is decidedly Semitic, and strongly supports the race unity, as well as linguistic unity, of the ancient Egyptians, the Semites of the Arabian Peninsula, Palestine and Syria, and the Semitic Assyrians and Babylonians, who occupied the Euphrates and Tigris valley.

The Egyptian personal pronouns are :

	SING.		PL.	
Anak	I	Enen	Anen	we
Entek	thou	Enteten		you
Entef	} he	Entesen	}	they
Su		Sen		
Entes	she			

The Assyrian pronouns are :

	SING.		PL.	
Anacu	I	anakhni		we
atta	thou	attunu		you
su	he	sun	}	they
si	she	sin		
		sunutu	}	

The Hebrew pronouns are :

	SING.		PL.	
Anochi	I	anachnu		
attah	thou	attem	}	you
Hu	he	atten		
Hi	she	Hem		they, m.
		Hen		they, fem.

The Egyptian relative pronoun is *Ma*.

The Hebrew relative pronoun is *Mah* and *Mi*.

The Assyrian relative pronoun is *Man-nu*, *Man*, *Ma-a* and *Mi*.

On examination of the substantives there is evidence, in their root form and grammatical structure, of unity of origin in the Egyptian and Semitic languages. There are only two genders in Egyptian, masculine and feminine. This is so also in Assyrian, Hebrew, and other Semitic tongues.

The feminine termination in Egyptian is Ⲛ , *t*.

The feminine termination in Hebrew is *ath*.

The feminine termination in Assyrian is *atu*, *itu*, *etu*.

In Egyptian the plural is formed by adding *u*, or *iu* to the singular, as *Ta* the land, *Tau* the two lands. *Suten* a king, *Suteniu* kings.

The Assyrian plural forms are *anu*, *unu* and *utu*, from which the Egyptian forms may have come by modification or contraction. The final vowel, however, is the same in both languages.

The most common form of the Assyrian plural, however, is *e* or *i*, which is simply the Hebrew *im* with the final consonant omitted, and there are even examples of this plural form in Hebrew without the final *m*.

In the forms of the numerals there is an evident trace of close family relationship between the Ancient Egyptian and the Semitic languages. It is not so evident in them all, but is quite distinct in a few. And here it seems to me we might naturally expect to find greater difference of form. The Egyptians, from their mental bias, their national public works, and their social customs, continually made use of their numerals. In the measurement of land, in the computations regarding the rise and fall of the Nile, in their architecture and elementary astronomy, they would require frequently to use the numerals. Besides, on the walls of tombs and temples, scribes are seen noting down on their tablet the possessions of the Egyptian noblemen, or the spoils and prisoners of war. In such circumstances, and among such a people, we might expect *a priori* a considerable divergency between the Egyptian forms of the numerals and those of the Semitic and Aryan tongues.

The following table will show the close relationship, however, of a few of the numerals :

EGYPTIAN.	HEB.	SANSKRIT.	ASSYRIAN.	GREEK.	LAT.	GERM.	
uâ	one	Echad	eka	akhadu or edu	εἶ	unus	ein
sen	two	Shenayim	sanie				
ses	six	Shishah	shash	sisatu	ἕξ	sex	sechs
sefekh	seven	Shivah	saptan	sibittu	ἑπτὰ	septem	sieben

In the Hebrew for two, the dual form is used, which if we remove, the form then will remain almost identical with the Egyptian. If we take the Hebrew form for six which is employed with feminine nouns, we have *Shesh*, which displays its intimate relationship with the Egyptian *ses*. In the above table it will be seen that the least variety exists in the case of number seven. This seems to me to be accounted for probably in this way. This was the sacred number among the Semitic and Egyptian races, and would be likely, therefore, to undergo less change than the others. The form that embodied their religious ideas would soon come to be regarded as sacred as the

ideas themselves. And in this way there would be a strong tendency to retain the form unchanged.

If we examine carefully the Egyptian and Semitic vocabularies, we shall discover a considerable Semitic element as an essential factor of the Egyptian language, not Semitic proper names or terms introduced during the time of the Thothmes and Rameses of the 18th and 19th Dynasties, or even prior. But we shall find a Semitic element in the terms used to denote the simplest objects, and to which every race must have applied names from the time when phonetic sounds were employed to denote either some quality or the essence of an object.

The following table will help to show this relationship by a few examples :

EGYPTIAN.	HEBREW.	ASSYRIAN.	SANSKRIT.	LAT.	ENGLISH.		
ma	water	mayim	me				
ab	a priest	ab	a father	abu			
mut	mother	em	ummu	a father	mātri	mater	mother
mut	to die	muth	mutu		mari	morior	murder

EGYPTIAN.	HEBREW.	ASSYRIAN.	SANSKRIT.	GREEK.	LAT.		
Bet	a place	Baith	a house	itu	Bhū	to be	Φόκος
Neb	a Lord	Nabi	a prophet	Nabu	Naripa	a prince	
Ar	to be, to do	El	a god	ilu	Isvara	a god, one who possesses	ille

Thus far, I think, I have proved the truth that the Hieroglyphic language is Semitic, to a considerable extent, both in its essence and grammatical structure, which so far gives evidence in support of the race unity between the Egyptians, the Semites, and also the Assyrians and Babylonians. Besides, I think, we have seen here and there in the features of some of the Aryan languages sufficient resemblance to the ancient Egyptian Hieroglyphic to warrant us in the opinion that if she be not their old mother, she is, at least, a very ancient relative, whose form, to some extent, as a hereditary inheritance, they retain even to this day. Thus the ancient Egyptians were related in race and language with the warriors of the Euphrates valley, and the Semites of Syria, Palestine and Arabia, and also with the Greeks, Latins, Teutons, who, in later days, made their power in arms, in literature and art, felt among the nations that have risen since.

The Egyptians employed three distinctive species of writing, Hieroglyphic, Hieratic and Demotic. The first was used on massive

columns, and on the walls of temples and tombs. The second and third forms were used on the papyrus rolls, were merely cursive forms of the Hieroglyphic, and were employed when education became more common among the masses of the Egyptians.


Generally it may be stated the most ancient form of writing among the Egyptians was symbolic, that is, certain forms were employed to represent specific objects. At that time their language was in the same stage as that of the Aborigines of this continent, whose pictorial representations are yet visible in parts of Canada, or of the Aborigines of Mexico, who, to some extent, employed the same method, and who probably would have reached in time a phonetic stage in their language, when the same or other forms would have conveyed their ideas and the names and qualities of objects.

This stage of human language is a primitive one, and dates back to the time of the Assyrian and Babylonian Empires, whose annals are recorded in the cuneiform on the clay bricks and stone cylinders found in the ruins and remains of Nineveh and Babylon. Its progenitor, the Accadian, seems to have been a hieroglyphic language in which specific forms represented an idea or an object. The Assyrians, the successors of the Accadians, attached phonetic values to the forms, and perhaps modified them into the cuneiform as now found on the monuments in the British and other museums. As an example of this change let us take the word for sun. Its primitive Accadian form was as nearly circular as straight strokes would admit. The Assyrians changed the form into a perpendicular line, preceded by two lines at an angle, attached a phonetic value and pronounced it *samse*. In Egyptian the form to denote the sun was a circle with a dot in the centre. Afterwards, when the phonetic stage was reached, the phonetic value of *ra* was given to it, and the original form was placed as a determinative after the phonetic signs employed to express the syllable *ra*.

The Egyptian Hieroglyphic forms were occasionally used figuratively. In some instances we can easily trace the figurative meaning of any particular form from the literal; in others this is impossible, the figurative meaning having been imposed arbitrarily, or at least the connection between them is not now perceptible. The circle which denotes "sun" signifies also "day" in many of the texts, though not the usual word. The connection here is quite obvious. The sun-god was supposed to sail across the sky in his boat, and then

to sink into Amenti or the Western Hades, whence he rose every morning from the Eastern horizon. One journey of the sun-god being a day, the same word Ra denoted both the sun and also a day. The serpent was the symbol for asp, and also denoted a "god," and is found on the crown of some of the old Egyptian rulers, signifying the power and wisdom of the king. It is quite easy to perceive the figurative use of the serpent form. The sting of the Cobra was incurable by any known Egyptian remedy. Probably, therefore, to propitiate it, and also as a tacit acknowledgment of its deadly power, they gave it a place in their Pantheon.

The segment of a circle signified both the moon and a month, for the Egyptian month seems to have been determined by the lunar revolutions, and the year to have consisted of so many of them, with intercalated days at the end of the year.

In the old Assyrian the same method was adopted with a slight variation. The wedges placed as nearly as possible in the form of a circle denoted the sun. Three angular figures denote 30. These figures placed within the circle denoted the month, consisting of 30 days. The modern Assyrian form was modified into , with the phonetic value of *Arkhu*.

From the earliest historic time the Egyptian hieroglyphs were phonetic. They represented either a letter or a syllable, which was resolvable into its separate letters. The following method was adopted in employing a sign to convey a particular sound. They employed an object, which was denoted by a word, whose first letter was identical in sound with that which they wished to express. Hence the Eagle was the sign of the A sound, because the name of the Eagle in Egyptian *Akhôm* contained in its first letter the sound required. A reptile became the sign of the letter T for the same reason, for the first letter of *Tetef*, the Egyptian for reptile, begins with the sound required.

The Egyptians increased the difficulties of their language by arbitrarily employing a number of signs to convey the same sound. To denote the sound of A they used a palm branch, the figure of an Eagle, and a hand with the arm outstretched to the elbow.

To express the sound of the letter T they used the palm of the hand; two parallel lines, united at one end by a curved line and terminating at the other in small circles; and the segment of a circle. Their numerous syllabic signs, and the use of various signs to express

the same sound, must have made the study of this interesting language a laborious business to the common people. And in this fact, among others, we can see how very naturally the Egyptian scholars were the Egyptian priestly class, and the men of leisure.

The Ethiopians were known to the Hebrews as Cushites, the same name by which the Egyptians designated them on the monuments. But the most ancient historic document we have classifies the Cushites, Canaanites and Egyptians as originally tribes from the same Hamitic stock. This fact is supported by independent and valid evidence. From the earliest historic times a most intimate connection existed between Egypt and Ethiopia on the south. The Ethiopian armies served with the native Egyptian, and the Egyptian kings found an asylum and support there when their own land was invaded and subdued by foreign enemies. The kings of Egypt even married Ethiopian princesses, when no state reasons required them to form such a bond of union with their southern neighbours. In all this varied intercourse no interpreters were employed. No record, at least, is given of such a fact, and we may reasonably infer, therefore, that the Egyptians understood the language of the Cushites, and therefore that the Egyptian and Cushite language were similar, if not identical. From these facts it might be inferred *a priori* that there would be an essential resemblance between the Egyptian Hieroglyphic and Ethiopic, and this is true as a matter of fact. From this brief survey of the ancient Egyptian Hieroglyphic, I think we may deduce the following conclusions :

1. That it is closely allied with the Accadian and the modern Assyrian, as found on the tablets and monuments discovered in the ruins in Mesopotamia.

2. That the Egyptian Hieroglyphic is in some of its fundamental parts Semitic, and points to a common origin with Hebrew, Syriac and Arabic.

3. That it was the same in its origin and essence as the language of the Cushites on the south, which is substantiated by the fact that there is a somewhat close affinity between the Egyptian Hieroglyphic, or its descendant the Coptic, and the Ethiopic.

4. That an affinity exists between the Egyptian and some of the Aryan languages, as Sanskrit, Greek, Latin and German.

5. And as a final conclusion of the survey of this archaic language once spoken by the race that has left behind it the most lasting

colossal and ingenious works of their skill and industry on earth, we can see that comparative philology helps its sister science Ethnology, and tends to lessen the area on which rose the primeval language, and strengthens the probability of the origin of the race and of language from one original centre.

TWENTY-FOURTH ORDINARY MEETING.

The Twenty-Fourth Ordinary Meeting was held on 25th April, 1885, the President in the Chair.

The minutes of last meeting were read and confirmed.

The following list of donations and exchanges was read :

1. Monthly Weather Review, Dominion of Canada, March, 1885.
2. First Supplementary Catalogue, Central Circulating Library, Toronto.
3. Bulletin of the Natural History Society of New Brunswick, No. IV.
4. Transactions of the American Society of Civil Engineers, January, 1885.
5. Transactions of the Buffalo Historical Society, Part III. Obsequies of Red Jacket at Buffalo, October 9th, 1884.
6. Science, Vol. V., No. 115, April 17th, 1885.
7. Bulletins of the Illinois State Laboratory of Natural History, Nos. 1, 2, 5, 6, and Vol. II.
Twelfth and Thirteenth Reports of the State Entomologist on the Noxious and Beneficial Insects of the State of Illinois.
8. Monographs of the United States Geological Survey, Vol. IV.
"Constock Mining and Miners," by Eliot Lord.
9. Proceedings of the London Mathematical Society, Nos. 235-236.
10. Proceedings of the Royal Geographical Society, N.S., Vol. VII., No. 4, April, 1885.
11. Trübner's American, European, and Oriental Literary Record, Nos. 207 208, N. S., Vol. VI., Nos. 1-2.
12. Transactions of the Manchester Geological Society, Parts IV., V., VI., VII., Vol. XVIII., Session 1884-'85.
13. Archivio per l'Antropologia e la Etnologia, Quattordicesimo Volume, Fascicolo Terzo.
14. Atti della Società Toscana di Scienze Naturali, residente in Pisa, Memorie, Vol. IV., Fasc. 3o.
15. Bulletin de la Société d'Anthropologie de Paris, Tome Septième, (IIIe Série,) 5e Fascicule, Décembre, 1884.
16. Mittheilungen der Anthropologischen Gesellschaft in Wien, XIV. Band, IV. Heft.

Messrs. C. G. Richardson and W. T. Tassie were elected members.

Nominations for Officers for the ensuing year were then made.

Mr. Frank T. Shutt, B.A., read a Paper on "The Anatomy of the Wood-Louse," illustrated by diagrams and specimens.

The following is an abstract :

NOTES ON THE ANATOMY OF THE WOOD-LOUSE.*

This paper opened by discussing the various classifications of the Crustacea by Huxley and others, and concluded its remarks upon this subject by adhering to the classification which places the Oniscidae as a family of the Isopoda, the latter being ranked as an Order of the Edriophthalmia.

A general description of the anatomy of the Isopoda followed, which points out the most characteristic features that serve to distinguish the forms of this order from those of related orders, *e.g.*, respiratory function of lamellate abdominal feet ; absence of Cephalothorax, etc.

The life-history of the members of this Order was then briefly outlined, and it was shown that although the vast majority of them were marine, many were fresh water types, and others, as the Oniscidae (to which the Wood-Louse belongs) were terrestrial. The fact was also noted that such terrestrial forms were always found in damp places, and therefore that moisture was necessary for the act of respiration. The family of the Oniscidae, while somewhat isolated, is yet a widely spread group, being found in both Hemispheres, and as far north as Greenland.

The anatomy of the parts and appendages was then fully described, the descriptions being accompanied by drawings made by the Author.

The segments of the head, thorax and abdomen, as to their shape, colour, etc., first received treatment, and then a more minute account of the attachments followed.

With regard to the appendages of the Head, the most important features to be noticed are—the possession of a single pair of Antennæ. These are the Antennæ proper. This seems to point to a high degree of development in the Oniscidæ, and in conjunction with the fact that the mandibles possess no palps causes them to resemble some of the Myriapoda. The eyes are sessile, black, slightly convex, and are

* This paper was awarded the McMurrich Medal, Univ. Coll., Toronto, 1885.

oval in outline; they consist of an aggregation of ocelli. The Maxillipedes are broad, lamellate structures, and of comparatively large size. Their inner margins meet in the median line, and are nearly straight. A short, thick palpus, of three joints, is borne by each Maxillipede on its upper and outer margin, in front of which it projects. The under-lip is attached to the Maxillipede, and is produced externally to it. The second pair of Maxillæ is flat, foliaceous, and of the same breadth throughout. It bears a cap of chitine on its upper and inner angle. The inner or first pair of Maxillæ possesses both endopodite and exopodite; the latter is considerably the longer and stouter, and bears five inwardly-curved chitinous denticulations, and its outer border is beset with fine setæ. The endopodite is composed of two joints, both slender, the upper one tipped with two feather-like setæ. The Mandibles are strong and of considerable thickness, being circumscribed by a horny skeleton and bearing three bluntly pointed teeth at their apex, and patches of fine setæ on their inner and outer edges. The Labrum, above the Mandible, is apparently a paired structure. It protects the oral aperture. In structure it is foliaceous, and may be regarded as a median growth of the sternum of this region.

The Thoracic Appendages, seven in number, bear a strong similarity one to another. They are composed of seven joints, and none are chelate. A more exact description of them then followed.

Of the six abdominal appendages five are concealed under the abdomen—the uropods (appendages of the sixth somite) projecting behind. The various modifications of these abdominal appendages in the sexes then is dwelt upon at some length.

The uropods are alike in both sexes, and consist of a basal segment bearing two rami.

The President, for Dr. Robert Bell, of Ottawa, read the following paper on "The Mode of Occurrence of Apatite in Canada," by Robert Bell, B.A.Sc., M.D., LL.D., Assistant Director of the Geological Survey of Canada:

The mode of occurrence of apatite in the crystalline rocks of Ontario and Quebec, has been a puzzling question to geologists ever since the mineral has been known to exist among them in quantities of economic value. A number of contributions to a knowledge of

the subject have been made, principally by Sir W. E. Logan, Drs. Hunt, Dawson, and Harrington, Professor Dawkins, and Messrs. Vennor, Broome, Willimott, Kinahan and Torrance.

The scientific aspects of the subject are discussed more particularly by Dr. Harrington in the Geological Survey Report for 1877-'78, and by Dr. Hunt in several of the Survey Reports, and also in an excellent paper in the Proceedings of the American Institute of Mining Engineers, in which he gives valuable statistics of the production of Apatite in the Dominion. The rapid progress which has been made in mining the Apatite during the last two or three years, has enabled us to obtain some additional light on this question.

With the exception of one locality at Lake Clear, in the County of Renfrew, the workable deposits as yet known are confined to two areas having similar geologic characters and relations, the one running north, in the County of Ottawa, and the other south-west, through parts of Lanark, Leeds, and Frontenac. Apatite has been found in other regions in Canada, but for the present I shall confine my remarks to the two areas I have mentioned, and more particularly, to the one in the County of Ottawa, which latter I have had more opportunities of examining than the other.

The Apatite-bearing rocks belong, as is well known, to the Laurentian system, and they appear to constitute one of the higher members of the series. Although the Laurentian system extends over such vast tracts of country in the northern regions of the Dominion, rocks like those among which the Apatite occurs appear to occupy but a small proportion of the whole area. In the great regions referred to, scarcely anything is to be found but wearisome repetitions of the commonest varieties of greyish and reddish felspathic and quartzose gneisses—massive, highly crystalline, hard, granitoid, or not much more cleavable in the direction of the lamination than across it, greatly contorted on the small scale, and so much disturbed on the large scale that it would be almost impossible to map out all the windings and foldings in any given area.

In the Apatite-bearing regions on the other hand, the rocks on the large scale, or geographically speaking, are arranged in great belts, differing more or less from one another, and individually traceable for long distances, in which they maintain their distinctive characters. The limestone bands which they contain constitute the great distinguishing feature in which these strata differ from the bulk of the

Laurentian rocks. In the immense northern Laurentian country to which I have referred, and which occupies many hundreds of thousands of square miles, no limestone bands have yet been detected, although it is probable that other areas of the higher portions of the series containing such bands may yet be found. The Laurentian areas at present known to hold these limestones lie along the southern parts of the Dominion between the French and the Saguenay Rivers. Limestones are also found in rocks classified as Laurentian in Cape Breton and Newfoundland. In the apatite regions the gneisses of some of the bands are less crystalline than the primitive varieties above described, and they are recognizable throughout by certain peculiarities of color, composition, &c. They are seldom so much disturbed as to prevent them from being traced out upon the ground. While the common Laurentian gneiss holds but a small variety of minerals, the rocks of the apatite regions have already yielded upwards of sixty species. Both in the county of Ottawa and in the Perth and Kingston regions there are several wide bands of crystalline limestone rudely parallel to one another and separated by great thicknesses of gneissic strata. These are similar to the thick bands of limestone in the gneisses of the county of Argenteuil, which were so carefully traced out in all their windings by the late Sir W. E. Logan between the years 1854 and 1862. Apatite has been found in various places in this region, but apparently not in paying quantities so far as is yet known.

Besides the limestones, the Laurentian rocks of the apatite regions have associated with them bands of schists, slates, pyroxenite, quartzite, jasper, etc., and they also contain serpentine, graphite, pyrite, pyrrholite and ores of iron, copper, lead and other metals.

Coming now to the closer associations of the apatite itself, we find that it is almost invariably accompanied by pyroxenite, which may be either coarsely or finely crystalline and of any shade of green, greyish-green, and grey. A somewhat coarsely crystalline orthoclase rock, generally very light grey in color and spotted and mottled with pink, lilac and neutral grey is generally found with the apatite, especially in the valley of the Rivière du Lièvre. The other minerals most commonly associated with it are dark mica, which in most cases is biotite, but may occasionally be phlogopite, pyrite, white, red, pink, flesh and salmon colored calcite.

In some localities, as in the township of Wakefield, the apatite is

accompanied by a very crystalline and distinctly spotted or mottled diorite in which the hornblende is dark green or black, and the felspar white, grey or reddish. A dull red, rather fine-grained gneiss, streaked and spotted with dark grey or black, is found in proximity to the apatite deposits in some parts of Ottawa county. Interstratifying the gneiss near a number of the apatite deposits in the valley of the Lièvre, I have noticed thin seams and also beds, up to several feet in thickness, of a quartz-rock which is white or light bluish in color, semi-translucent, non-crystalline or compact, pitted or honeycombed on weathered surfaces, the cavities being apparently due to the dissolving away of felspar.

It is well known that some of the metals exhibit a preference, locally at all events, for certain rocks which, as the miners say, are "kindly" to them; as for example (among the old crystalline rocks), oxides of iron with hornblende schists, galena with limestone, sulphides of copper with greenstone and talcoid schists, gold with quartz, tin with granite, etc. There is thus nothing extraordinary in the association of the apatite of the Laurentian system with pyroxenite.

We have seen that, in regard to the apatite of Ottawa county at any rate, there are certain pretty well ascertained geological and mineralogical associations, so that should we find these conditions repeated in another region, among the widely-spread Laurentian rocks of Canada, we may look with some confidence for apatite. These conditions may be briefly recapitulated as follows: a somewhat regular large-scale structural arrangement of the gneiss in bands, having distinctive characters and accompanied by limestones, a considerable number of "the Laurentian minerals," and the presence of pyroxenite or of mottled diorite. For these reasons I have ventured to predict the probable discovery of apatite in the Farry Sound district ever since 1876, when I made a geological reconnaissance of the district and found five distinct limestone bands, of which the general positions and courses were indicated, and to which I gave separate names—(See Geol. Survey, Report of Progress, 1876-77, pages 202-208). The general structure and character of the Laurentian rocks to the north-eastward of the Georgian Bay would place them among the higher divisions of the system. In this region I also found the mottled diorites and the pyroxenites which, in the county of Ottawa, indicate the proximity of apatite. A considerable

number of the mineral species which usually accompany the Laurentian limestones was also found.

In the county of Ottawa the most productive "phosphate belt" as yet known runs northerly and follows the general course of the Rivière du Lièvre. It has been traced through the townships of Templeton and Buckingham, Portland, Bowman, Bigelow and Wells, and I have been credibly informed that the mineral has been found in places in this direction to a distance of 100 miles from the Ottawa. In the Perth and Kingston region, the phosphate belt runs from the township of North Elmsley south-westward through North Burgess, North Crosby, Bedford, Storrington and into Loughborough.

There is little doubt that the apatite has been derived principally from the pyroxene rocks. Phosphate of lime in small quantities is a common constituent of igneous rocks. Dr. Harrington has shown that the trappean rocks of the isolated mountains in the Province of Quebec contain it in very appreciable quantities, and it has been met with in the amygdaloids of the Bay of Chaleur. I have found bunches and crystals of apatite associated with amygdaloid and syenitic granite at Trout Lake at the source of one of the branches of the Moose River. There is no evidence whatever that the Laurentian apatite has had the remotest connection with organic life, although it is a rather curious circumstance that the average proportion of fluorine in this anciently formed mineral should approximate that contained in the bones of mammals.

The pyroxenite appears to take the form of irregular beds and almost isolated masses running with the stratification, but these have been altered in shape and partially dispersed during the metamorphism of the whole mass containing them. They have probably been originally derived from igneous sources and have perhaps formed parts of submarine ejections while these ancient rocks were in the course of deposition; or they may have been intruded subsequently. They have since all undergone great alteration and disturbance, in the course of which they have been in a heated and somewhat plastic state and have become more or less mingled with one another. It was at this remote period that the irregular and somewhat ill-defined veins of the second and third class described by Dr. Hunt as belonging to such rocks were formed—(Geol. Survey, Report of Progress, 1863-66, p. 187). These veins are very numerous among all the Laurentian rocks. They are filled with the prevailing consti-

tments of the country rock which they may happen to traverse, such as felspar, quartz, calcite, pyroxene, apatite, mica, etc., or with some of these minerals mingled together. The gangue adheres strongly to the wall-rock which to a certain distance in is often penetrated by a greater or less proportion of the veinstone.

All writers on this subject have dwelt on the great irregularity and the puzzling character of the apatite deposits. At first the deposits were supposed to be beds, but they are now pretty commonly regarded as being rather of the nature of veins of an irregular and unusual nature. Regular veins, generally of small size, filled with apatite or having this mineral as one of the veinstones have also been described by writers on this subject. On the 2nd lot of the third range of the township of Bowman in Ottawa county, I have seen a well defined small isolated vein of pyroxene, cutting gneiss and holding masses of apatite along its centre. The mine at Little Rapids on the Lièvre appears to be in a large vein. These are probably instances of regular veins of very ancient date. But in the great majority of cases the deposits, whether of the pure phosphate or of a mixture of this with other minerals, appear to differ from true fissure veins and to be extremely uncertain and capricious in their forms.

The mineral is often much mingled with the pyroxenite, but it always has a tendency to form itself into floors and branching veins, having two principal local courses. From an attentive study of these in several of the mines which have been opened in the Lièvre valley, I have come to the conclusion that these lines of deposit mark approximately the original jointing of the rock. These ancient joints belonged to three sets, two nearly vertical intersecting each other, and one nearly horizontal, analogous to the three sets of dry joints of more recent date, which we usually see in massive rocks at the present day. In the course of the disturbances to which these phosphate-bearing pyroxenites and gneisses were subjected, the angular masses into which they had been divided by these joints became in places separated and displaced, leaving the spaces which are now filled with the apatite. The process—one of segregation—was similar to that by which the irregular veins in other varieties of the Laurentian rocks have been filled with quartz and orthoclase or calcite and its associated minerals. Indeed it has been pointed out that the tribasic phosphate of lime shows an unusually strong ten-

dency to segregate or separate itself from mixtures containing it. Hence we should expect to find that even when it formed only a small proportion of the constituents of the rock in which a cavity occurred, it would fill it up to the complete or partial exclusion of the more abundant minerals. We do not know the precise nature of the conditions which have caused the elimination of individual minerals from the country rocks, and their deposition in the veins which traverse them, but from the above considerations it is easy to conceive that the phosphates might be separated out into cavities from the enclosing rocks, in which the mineral is now but sparingly diffused, especially when we consider that apatite is soluble in heated waters holding alkaline silicates, whereas the feldspars and pyroxene are not thus soluble.

In the formation of the apatite masses, or of any other vein-like deposits, it is not necessary to suppose that the whole space which they now occupy was open at once like an empty cavity, or indeed that it was ever open at all to any appreciable extent, but only that where the slightest vacancy occurred from movement in the wall-rock, it was immediately filled by particles of one or more of the minerals of the parent rock, for the transference of which the conditions were for the time favorable.

The general form of the apatite deposits as seen in a section across any of the courses of the primeval jointing approximates what we should expect to find if the above hypothesis be correct. A vein in descending, after following an ancient vertical joint past several nearly horizontal branches, may suddenly jog off to another parallel joint to which the original opening had been transferred by a lateral movement on the plane of one of the horizontal joints. The horizontal branches which are sometimes as large as the veins themselves, when exposed in place, constitute the "floors" or "beds," and they are as likely to be cut off by throws along the planes of the vertical joints as are the veins by throws along the horizontal joints. In this way either vertical or horizontal masses of apatite may be cut off suddenly all round or they may pinch out gradually or irregularly. The latter would result from the disturbance of the blocks of the country rock all separated from each other by the three sets of joints during the movements which took place while the strata were in a plastic condition. Both the veins and "floors" of apatite are sometimes observed to curve or gradually change their dip. This

form may have been imparted to them, either during or subsequent to their formation.

The structure I have attempted to describe is best seen where the phosphate-producing rock is least disturbed and where the joint-fissures are moderately small and close together, but the same arrangement obtains among the larger deposits. The principal mass in a working sometimes passes from a vertical joint to one in another set, or from one of the latter to a horizontal joint, thus giving the mass the form of the letter L as seen in plan in the first instance or in vertical section in the second. An example of the first of these forms on a large scale is described by Mr. Torrance as occurring at Major Chapleau's Mine on lot 17, range VI, of Portland, East—(Geol. Survey Report of Progress, 1882-84, page 16 J.)

Along the intersections of any two of the planes of the joints, and more especially at the points where all three intersect one another, the apatite is accumulated in the largest quantity. The angles of adjacent blocks are frequently rounded off and thus larger spaces are found for the deposition of the mineral. Sometimes the apatite follows only one set of vertical joints, when it appears as parallel veins; at others it is nearly confined to the horizontal ones, when it forms a succession of "floors," and again it may follow both of the vertical sets or even all three, in which cases it appears in a reticulating form, which is of very common occurrence.

If the above view of the nature of the majority of our phosphate deposits in the pyroxenite be correct, we should naturally expect to find the mineral most freely exposed where upward movements of the apatite-bearing rocks had occurred, and that the deposits of the mineral between the blocks of the country-rock would be widest above, and further, that in going downward they would become pinched towards the next leading horizontal joint below, where they would open out again; also that the successive bunches of the mineral would become smaller and smaller in descending. These conditions appear to correspond with the experience of mining so far.

The great numbers of small "shows" which are found on the surface among the apatite-bearing rocks appear to afford additional proof of the correctness of the view I have put forth. Many of these have been worked to a small extent on the surface by farmers and others, but the great majority of them show a tendency to pinch out at a limited depth, when they are usually abandoned. As many as 300

of these "shows" have been opened on a single lot. Dr. Hunt and Mr. Gordon Broome have both described a group of about twenty nearly parallel veins of apatite on lot 4, range V, of North Burgess. (Geol. Survey Reports, 1863-66, pages 226-27, and 1870-71, page 317). They all diminish rapidly north-westward in receding from the shore of Rideau Lake and may belong to the class of parallel joint-deposits I have described. In this township, and those adjacent to it, the apatite is often found in isolated crystals and masses in calcite or coarsely crystalline limestone, which is generally of some reddish shade and is mostly associated with or near to the pyroxene rock. These deposits Dr. Hunt regards as veins also.

Apatite has been detected in a very large number of places in the two principal regions above referred to and in a good many localities in Renfrew county. In addition to these, it has been found in Canada in crystalline limestone in the Augmentation of Grenville and at the Calumet Falls in the latter township, at St. Roch in the parish and county of Assumption, in an intrusive mass of fine grained grey dolerite, in the township of Barford (Eastern Townships), in a vein of quartz with copper pyrites, native copper and mica. I have also found it in crystals with mica in a compact grey dolomite in the township of March, county of Carleton. It is mentioned among the minerals brought home in 1878 by Mr. Ludwig Kumlien from Cumberland Inlet, where the rocks are believed to be Laurentian. I may mention, in this connection, that near North Bluff in Hudson's Strait I have picked up a piece of crystalline limestone quite like one of the common Laurentian varieties. Sir John Richardson found apatite in the neighborhood of the Coppermine River.

I have already noticed its occurrence in igneous rocks at Trout Lake, north of Lake Huron, in the isolated mountains of the Province of Quebec, and on the Bay of Chaleur.

If the view I have taken of the mode of occurrence of our principal apatite deposits be not sufficiently elaborated or satisfactory, it may at all events point the way to further investigations in this direction.

Mr. Notman, mentioned the view that phosphates being fertilizers, must be of animal origin.

Mr. Shutt, referring to a recent paper by Dr. G. Dawson maintaining that view, argued against it by showing that the

Norwegian phosphates have no fluorine but chlorides instead, and therefore must have had their origin before animal life.

Mr. Levey thought phosphorus in the rocks a primary element ; in bones, only a secondary.

Mr. Livingston remarked that other stones besides phosphates were fertilizers.

The President said that the analysis of the phosphates was similar to that of bones, but that was no evidence that vegetable preceded animal life ; that iron and carbon occur in connection with organic remains ; without carbon there is no life ; phosphates occur in the same rocks with graphite, eozone Canadense and crystalline limestone ; and even accepting the view stated, the difficulty is only carried a step back.

ANNUAL MEETING.

The Thirty-Sixth Annual Meeting was held on 2nd May, 1885, the President in the Chair.

The minutes of the last annual meeting were read and confirmed.

The following list of donations and exchanges was read :

1. The Canadian Entomologist, Vol. XVII., No. 3, March, 1885.
2. Report of the Minister of Education (Ontario), for 1884, with the Statistics of 1883.
3. The Canadian Practitioner, May 1885.
4. Monthly Health Bulletin of Ontario for December, 1884, and January and February, 1885.
5. Science, Vol. 5, No. 116, April 24th, 1885.
6. Journal of the Franklin Institute, May, 1885.
7. Annual Reports of the Trustees of the Peabody Academy of Science, Salem, Mass., 1874 to 1884.
8. Monthly Notices of the Royal Astronomical Society, Vol. XLV., No. 5, March, 1885.
9. Journal of the Royal Microscopical Society, Series II., Vol. V., Part 2, April, 1885.
10. Memoirs of the Geological Survey of India, Vol. XXI., Parts 1 and 2. Do. Palæontologia Indica, Series XIII., Vol. I., Part 4. Fasciculi 3 and 4.

11. Boletín de la Academia Nacional de Ciencias en Córdoba (Republica Argentina), Tomo VIII., Entrega 1a.
12. Anales del Circulo Médico Argentino, Año VIII., Marzo, 1885, Tomo VIII., Num. 3.
13. Ymer Tidskrift utgifven af Svenska Sällskapet för Antropologie och Geografi, Häft 1884 (Fjere argangen), 5e, 6e, 7e, och 8e, 1885 (Femte årsgangen), 1c, Häftet.
14. Mémoires et Compte Rendu des Travaux de la Société des Ingénieurs Civils, Janvier, 1883 ; Juin et Juillet, 1884 ; Annuaire de 1885.
15. Verhandlungen der Gesellschaft für Erdkunde zu Berlin, Band XII., Nos. 1, 2, 3.

Mr. Joseph J. Woodhouse was elected a member. The Secretary read the Annual Report, as follows :

ANNUAL REPORT OF THE CANADIAN INSTITUTE.

SESSION 1884-85.

The Council of the Canadian Institute have the honour to lay before the members their Thirty-Sixth Annual Report.

During the past session twenty-four meetings have been held, at which thirty papers have been read. The character of the papers and the degree of interest shown in the meetings have been highly satisfactory.

It is gratifying to observe that the membership continues to increase, forty new members having been added to the roll during the past session.

The interest taken by members in the Library and Reading Room also continues to grow, as shown by the fact that while last year 860 books and periodicals were issued to members, the number this year was 1,533.

Last year an effort was made to bind the transactions and periodicals, which have for some years been allowed to accumulate. The effort has been continued this year, during which 161 volumes have been bound and placed on the shelves.

The number of transactions of learned societies received in exchange for our Proceedings continues to increase, one hundred and sixty societies having this year sent copies of their publications.

It is highly gratifying to the Council to call attention to the fact that at the International Conference held at Washington in October, 1884, for the purpose of establishing a prime meridian, the proposals first made at a meeting of the Canadian Institute by Mr. Sandford

Fleming were largely adopted. All the papers on this subject have been placed in the printer's hands, and the Council hope shortly to lay them before the Institute.

We append statements showing: 1st, the membership; 2nd, the financial condition; 3rd, the number and sources of donations and exchanges; 4th, the number of books and periodicals issued to members; 5th, the list of periodicals subscribed for; 6th, the list of periodicals presented to the Institute, with the names of the donors.

All of which is respectfully submitted.

W. H. ELLIS, *President*.

TORONTO, May, 1885.

APPENDIX I.

MEMBERSHIP.

Number of Members, April 1st, 1884.....	236
Withdrawals and Deaths during the past year.....	32
	204
Elected during the Session, 1884-85.....	40
Total number of Members, April 1st, '85.....	244
Comprised of:	
Honorary Members.....	6
Life Members.....	16
Ordinary Members.....	222
Total.....	244

APPENDIX II.

TREASURER IN ACCOUNT WITH THE CANADIAN INSTITUTE—SESSION OF 1884-85.

To Summary:	
“ Balance on hand.....	\$ 71 50
“ Annual Subscriptions.....	570 25
“ Rents.....	143 50
“ Journals sold.....	101 89
“ Books and Periodicals sold.....	79 23
“ Interest on Deposits.....	8 14
“ Donation.....	50 00
“ Government Grant.....	750 00
	<u>\$1,774 51</u>

By Summary :

" Salaries.....	\$342 75
" Periodicals	104 56
" Interest on Mortgage.....	238 78
" Printing.....	349 14
" Fuel.....	99 50
" Gas.....	44 80
" Water.....	21 00
" Postage and delivering Journals	24 50
" Express.....	16 04
" Stationery	2 45
" Furniture	101 80
" Fencing	68 50
" Binding	183 70
" Caretaker for Sundries.....	10 00
" Stuffing and Preparing Specimens.....	32 40
" Repairs.....	40 20
" Insurance.....	52 00
" Taxes.....	9 49
" Contingencies.....	9 27
" Cash on hand.....	23 63
	\$1,774 51

Examined and found correct.

CHARLES CARPMAEL,	}	<i>Auditors.</i>
J. A LIVINGSTON,		

ASSETS.

Building	\$11,000 00
Warehouse.....	720 00
Ground.....	2,500 00
Library.....	6,000 00
Specimens	1,200 00
Personal Property	450 00
	\$21,870 00

LIABILITIES.

Mortgage.....	\$ 3,411 00
Balance in favor of Institute.....	18,459 00
	\$21,870 00

APPENDIX III.

DONATIONS AND EXCHANGES—BOOKS AND PAMPHLETS RECEIVED FROM APRIL 1ST, 1884, TO APRIL 1ST, 1885.

Canadian	110
United States.....	200
Great Britain and Ireland.....	160
India and other British Colonies, exclusive of Canada,.....	80
Foreign.....	180

Total.....	730
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The number of Societies with which the Institute exchanges	160
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APPENDIX IV.

THE NUMBER OF BOOKS AND PERIODICALS ISSUED TO MEMBERS.

From April 1st, 1884, to April 1st, 1885..... 1,533

APPENDIX V.

List of Periodicals Subscribed for is the same as last year.

APPENDIX VI.

PERIODICALS PRESENTED TO THE INSTITUTE AND THE NAMES OF THE DONORS.

Das Echo.....	W. H. VanderSmissen, Esq., M. A.
Spectator.....	Prof. Hutton
Le Courrier de l'Europe.....	George E. Shaw, Esq., B. A.

On motion by Mr. Alan MacDougall, seconded by Mr. VanderSmissen, the Report was adopted.

The Report of the Committee appointed to confer with a Committee of the Natural History Society was read, and on motion by Dr. Kennedy, seconded by Mr. MacDougall, was adopted.

On motion by Mr. Shaw, seconded by Mr. VanderSmissen, the Committee were instructed to carry out the details required by the Report.

The following were elected officers and members of Council for the ensuing year :

President—W. H. Ellis, M.A., M.B.

First Vice-President—George Murray, Esq.

Second Vice-President—George Kennedy, M.A., LL.D.

Third Vice-President—E. A. Meredith, LL.D.

Treasurer—John Notman, Esq.

Recording Secretary—James Bain, Jr., Esq.

Corresponding Secretary—W. H. VanderSmissen, M.A.

Librarian—George E. Shaw, B.A.

Editor—Rev. Henry Scadding, D.D.

Curator—David Boyle, Esq.

Members of Council—Daniel Wilson, LL.D., Jas. Loudon, M.A., F.R.S.C., R. Ramsay Wright, M.A., B.Sc., Alan MacDougall, C.E., F.R.S.E., Alex. Marling, LL.B., P. H. Bryce, M.A., M.D.

On motion by Mr. J. A. Livingston, seconded by Mr. McCharles, the thanks of the Institute were tendered to the President, Office-bearers, and Council in recognition of their valuable services during the past year.



FIRST SERIES—Begun August, 1852; concluded December, 1855; 41 numbers, 3 vols. 4to.
SECOND SERIES—Begun January, 1856; concluded January, 1878; 92 numbers, 15 vols. 8vo.
THIRD SERIES—Begun 1879.

NOTES.

1.—The First Series has for title, "The Canadian Journal: a Repertory of Industry, Science and Art; and a Record of the Proceedings of the Canadian Institute." The Second series has for title, "The Canadian Journal of Science, Literature, and History." The title of the Third Series is, "Proceedings of the Canadian Institute." Parts 1 & 2, Third Series, are entitled "The Canadian Journal: Proceedings of the Canadian Institute."

2.—By inadvertence, No. 85 (November, 1873) of the "Canadian Journal," 2nd Series (Vol. XIV.) immediately follows No. 79. There is, however, no *lacuna* between these two numbers, as is shown by the fact that the paging is consecutive.

3.—Societies wishing to exchange back numbers of their Proceedings can be supplied with complete sets of the Publications of the Canadian Institute, except Vol. XV., No. 5, Second Series, and Vol. I., Part 1, Third Series.

4.—Members having either of the above, Vol. XV., No. 5, Second Series, April, 1877, or Vol. I., Parts 1, 3 & 5; Vol. II., Parts 1 & 2; Vol. III., Part I, Third Series, and being willing to part with them, will please communicate with the Assistant Secretary.

