

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

Coloured covers/
Couverture de couleur

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure

Includes index(es)/
Comprend un (des) index

Title on header taken from: /
Le titre de l'en-tête provient:

Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.

Title page of issue/
Page de titre de la livraison

Caption of issue/
Titre de départ de la livraison

Masthead/
Générique (périodiques) de la livraison

Additional comments: /
Commentaires supplémentaires:

Pagination is as follows: p. [113]-191, cxiii-cxxiv. Page cxx is incorrectly numbered page xx.

This item is filmed at the reduction ratio checked below /
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

K/4/4



New Series

Whole No. LXXII.



THE
Canadian Journal

OF

SCIENCE, LITERATURE, AND HISTORY:

Vol. XIII.

NUMBER II.



CONDUCTED BY

THE EDITING COMMITTEE OF THE CANADIAN INSTITUTE.

AUGUST, 1871.

TORONTO:

PRINTED FOR THE CANADIAN INSTITUTE.

BY COPP, CLARK & CO., KING STREET EAST



CANADIAN INSTITUTE.

EDITING COMMITTEE.

GENERAL EDITOR . . . REV. HENRY SCADDING, D.D.

E. J. CHAPMAN, LL.D., Ph. D.
Prof. of Geology and Mineralogy, Univ. Coll. Toronto.

REV. WM. HINCKS, F.L.S.
Professor of Natural History, Univ. Coll. Toronto.

DANIEL WILSON, LL.D.
Prof. of History and English Literature, Univ. Coll., Toronto.

G. T. KINGSTON, M.A.
Director of the Magnetic Observatory, Toronto.

HENRY CROFT, D.C.L.
Prof. of Chemistry & Experimental Philosophy, Univ. Coll., Toronto.

J. B. CHERRIMAN, M.A.
Prof. of Nat. Philosophy, Univ. Coll., Toronto.

The CANADIAN JOURNAL is printed exclusively for gratuitous distribution among the Members of the Canadian Institute, and such Institutions and Societies as the Council may determine; but Members may purchase extra copies at 50c. per number, and Provincial Literary and Scientific Societies may obtain the Journal at the same rate, by an annual payment in advance

* * * Communications for the Journal to be addressed to the General Editor, REV. DR. SCADDING, 10 Trinity Square, Toronto. Communications on general business of the Institute to be addressed to W. MORTIMER CLARK, Esq., Corresponding Secretary, or to Mr. JAMES JOHNSON, Assistant Secretary, Canadian Institute, Toronto.

✉ Mr. EDWARD ALLEN, 12 Tavistock Row, Covent Garden, London, W., has been appointed the English Agent for the Institute. All European communications are requested to be forwarded through him.



THE CANADIAN JOURNAL.

NEW SERIES.

No. LXXIV. — AUGUST, 1871.

THE HURON RACE AND ITS HEAD-FORM.

BY DANIEL WILSON, LL.D.

PROFESSOR OF HISTORY AND ENGLISH LITERATURE, UNIVERSITY COLLEGE, TORONTO.

Read before the Canadian Institute, 8th April, 1871.

In Europe we not only discern certain well-defined groups, of distinct ethnical character, within the great Aryan family of nations; but also Moorish or Arabian, Hungarian, Turkish, and other intrusive elements of comparatively modern origin; ancient Basques, Fins, and Lapps, of essentially diverse classification; and far beyond all, in point of time, Allophylians of diverse types: the barrow and cairn-builders of pre-historic times. The varying elements of race thus indicated, are accompanied by corresponding diversities in their stages of progress and phases of civilization. There is no risk that any crude generalizations should there shape themselves into a theory of ethnical homogeneity.

On the American continent it is wholly different; and by its very contrast to Europe in all that pertains to ethnographic classification, the actual extent of its diversities is apt to be ignored. The interval between the most advanced arts of Mexico or Peru, and the barbarism of Patagonia or Greenland becomes so slight, by comparison, as to be undervalued; and the ethnologist is left to search out the traces of distinctive diversity, in part by comparative study of the languages of the New World; and in part by determination of the physical characteristics of its races. As yet the materials for any comprehensive system of generalization are wanting. The following monograph on

an Indian race, the type of one great division of the American aborigines, which, in its various subdivisions, occupied extensive regions of the Northern continent, and for fully two centuries affected the course of events by which its later history has been determined, may help as a slight contribution to the materials for future classification.

The history of the aboriginal tribes originally found in occupation of the St. Lawrence valley and Western Canada strikingly illustrates the instability of savage nations. There is little doubt that the Indians found by Cartier at Quebec and Montreal, in 1535, belonged to the Iroquois stock. But the early French Missionaries learned from them traditions of the ancient superiority of the Algonquins; and before the close of the sixteenth century the latter had displaced them on the island of Montreal and in the lower valley of the St. Lawrence. Thenceforth their hunting grounds lay to the south of that river; and the country of the Five Nations, into which they were divided, extended between the Hudson and the Genesee rivers, along the southern shore of Lake Ontario; Lake Champlain was commanded by them; and the French were compelled to erect a strong fort at the mouth of the Richelieu to check their hostile expeditions into the St. Lawrence.

There is reason, however, for assuming that the Iroquois of Lower Canada on retiring to Western New York, did not thereby occupy for the first time the country of their later home; but only joined themselves to another branch of the same stock. The traditions of three of the members of their later confederacy recognised no precursors in the occupancy of their territory. According to the settled faith both of the Onondagas and the Senecas, they were autochthones, sprung from the soil on which they then dwelt; while the Oneidas cherished a sacred legend, connected with their own Caaba, or Holy Stone, which told that the Onondagas and Oneidas sprang together out of the ground, on the banks of the Oswego river.

In the region thus claimed as the mother earth of three of the Iroquois nations, they dwelt through all the period of their authentic history, uniting in a remarkable federal league, Oneidas, Onondagas, Cayugas, Senecas, and Mohawks. To this a sixth nation: the Tuscaroras; was admitted, on their expulsion from North Carolina in 1715. The term nation, as thus applied to the subdivisions of the Iroquois. Hurons, and other Indian races, is apt to suggest an exaggerated idea of numbers. The word sept, clan, or tribe, would better express the

actual condition of things; but long use has thoroughly established the application of the more comprehensive term. The descendants of the Iroquois, now settled as a comparatively civilized people, on the Grand River, in Western Canada, are universally known as the Six Nation Indians. Their overmastering fury in the sixteenth and seventeenth centuries no doubt included along with its savage elements, the germ of a more enduring force. Fearless and implacable in their hostility, they arrayed themselves from the first in opposition to the French colonists; and as they and the rival colonists of English origin were long nearly equally balanced, it is not unjustly affirmed that the failure of the magnificent schemes of French colonization in North America is directly traceable to their uncompromising antagonism.

The name *Iroquois*, of French formation, is derived by Charlevoix from the word *hiro*: *I have said*, with which the Indian orator was wont to finish his speech, and a cry of acclamation, *koué*, nearly equivalent to our *hear*. Their own generic name was *Hodénosaunee*, or People of the Long House, expressive of the numerous assembly in the Council of the Confederacy. Thus united, the Iroquois were the great aggressive nationality of the American continent, in the seventeenth century. In the very beginning of that century, Captain John Smith, the founder of Virginia, encountered their canoes on the upper part of Chesapeake Bay, bearing a band of them to the territories of the Powhattan confederacy. All the tribes whose hunting grounds brought them in any degree into contact with the Iroquois, were, one after another, exterminated or reduced to the condition of dependent tribes. Even the Canarse or Long Island Indians found no protection from them in their sea-girt home beyond the Hudson; and their power was felt from the St. Lawrence to Tennessee, and from the Atlantic to the Mississippi.

The Iroquois confederacy is a remarkable feature in the history of the American aborigines, for it was no temporary union, effected for a special war, and stimulated by the pressure of immediate danger; but a league which for nearly two centuries made the confederates a formidable power, not only against their native foes, but in opposition to the aggressive schemes of French, Dutch, and English colonists. But in spite of all their sagacity and long endurance, the Iroquois were in a purely savage state, and powerful only to destroy. Could they have realized the full value of their confederacy, and extended it to embrace neighbouring nations of kindred race, a new Cortes would have been

needed to win the regions of Canada and Western New York for their modern occupants. But so far as arts are any test of native progress, they had not yet emerged from the primitive stage of forest life. Of working in metals they knew nothing; and only supplemented their weapons and implements of stone, flint, horn, bone, or wood, by barter with the European intruders; and chiefly with the Dutch settlers at Rensselaerswyck, as Albany was then called. By rare chance they acquired copper axes and lance-heads, through indirect agency, from Lake Superior; but when the competition among the fur-traders on the Hudson became great, they readily obtained from them, not only knives, iron axes, copper kettles, beads, and cloth, but guns and powder; and thus achieved enormous superiority over all native antagonists.

The antagonism between the Iroquois and the Adirondacks, of Algonquin lineage, is not difficult to account for. Their languages indicate a wide divergence of race; and Iroquois traditions told that while they were still comparatively few in number, they had been subjected to cruel oppression, and finally driven from ancient hunting grounds on the River St. Lawrence, by their Algonquin foes. But with the Indian nations around Lakes Ontario and Erie it was otherwise. Hurons, Petuns, Neuters, and Eries, appear from such evidence as we possess, to have been kindred nations, speaking closely allied languages, and altogether greatly outnumbering the Five Nations of the Iroquois. A league which embraced them all might have long set both France and England at defiance; but their diplomacy was directed by no wise foresight, and the lust of conquest and revenge alone stimulated them to action. It is indeed a striking illustration of the unstable condition of savage life, that we can trace to native wars of so recent a date as the sixteenth and seventeenth centuries, the depopulation of the whole country between Montreal and the Georgian Bay; while far to the southward of the great lakes, the aggressive Iroquois had eradicated ancient nations long before European colonists intruded on their conquests. The mountain chain of the Alleghanies perpetuates the name of the oldest tribe within the area of the United States of which there is a distinct tradition. But the name alone remained when the present occupants entered on their ancient inheritance. The traditions of the Delawares told that the Alleghans were a powerful nation reaching to the eastern bank of the Mississippi, when they themselves first came from the far west into the great valley

But the Iroquois combined with the Delawares, or Lenapé Nation, to crush that ancient people. After vainly struggling to withstand the united foe, the surviving remnant were driven down the Mississippi, and their name disappeared from among the Indian nations of the continent. They had long occupied populous towns and villages in the Ohio valley; and are even assumed by Mr. Schoolcraft, in his "History of the Indian Tribes," to have been the actual Mound-Builders. But, whoever they were, the very name of the Ohio is of Iroquois origin, and given to the native river of the Alleghans by their supplanters. The Andastes, or Susquehannocks, who are believed to have been a kindred people, and acknowledged an ancient friendship with the more distant Hurons, excited the ire of the Iroquois, and were in like manner extirpated. At a later date the Delawares, with whom they had been in temporary league, fell under their ban; and a miserable remnant of survivors abandoned the shores of the beautiful river which perpetuates their name, and wandered back into the unknown west. So in like manner, the Shawnees, Nanticokes, Unamis, Minsi, and Illinois, were vanquished, and for the most part driven out or exterminated. Settlements of the conquerors were frequently established in the conquered lands; and the only redeeming feature in this savage warfare was their system of adopting prisoners of war in the place of lost members of their own tribes; and of admitting to a species of serfdom the surviving remnant of conquered nations. This process of admixture of native races will form a legitimate subject of review when considering different cranial types recovered from the cemeteries of the allied Hurons.

The nations thus driven out or exterminated were probably all of diverse affinities from their conquerors. But a comparison of the dialects of the Iroquois language with those of the tribes of Western Canada shows that they were of kindred stock. Yet this proved no protection. The first explorers of the St. Lawrence found the occupants of the country little better than ephemeral nomades; and their extermination or displacement is wholly ascribable to native wars. In the brief interval between Cartier's first discovery of Canada, in 1535, and its exploration and settlement by Champlain, the whole country between the Ottawa and Lake Simcoe appears to have been depopulated; and the surviving *Ouane-doté* or Wyandot tribes, driven westward by the implacable Iroquois, found new hunting grounds, or mingled with nations of a common affinity, in the country to the north of Lake

Erie. Of these, the Hurons, when first brought to the knowledge of the French, were found settled in palisaded villages around Lake Simcoe,—or Ouentarono, as it appears to have been called.

The name Huron, like that of Iroquois, is of French formation, though of more uncertain origin. “*Quelles hures!*” exclaimed an astonished Frenchman, at the sight of a party of them decorated according to their highest savage art: and hence, says one of the Jesuit fathers, came the name. Another derivation traces it to the *koué*, or familiar ending of all Indian orations, already referred to, and the common termination *ono*, or *onon*, as the French give it, signifying people. They appear to have called themselves Ouendat, or, according to English pronunciation, Wyandots. They consisted of four septs or nations: the Attignaouentans, or Nation of the Bear,—the chief member of the league,—the Attignenonghaes, the Ahrendarrhonons, and the Tohotænrats; occupying thirty-two villages, when visited by the Jesuit Missionaries, in 1639. To those a fifth nation: the Tionontates, or Tionontones, was united at a later date. But the term *nation* is apt to lead to an exaggerated idea of numbers. Brébeuf reckoned them in all, in 1635, at thirty thousand; and they are stated in the Relation of 1660 at thirty-five thousand. The five nations of the Iroquois were estimated by La Hontan, about the same time, as numbering in all seventy thousand; but all such estimates were necessarily based on very imperfect data. The number of Huron towns changed from time to time under the vicissitudes of war and disease; and the Tohotænrats only occupied a single palisaded village.

Agriculture was sedulously pursued by all the members of the confederation; and indeed one of the hardships dwelt on by the French Missionaries who visited their villages is that they could rarely get any animal food; but lived principally on *sagamité*, a preparation of pounded Indian corn and smoked fish boiled together. A pumpkin baked in the hot ashes, or Indian corn roasted in the ear, varied such entertainment in the autumn; and when the Jesuits settled among them as a permanent mission, they learned to hunt for themselves. The rivers and lakes of the Huron country still abound in fish; nor is the game even yet exterminated in neighbouring regions. But the untiring vigilance of their Iroquois foe greatly restricted their hunting grounds, and forced them to the diligent cultivation of the soil. To this was probably due such traces of incipient civilization as are suggested to us by numerous traces of systematic agricultural labour.

But whatever may have been its true source, it is certain that they possessed a knowledge and experience in agriculture wholly independent of European influence, and that they carried it into practice to an extent which has not been attained by the Algonquin Indians since settled on the Indian reserves of the deserted Huron country.

To the south-west, between the Georgian Bay and Lake Erie, the allied nation of the Tiontonones dwelt, and they also carried on agricultural operations on a scale which suggested the name of Petuns, given to them by the French, from the extent to which they cultivated tobacco. The Niagara district was in like manner filled up by the Attiwaudaronks, or Neuters, of the same stock; and all along the river banks and smaller lake shores, traces of Indian villages and cemeteries prove that the country was formerly filled with a corresponding native population. But the Wyandots or Hurons only became known to Europeans in their decline, and immediately before their extirpation. They were then in alliance with the Adirondacks and other Algonquins, against their common Iroquois foe.

The Mississagas, Ottawas, Nipissings, and Adirondacks, all belonged to a distinct stock; and to them, as to all nations speaking languages unintelligible to the Hurons, they applied the common name *Akwanake*: corresponding to the Teutonic application of the term *Welsh*. But to the people occupying the Niagara peninsula,—notwithstanding the neutrality the latter maintained in the wars between them and the Iroquois, which led to their being designated by the French *The Neuters*,—the Hurons gave the name of *Atticendaronk*, signifying, according to Brebœuf, a “*people of a language a little different.*”

Beyond this, on the south west, lay the extensive region of the Eries, another allied race, whose elaborate rock-sculpture on Cunningham's Island, Lake Erie, attracts interest as the most elaborate pictorial inscription of its class hitherto found on the Northern Continent. But both Neuters and Eries perished by the violence of kindred nations before any accurate knowledge could be obtained of either. The year 1655 is assigned by Charlevoix for the destruction of the former. Of the latter so little is known that in the earliest French maps an imaginary river connects Lakes Huron and Ontario; the very existence of Lake Erie being then unknown.

It was otherwise with the Huron's country. It was visited by Champlain himself in 1615; and in the latter part of the seventeenth century became the scene of the indefatigable operations of a succession

of missionary fathers, some of whom divided their self-denying labours between them and their Iroquois foes, and several suffered martyrdom at the hands of the savage nations whose conversion they aimed at. Minutely detailed maps and narratives of exploration and missionary labours, record the progress of discovery in the region around the Georgian Bay; and illustrate the topography of the Huron villages so accurately, that most of their sites have been identified in recent years. Dr. J. C. Taché devoted such leisure as he could command during a period of five years, prior to 1865, to a minute exploration of the Huron country. Following in the steps of early writers whose accounts are preserved in the *Relations* of the Jesuit Fathers, communicated to the Provincial of the Order at Paris, from 1611 to 1672, he was able to determine the sites of their principal villages, and to explore their cemeteries, abounding with implements, weapons, and numerous other archæological records of native arts and habits.

The sepulchral rites of the Hurons were of a peculiar character. Their dead were primarily exposed on raised biers, as is still done by the Cowlitz, Columbia River, and other tribes; and around them were hung implements and personal ornaments of the deceased, with the tributes of affection of the survivors. In the case of death on a journey, or on the war-path, the body was temporarily interred. But the place of sepulture was carefully noted for future transfer of the bones to the general cemetery of the tribe. At intervals of ten or twelve years the great "Feast of the Dead" was celebrated by each nation of the Huron confederacy. One of these grand ceremonies, performed at Ossossané, the chief town of the Bear Nation, on Nottawasaga Bay, was witnessed by the Jesuit Missionaries, in 1636. Skeletons were gathered from old scaffoldings or disinterred from distant graves, by the relations of the deceased. The bones of those more recently dead were cleansed of the remaining flesh; and then wrapped carefully in skins, and adorned with prized decorations. The old wampum-belts, pipes, kettles, bows, arrows, axes, beads, and shells, which had been hung around the bier, or deposited in the grave, were anew gathered together; and the whole were brought to the appointed cemetery. There a great trench was dug, and carefully lined with beaver skins and other furs; and after a funeral-feast, with lamentations by the women, and orations by some of the chiefs in praise of the dead: the relics of mortality were cast into the trench, along with the funeral offerings. Only in cases of recent death were the corpses wrapped in furs and deposited entire;

and then, amid the shrieks and wails of the mourners, the earth was thrown in, logs and stones piled over the cemetery, and with a closing funeral chaunt, the Great Feast of the Dead was brought to an end.

Peculiar as these sepulchral rites of the Hurons and other American Indian tribes were, they are not without some parallel in the old world. Captain Thomas, R.N., in exploring a subterranean chambered catacomb at Taransay, in the Island of Harris, in the Hebrides, found a number of human skulls and bones so arranged as to prove that they had been deposited there long subsequent to death. Mr. Thomas Bateman, also, in his "Ten Years' Diggings in Celtic and Saxon Grave-hills," describes the discovery, in the centre of a large barrow, near Youlgrave, Derbyshire, enclosed in a rectangular stone cist, of the bones composing the skeleton of an aged man, carefully arranged in a heap, the long bones laid parallel with each other, and the whole surmounted by the skull. The bones were so perfect that Mr. Bateman adds, "it is evident this arrangement had been made while they were fresh and strong." An imperfect skeleton found in one of the Cromlechs discovered in the Phoenix Park, Dublin, in 1838, had also, in the opinion of Dr. Robert Ball, been collected from some other place and deposited there. It is to be noted, however, that the two latter cases were accompanied by other interments, where the bodies had been buried in the flexed posture common in early British sepulture. Among the Hurons, on the contrary, inhumation was the exceptional mode of disposing of the dead, and for the most part only temporary.

Owing to the systematic practice of thus gathering together the remains of the Huron dead, one or more ossuaries were to be looked for in the vicinity of each Huron village. Dr. Taché explored sixteen of them in all, containing from six hundred to twelve hundred skeletons each. From the same depositories he also recovered numerous specimens of native art, and illustrations of the peculiar customs of that people. Among them are included implements, weapons, pottery, stone-pipes, clay-tubes, large tropical shells specially prized by all the northern tribes, the native wampum, kettles, knives, and personal ornaments of copper, beads, and other relics of European workmanship. One prized object of the latter class is a fragment of one of the Jesuit Mission church-bells. Dr. Taché is also of opinion that some of the copper articles are of Mexican origin. There is no doubt that a traffic by the Mississippi route furnished them, through indirect barter, with

the shells of the Mexican gulf of which their wampum was wrought. But most of the hammered copper tools found in Canada have been identified by their included silver crystals, with the copper of Lake Superior.

From the large pyrulæ of the gulf the Iroquois and Hurons not only made their wampum, but the largest shells were frequently carved, hung with scalp-locks and other favourite decorations, and carefully preserved as objects of superstitious reverence. From the same cemeteries, Dr. Taché selected upwards of eighty skulls, most of which, with the accompanying relics, he deposited in the Museum of the Laval University, at Quebec.* There, I have enjoyed opportunities of inspecting the collection; and, with the help of my friends, Mr. John Langton and the Rev. James Douglas, minutely examined and measured some of the most remarkable of the skulls. In his explorations, indeed, Dr. Taché has anticipated a favourite project of Mr. Langton. An interesting paper "On the early discoveries of the French in North America," communicated by him to this Journal in 1857, specially illustrates the topography of the Huron country; and he had then conceived the idea of identifying the localities of the chief Huron towns. The site of one of them, Ste. Marie, at the mouth of the Wye, being well defined, and some of the others approximately, it seemed by no means improbable that their positions could be determined anew, and tested by the very process successfully adopted by Dr. Taché. He has succeeded in tracing out the sites of fourteen villages, on many of which remains of the houses and stockades could still be recognised. One of them he has identified as St. Ignace, where the principal chief and nearly a hundred of the Iroquois warriors fell, before the Hurons were overpowered, and the miserable remnant bound to stakes, to perish in the flames of their blazing settlement. From the mound of charcoal and ashes, Dr. Taché collected numerous pieces of pottery, trinkets, and stone implements, that had lain buried in the ruins of St. Ignace ever since its final destruction in 1649. More recently I have obtained, from Dr. Thorburn, of Toronto, the fruits of later explorations in the ossuaries of the same Huron country, including eleven additional skulls. The materials thus brought under review are therefore ample for the determination of some definite results as to the prevailing forms of the Huron or Wyandot cranium.

Dr. Taché presented ten Huron skulls to the London Anthropological Society.

In addition to the detailed narrations of Indian history and manners derived from the Jesuit *Relations*, the Hurons present some specialties that suggest the probable deduction of more trustworthy results from a study of their remains, than from those of other tribes displaced or exterminated during the brief historic period of the American continent. They were first visited by Champlain in 1615. In 1649, their country was desolated by the Iroquois, and the miserable remnant finally dispersed. No survivor remained within their ancient territory. Some found refuge among the kindred Petuns, Neuters, and Eries, and shared in their subsequent fate. The fortunes of another body of the fugitives curiously illustrates the Indian practice of adoption. The survivors of two of the Huron towns opened negotiations with their Seneca foes, whose country lay nearest of all the Five Nations to their own. The victors adopted them into the Seneca Nation; and, joined by a few other Huron refugees, they founded a town of their own in the Seneca country, on one of the small lakes of Western New York, to which they gave the name of Gandougaracé. Thenceforth they were identified with the Iroquois, and disappear, as a separate people, from the ranks of the Aborigines. Another band, under the conduct of the Jesuit Missionaries, made their way to Quebec; and there, after various vicissitudes, they were at length settled at Lorette, on the St. Charles river, where their lineal descendants still preserve some living memorial of the lost nation of the Hurons. But their native language has been exchanged for a French *patois*, and their blood so intermingled with that of the European colonists, that but for the interest they inherit in the division of certain Indian funds, they would long since have merged into the general population, and ceased to be distinguished from the French habitans by whom they are surrounded.

The admixture of blood which has thus nearly effaced the genuine characteristics of the Hurons of Lorette, has more or less affected the descendants of the Iroquois, and of all the aboriginal native tribes of Canada and the region to the south of the great lakes. The remains, therefore recovered from the ancient cemeteries of the Huron country, which was finally abandoned in the first half of the seventeenth century, have a special value for ethnological purposes. They are free from the vitiating influences affecting tribes long in contact with European colonists; and may be assumed to exhibit whatever characteristics specially marked this isolated people. Nevertheless it has to

be borne in remembrance that the system of adopting members of other tribes, by which, as has been seen, they profited to escape utter extermination by their Iroquois foe, was also a practice of their own; though on a much less extensive scale. The Iroquois, throughout the whole period in which their history is known to us, were a warlike, aggressive race, constantly encroaching on their neighbours, and glad to recruit their numbers by the adoption, not merely of captives, but by admitting both friendly and conquered nations of widely different origin, into their confederacy. The Hurons, on the contrary, occupied a comparatively isolated region; acted mainly on the defensive; and within the period of definite Indian history, were augmented at most by the adoption of occasional captives, at the will of individuals, who thus chose, according to native custom, to supply the place of some lost member of a family. Both indeed were actuated by the same idea, and aimed at recruiting their numbers, diminished by the waste of war, by adopting prisoners, after their revenge had been sated by the torture of a sufficient number of selected victims; nor did even such extreme ethnical diversity as that of the European constitute an insurmountable impediment to such affiliation. But the motives which tempted weaker nations to join the Iroquois were wanting in the case of the Hurons. There are, therefore, strong grounds for anticipating an approximation to purity of race among the Hurons of the well-defined period illustrated by the contents of their cemeteries on the Georgian Bay, which it would be rash to assume in reference to similar evidence derived from any Iroquois ossuary. So little did differences of race interfere with affiliation among the latter, that an aged squaw of pure white blood, reputed to be nearly a century old, survived till recently,—if she does not still live,—as a member of the Mohawk tribe on the Bay of Quinte. Her Indian name is Ste-nah, which is supposed to be a contraction of the name Christina. She is described to me, by an educated Mohawk Indian, as a full blood Sko-ba-ra, or Dutchwoman. She was taken by the Mohawks when a child, during the Revolutionary war, and when I heard of her last, in 1868, was living with her granddaughter, the wife of a Mohawk chief. To this ready adoption of foreigners into their tribes may be due in part the occurrence of very diversified head-forms among the crania recovered from Iroquois and Huron ossuaries. Keeping in view the facts thus indicated, I proceed to record some results derived from a study of the examples submitted to examination.

In an earlier enquiry into the specialties of the Huron skull, my observations were based on the examination of twenty-nine crania derived from the Huron country; including a remarkable skull from an ossuary at Barrie, on Lake Simcoe, subsequently figured and minutely described in this Journal.*

To the examples thus brought under review, I was able to make further additions, so as ultimately to embrace in one table, as probable Huron crania, the measurements of thirty-seven skulls obtained from Indian graves in the localities to the north of the water-shed between Georgian Bay and Lakes Erie and Ontario; and the greater number of them from ossuaries opened within the area lying between Lake Simcoe and Lake Huron, where the Hurons were visited by French explorers and Jesuit missionaries in the seventeenth century. The materials thus turned to account appeared to embrace a sufficient number of examples to illustrate the average proportions and relative measurements of the Huron cranium, and to furnish satisfactory data for comparison with those of other Indian nations. The comparisons, however, were chiefly carried out with a view to test the assumed Mortonian type of a uniform American head-form. Of the crania submitted to examination, the Barrie skull, which attracted attention by its striking contrast to the rest of the group, proves to be altogether exceptional. Studied alone, like the famous Scioto Mound skull, it would have seemed to furnish conclusive confirmation, in relation to Canada, of the assumed remarkable sameness of osteological character pervading all the American tribes from Hudson's Bay to Terra del Fuego. Indeed the description which Dr. Morton gives of the famous mound skull, as "the perfect type of Indian conformation to which the skulls of all the tribes from Cape Horn to Canada more or less approximate," would equally apply to some of the most characteristic features of the one from the Barrie ossuary. It only lacks the great vertical elevation; though this is made to appear less than it actually is, owing to the unusual depression of the fossa in the foramen magnum, which constitutes a fixed point of measurement. The striking agreement of the two, when viewed in one most characteristic aspect, will be seen from the accompanying wood-cuts.

* Canadian Journal, vol. vii, p. 406.

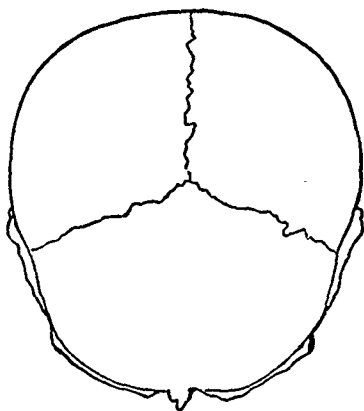


FIG. 1. SCIOTO MOUND SKULL

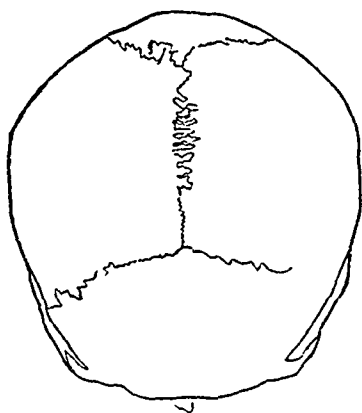
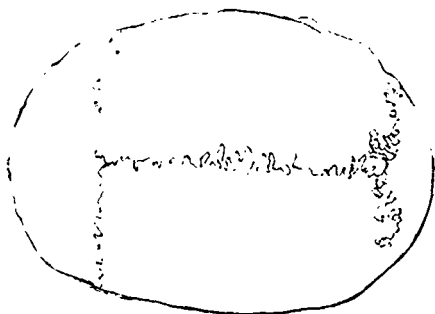


FIG. 2. BARRIE SKULL

The lower jaw in the Barrie skull, as shown in a former illustration, markedly contrasts with the usual square and heavy proportions of the Indian face. But the means of comparison are wanting in that of the Mound-Builder.* In reality, however, out of one hundred and twenty-six crania from the same district that have come under my observation, no other example in any degree resembles the Barrie skull in its peculiar features. It is altogether unique as a Canadian skull,



and, though discovered in the country of the Hurons, is more probably the relic of one who found a grave there, remote from those of his own people. In so far as fashion regulated the varying forms produced by compression in infancy, its shape suggests a possible intruder from the country lying towards the mouth of the Mississippi, where the ancient graves of the Natchez tribes disclose many skulls moulded into approximate forms. No note has been preserved of the general character of the crania, upwards of two hundred in number, discovered at the same time; but this one no doubt owes its selection to its peculiar form.

This is an element of "natural selection" which must materially affect the value of such collections of crania as that of Dr. Morton, for determining ethnical characteristics. In every case of the exposure of a considerable number of skulls, as in the opening of a large ossuary, the ordinary collector will naturally choose the largest, and in the case of any remarkable abnormal varieties, the most striking and unfamiliar forms. Where the choice lies between only three or four examples, the same process of selection will still operate; and thus results derived even from so numerous a collection as that of the Academy of Natural Sciences at Philadelphia,—including in all upwards of a thousand skulls,—may prove greatly to exceed the normal average, or even to rest at times on purely exceptional evidence.

I have referred to the contrast in vertical elevation of the Barrie skull, when compared with that from the Scioto Valley mound. But it is in the remarkable development of the frontal bone that that celebrated cranium differs most strikingly from all of the common Indian type. It has been lithographed of its full size in Messrs. Squire & Davis's "Ancient Monuments of the Mississippi Valley," but unfortunately with more care on the part of the draftsman for artistic execution than accuracy of outline. A careful examination of the original considerably modifies the impression suggested by the drawing.* On viewing it from above, as shown in Fig. 1, it presents the peculiar characteristics of the truncated skull-form in its most marked aspect, passing abruptly from a broad flattened occiput to the extreme parietal breadth, immediately behind the external angular process of the frontal bone. So far, as will be seen from the outlines of the two, it does not greatly differ from the Barrie skull, Fig. 2. But its most character-

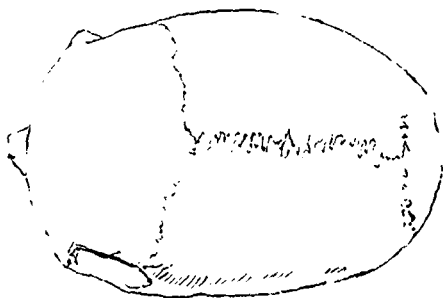
* A wood-cut of the Scioto Mound Skull in the same aspect as the full-sized lithographic view in the "Ancient Monuments of the Mississippi Valley," but executed for me from a photograph of the original skull, has been already given. Ante Vol. xiv, p. 276.

istic feature, in which it differs from all other Indian crania that I have studied, is the great elevation of the forehead. The frontal bone is fully arched, the glabella are prominent, and the whole character of the frontal region is in striking contrast to the ordinary native American head. In this respect there is comparatively uniform agreement throughout all the Huron crania. They are true Indian skulls of the modern type, with no indications of cerebral development adapted to any higher stage of civilization than that which is known to have pertained to them and other kindred tribes.

If the Scioto Mound skull could be accepted with certainty as illustrating an ethnical type, it would help to confirm the most exaggerated estimates of the civilization of the Mound Builders. Assuredly it is not what Dr. Morton assumed it to be: "the perfection of Indian conformation," possessing the national characteristics of the American aborigines in section. But if it be any fair example of the head-form of the constructors of the great earth-works and other remains abounding in the Ohio valley, it is highly suggestive of the superior intellectual capacity by means of which they had advanced beyond the rude arts of such forest tribes as those of the Iroquois and Huron confederacies.

The indefatigable researches of Dr. Taché might be supposed to furnish materials for determining the Huron type of head beyond all controversy. To the experienced craniologist, however, it will be no matter of surprise that they rather suggested, when first seen, some doubt as to there being any specific Huron type. But, at any rate the materials thus furnished, with later additions from other sources, admit of a review of the whole question, with a view to results of somewhat wider significance than those aimed at in a former study of Iroquois and Huron crania.

The sight of upwards of seventy skulls, all derived from the cemeteries of a single tribe or nation, is a peculiarly interesting study to the ethnologist. But to one at all impressed with the uniform persistency of a specific ethnical type, the result is far from satisfactory. At the first glance it seemed as though they might be classed into half a dozen types, having very little in common. The separation by sex reduced this seemingly wide range of diversity within narrower limits. But there still remained to be noted various diverging forms, and especially sundry long oval skulls, which viewed in reference to the cranial, apart from the facial bones, not only differed essentially from that Mongolian type usually assigned to the American aborigines; but presented



no clearly recognizable Indian character. Among the numerous crania from this one region of Canada, examined by me from first to last, the Barrie skull, with its flattened vertical occiput, and its brachycephalic proportions, remains unique. There is scarcely a trace, among all those in Dr. Taché's collection of a flattened occiput. Many of them are noticeable for its prominence; and in the female skull especially the tendency is repeatedly towards such a decided projection of the occiput as attracted my notice in examples previously described from the same district. In one case, indeed, the occiput presents a wedge-like protrusion in profile. But the specialties of the whole, in their front aspect, suggest a greater uniformity in physiognomy than in cranial conformation. The nose is in most cases large and prominent; the superciliary ridges in the males are strongly developed; and a common ethnical character may be traced in the full-face as a whole, including the massive, broad cheek-bones and superior maxilla; as well as in the indications in the greater number of a tendency towards a pointed apex, or meeting of the parietal bones at an angle at the sagittal suture.

Of the inferior maxillæ only detached examples are generally recoverable, owing to the circumstances under which the bones were originally gathered together to be deposited in the common ossuary. Only in the rare cases of interments of the bodies of those recently dead is the skeleton met with entire; and of the numerous skulls obtained by Dr. Taché, the lower jaws of only two of them could be identified, although he brought away with him, in all, twenty-six specimens. In their general character they present the massive rectangular ramus, and the square orthognathic jaw, characteristic of the North American Indian.

Dr. J. Aitken Meigs describes the skull of a Huron chief in Dr. Morton's collection, and figured in the *Crania Americana*, pl. 37, as "a massive, strongly marked, and brutish skull. The forehead is flat and receding; the superciliary ridges very prominent; superior maxilla everted; lower jaw ponderous and flared out at the angles, after the manner of the typical Eskimau skull; malar bones projecting; ossa nasi much incurvated; junction of parietal bones ridged or keel-like; skull rather narrow, occipital protuberance pretty well marked; anterior bregmatic region elevated, giving an arched outline to the whole head; occipital flatness in the upper part of the posterior region."* Dr.

* *Proceed. Acad. Nat. Sci. Philad.* vol. xviii, p. 220.

Meigs further remarks: "In its general configuration, as viewed laterally, it resembles the Creek and Chetimache skulls, but differs from them in general elevation of crown. This coronal elevation is shown also in the other three skulls" in the Morton collection, and he adds: "they are all short skulls." In reality, none of the examples referred to can be regarded as unmodified examples of the Huron head. The Wyandots of Detroit were the descendants of the Petuns, who, after they were driven out by the Iroquois, settled for a time on the Island of Mackinac, at the mouth of Lake Michigan, where they were joined by Ottawas and other Algonquin fugitives who had experienced a like fate. Driven forth from this refuge, they migrated from place to place, mingling for a time with the Illinois, another Algonquin people; and finally removed to Detroit and Sandusky, where, under the name of Wyandots, they were settled at the beginning of the present century. They retained the traditions of their fathers, and were among the most formidable of the Indian tribes who joined the famous Ottawa Chief, Pontiac, in 1763, in a war of extermination against the English. The skull figured in the *Crania Americana*, and minutely described by Dr. Meigs, is that of a Wyandot chief, killed near Detroit in a rencontre with another Indian. But it is not only inferior to the general character of Huron skulls; but both it and the other examples in the Philadelphia collection indicate such deviations from any prevalent Huron type as was to be looked for from the history of the Petun-Wyandots, subsequent to their migration from their original settlements.

On Plate I, are presented fair average specimens of the male and female Huron head. The male example, on the left, illustrates the prevailing characteristics of the larger number of the skulls as seen in profile. The superciliary ridges are prominent, though less so than in some other examples; the forehead is low and receding, but by no means below the average; the maxilla large; and the malar bones broad and massive. The nasal bones are imperfect; but suffice to indicate a prominent nose, as is the prevailing character in other examples. The female head, though illustrating the general characteristics of female Huron skulls, is decidedly the largest and best formed of all those in Dr. Taché's collection. Unfortunately the fracture of the zygoma deprives it of one feature in which the greater delicacy of the female skull is apt to show itself most definitely. The superciliary ridge, as usual in the female, is wanting. The frontal region is well developed for an Indian; the occiput is little protruded; and the whole

contour, as seen in profile, shows a well-proportioned and symmetrical head. The measurements of the two skulls are Nos. 5 and 14 in the following table :

MEASUREMENTS OF HURON SKULLS.

No.	Sex.	L. D.	P. D.	F. D.	V. D.	I. M. A.	O. F. A.	H. C.
1	M	7.00	5.50	4.40	5.25	14.50	14.60	20.00
2	M	7.12	5.55	4.00	5.35	14.75	14.25	20.25
3	M	7.20	5.55	4.60	5.40	14.90	14.60	20.40
4	M	7.35	5.40	4.35	5.20	14.30	14.40	21.60
5	M	7.37	5.45	4.15	5.55	15.15	14.75	20.50
6	M	7.60	5.25	4.00	5.55	15.00	15.12	20.75
7	M	7.75	5.20	4.10	5.55	14.90	14.75	21.00
8	M	7.50	5.70	4.00	5.95	16.00	15.50	21.25
9	M	6.95	5.45	3.75	5.50	14.60	14.00	19.50
10	M	7.12	5.50	4.10	5.12	14.30	14.35	20.20
11	F	6.45	5.40	4.15	4.95	13.70	13.05	18.60
12	F	6.80	5.20	4.20	5.20	14.10	13.95	19.40
13	F	6.95	5.20	4.00	4.90	13.30	13.60	19.55
14	F	7.00	5.35	4.10	5.12	14.25	13.50	20.00
15	F	6.70	5.00	4.00	5.00	13.50	13.60	18.75
16	F	7.20	5.10	4.20	5.30	13.90	14.20	20.00
17	F	7.20	5.10	4.20	5.75	13.90	14.50	19.95
18	F	7.11	5.30	3.80	4.90	13.50	13.50	19.30
19	F	6.80	5.40	4.10	5.20	13.70	13.90	19.70
20	F	6.90	5.30	4.10	5.30	13.90	14.20	19.60
M. Mean		7.29	5.45	4.14	5.44	14.84	14.63	20.54
F. Mean		6.91	5.25	4.09	5.16	13.77	13.80	19.48
Total Mean		7.10	5.34	4.12	5.30	14.31	14.22	20.01

The measurements in the above table, including ten male, and ten female Huron skulls, are derived from specimens in Dr. Taché's collection at Laval University, and from others, obtained by Dr. Thorburn from the same locality, and now in the Museum of the University of Toronto. Of those some are exceptional examples, to be presently described; but it will be seen, so far as all the evidence now supplied bears on the question, that the dolichocephalic character previously ascribed by me to the Huron head is fully borne out. The measurements of thirty-seven skulls from the Huron country, given in another

work,* were chiefly derived from male skulls: and the mean accordingly exceeds those of the present table. It is:

	L. D.	P. D.	F. D.	V. D.	I. M. A.	O. F. A.	H. C.
	7.39	5.44	4.31	5.43	14.66	14.65	20.49

Mr. Langton has also communicated to me the following mean results of the measurement of ten skulls in Dr. Taché's collection, seven of them male, but including some selected because of exceptional specialties:

	L. D.	P. D.	F. D.	V. D.	I. M. A.	O. F. A.	H. C.
M.	7.34	5.38	3.75	5.51	14.96	14.67	20.46
F.	6.72	5.16	3.58	5.06	13.83	13.48	19.02

The only doubtful element of comparison in the latter is the frontal diameter. In my own measurements it is taken from the point of junction of the frontal, parietal, and malar bones. If taken at any point anterior to this the breadth diminishes. But with due allowance for the relative numbers of male and female skulls, the results as a whole do not conflict. The larger the number of examples employed, there is of course the greater likelihood of eliminating exceptional elements.

Mere averages, however, are at all times of very partial value; and especially so when derived from a group including exceptional examples, or marked deviations from the prevailing type. But, with the aid of my friend, the Rev. James Douglas, I have obtained photographic views of some of the most remarkable skulls in the Laval Museum; and by their means I am able to present in more definite detail some of the fruits of Dr. Taché's indefatigable labours. From crania purposely recovered because of noticeable deviations from the prevailing type, Nos. 6 and 7 of the above table have been selected to exhibit them in their most characteristic aspects. No. 6 is shown in its four principal views, on Plate II. It is unfortunately imperfect, as seen in front, but not to such an extent as to interfere in any material degree with the exhibition of its chief specialties. As will be seen at a glance, it deviates greatly from all predominant Indian head forms, especially when viewed from above. It is also noticeable that in this example the superciliary ridges are scarcely more marked than in the ordinary female skull; though the bones of the face are otherwise large, promi-

ment, and of the ordinary Indian character. The chief peculiarities noticeable in No. 6,—with the exception of the absence of the superciliary ridges,—appear in another example of the same long type of Huron skull, No. 7, figured on Plate III. As shown when viewed from behind, both skulls are of unusual breadth at the base, and between the temporal bones; the mastoid processes are large; and in profile the outline of the forehead, especially in No. 7, is markedly receding.

But the specialties for which these skulls invite attention now, are chiefly shown in the vertical views. No. 6 presents in this aspect a long symmetrical oval, in which the outline of the occiput differs very partially from that of the frontal bone. In No. 7, as will be seen from the table of measurements, the extreme length, as compared with the breadth, is still more remarkable; but the view is taken so as to show more of the forehead; and the protuberant character of the occiput must be judged by the lateral view. The sutures in No. 7 are closed; and much both of the sagittal and lambdoidal suture is nearly obliterated by ossification. In neither example is there any trace of the prominent parietal protuberances, or posterior excess of breadth, with the narrowing towards the frontal region, which ordinarily constitute characteristic features of the Indian head, and are so manifest in the vertical view of the remarkable brachycephalic skull from a Huron ossuary shown on p. 126. *So greatly indeed does this remarkable type deviate from the prevailing head-form, alike of the dolichocephalic and brachycephalic Indian skull, that were it not for the characteristic facial features, and the undoubted recovery of the skulls from a Huron ossuary, I should have been inclined to reject them as wrongly classed among Indian crania.* A comparison with the normal male Huron skull, as shown on Plate I, and a reference to the contrast in relative breadth and length of No. 5 of the above table, in which its proportions are placed alongside of those of the other two, furnish means for judging of the differences between them.

On turning originally to the study of the Huron head-form, I was prepared to anticipate a prevailing uniformity of type, owing to seemingly favourable circumstances of isolation. But the comprehensive generalizations of earlier American ethnologists, under the guidance of Dr. Morton, which led to the doctrine of a homogeneous cranial type for the American aborigines, has every where failed when subjected to the crucial test of detailed observation. The idea even of a uniform

tribal head-form, it is apparent, must admit of perplexing aberrant deviations. Even among the Esquimaux,—isolated seemingly within their native arctic region, and, especially on the eastern side of the continent, cut off from all contact with the true Indian race,—although a markedly typical head-form prevails, examples occur which would puzzle the most experienced craniologist to assign to them any distinct ethnological affinity.

Such lines of transition from one to another and essentially distinct ethnical group, harmonize with the present tendencies of an all-comprehensive generalization in natural history. It is interesting indeed to revert to the views promulgated by one of the most distinguished among the naturalists of this continent at a comparatively recent date; and to compare them with the prevailing tone of scientific opinion at the present day. Professor Agassiz, writing in 1853, in his "Provinces of the Animal Kingdom and their relation to Man," thus defines what then appeared to him to be the only alternatives presented to the student of the natural history of man: "Either mankind originated from a common stock, and all the different races with their peculiarities, in their present distribution, are to be ascribed to subsequent changes: an assumption for which there is no evidence whatever; or what are called human races, down to their specialization as nations, are distinct primordial forms of the type of man." Since this alternative was promulgated, the scientific world has learned to treat such a dilemma as one of easy solution; in view of the comprehensive pedigree which aims at tracing all animal life, man included, to some common lowly-organized form. The line of reasoning thus pursued has, at any rate, gone far to put an end to the multiplication of races of men, constituting distinct species with no common origin. In man at least, the further minute research is extended, the intervals between seemingly primary typical forms diminish. There is no longer an assumed American man, as distinct from every type in the Eastern Hemisphere as the Catarhine Simiadae of the Old World are from the Platyrrhine group of New World monkeys. Wide apart as are such diverse types as those indicated in the primary divisions of Blumenbach, they are no longer isolated by impassable type-forms, but are found to merge in certain directions by slightly varying links, until—as in the Huron or the Esquimaux group,—we learn to recognise examples which defy the limits of typical classification; or even stand out in striking contrast to some of the most favoured characteristics of the race, with which, nevertheless, they appear to be correctly classified.

ON THE STABILITY OF FLOATING BODIES.

BY JAMES LOUDON, M.A.,

Mathematical Tutor and Dean, University College, Toronto

The following direct method of determining the nature of the equilibrium of a floating body was devised by the writer in January, 1870. The particular case of the fluid being of constant density is taken; and the displacement is supposed to take place round a certain line in the plane of floatation.

Let Ox, Oy, Oz be axes fixed in space, and Ox', Oy', Oz' axes fixed in the body; ρ the density of the fluid, ρ' the density of the body; V the volume of the fluid displaced, V' the volume of the body; $\bar{x}, \bar{y}, \bar{z}$ the centre of gravity of the body, $\bar{x}', \bar{y}', \bar{z}'$ the centre of gravity of the fluid displaced; p, p' the pressures at a point of the element dS of the surface of the body before and after displacement, respectively.

Then, before displacement, for equilibrium we have

$$\begin{aligned} -g\rho'V'\bar{x} + g\rho\iint z(xdx - ydy)dy &= 0, \\ \text{and } \rho V &= \rho'V', \\ \therefore \rho'V'\bar{x} = \rho V\bar{x}' = \rho\iint z(xdx - ydy)dy &\dots\dots (1) \end{aligned}$$

After displacement through an angle $\delta\theta$ around Oy , x, y, z become $x + z\delta\theta, y, z - x\delta\theta$, respectively, and the sum of the moments of the fluid pressures about Oy

$$\begin{aligned} &= -g\rho'V'(\bar{x} + \bar{z}\delta\theta) + g\rho\iint \{z(xdx - ydy)dy - \delta\theta(x^2dx - zxdz)dy\} \\ &= -g\rho'V'\bar{z}\delta\theta - g\rho\delta\theta\iint (x^2dx - zxdz)dy, \text{ by (1)} \\ &= g\rho\delta\theta \{-V\bar{z} - \iint x^2dx dy + \iint zxdz dy\} \\ &= g\rho\delta\theta \{V(\bar{z}' - \bar{z}) - \iint x^2dx dy\}, \dots\dots (2) \end{aligned}$$

if Oy passes through the centre of gravity of the plane of floatation
 $\therefore V\bar{z}' = \iint zxdz dy$, by the properties of the centre of gravity; and equilibrium is stable or unstable according as (2) is negative or positive, *i. e.*, with the usual notation, according as $V.HG \gtrless M\bar{k}z$.

NOTE.—In taking the moment of p' about Oy , p' is resolved into forces parallel to Ox', Oy', Oz' , so that the moment of $p'dS$, dS being projected on $yz', z'x', x'y$, $= p'(xzdxy - zdzdy) = g\rho(z - z\delta\theta)(xdx - zdz)dy$.

IDENTIFIED STATIONS ON THE SOUTHERN ROMAN BARRIER IN BRITAIN.

BY THE REV. JOHN McCAUL, LL.D.,

PRESIDENT OF UNIVERSITY COLLEGE, TORONTO.

In this article I propose giving an analysis of the epigraphic evidence collected in Horsley's *Britannia Romana*, Bruce's "Roman Wall"—3rd edition, and especially the *Lapidarium Septentrionale** (published by "the Society of Antiquaries of Newcastle-upon-Tyne)," for the identification of the first twelve stations named in the *Notitia* as the quarters of the troops that were posted *per lineam valli*. Previously to entering on particulars, it may be convenient to introduce a brief statement of the different answers that have been given to the question—"Who built the wall?" As to the upper barrier between the Forth and the Clyde there can be no doubt that it was constructed by order of Antoninus Pius, who is named on many stones that have been found along the line, whilst Lollius Urbicus was his legate, about A.D. 140; but the evidence regarding the origin of the Southern Wall—between the Tyne and the Solway—is much less satisfactory. The authority of ancient† authors has been regarded as divided between Hadrian and

* This work will be completed in three parts, of which the first two have been published. They will form a remarkably handsome folio volume, distinguished by the number, accuracy and finish of its illustrations, whilst its intrinsic merits are such that no collection of books on British Archaeology can be complete without it. The *Lapidarium Septentrionale* is cited in this paper as L. S.

† There is no ancient author but Spartian (a writer at the close of the third century) who states that Hadrian was the builder of the wall; and he is inconsistent in his statements, for in another passage he distinctly ascribes the construction to Severus. The words *τείχος* and *διάρχισμα*, used by Dio Cassius, do not necessarily imply a stone wall. The first term refers more probably to the northern barrier, which was certainly not of stone; and even if the latter be regarded as meaning a stone wall, the inference might be that this structure was erected by the order of Severus before he came to the island in 208, an inference, which is consistent with the date, 207, on the quarry near the Gelt. In an inscription found at Kirkandrews, "about a mile south of the wall," the southern barrier is called *Vallum*. Mr. Thomas Hodgson (cited by Dr. Bruce, *Roman Wall*, 3rd edition, p. 298), says of the altar bearing this inscription:—"If any inscription can from the shape of the letters, and the simple character of it, be claimed as one of an early date, it is this one. It, to my mind, has

Severus, but the evidence of almost all, including Julius Capitolinus, Eusebius, Aurelius Victor, Eutropius, and Cassiodorus, is in favor of the latter, whilst most mediæval writers, beginning with Gildas, ascribe the building of the wall to a Roman legion that was sent back to the island about the middle of the fifth century. Horsley, the author of the *Britannia Romana*, "thought that most of the stations of the wall were built by Agricola. He considered that the north agger of the Vallum was also the work of that general, and that it was the military way by which his garrisons held communication with each other. The fosse of the Vallum and its southern ramparts he ascribed to Hadrian, whom he represents as taking for his military way the previously existing north agger—the military way of Agricola. The stone wall, with its ditch, mile-towers, and turrets, he considered to be the work of Severus." The Rev. John Hodgson, "the historian of Northumberland," formed a different opinion. He says: "In the progress of the preceding investigations I have gradually and slowly come to the conviction that the whole barrier between the Tyne and the Solway, and consisting of the Vallum and the Murus, with all the castella and towers of the latter, and many of the stations on their line, were planned and executed by Hadrian; and I have endeavoured to show that in this whole there is unity of design, and a fitness for the general purposes for which it was intended, which I think would not have been accomplished if part of the Vallum had been done by Agricola, the rest of it by Hadrian, and the Murus, with its castella, towers, and military way, by Severus." This theory is ably and enthusiastically advocated by Dr. Bruce. In the years 1852-1854, through the munificence of Algernon, fourth Duke of Northumberland, a minute survey of the whole line was made by Mr. Henry MacLauchlan. The conclusions, on the *questio vexata*, at which he arrived "coincide in a great measure with those of Horsley." "It seems probable," he remarks, "that the Stations were made by Agricola, and walled at some subsequent period." "It is probable that the Vallum was made by Hadrian, at all events before the wall. The wall and castles may have been made or designed at the same time, after the walling of the

every appearance of being erected in the reign of Hadrian." Both these characteristics, especially the former, are fallacious criteria. In Hadrian's diploma, unquestionably of the date A.D. 124, the lettering is so bad, that I doubt not that, if the elements of the date had been obliterated, some of those who undertake to determine the age of an inscription from the form of the letters, would have placed it two or three centuries later than it really is.

Stations; commenced, perhaps, by Severus, and finished, or repaired by his successors."

Mr. Merivale, the author of "the History of the Romans under the Empire," and other works characterized by learning and judgment, takes nearly the same view as Gildas. His opinion is stated in an article in the *Quarterly Review*, vol. cvii, published of course in that periodical without a name, but referred to and acknowledged by the author in his "History of the Romans under the Empire," vol. vii, p. 436. In the following extract from the article, Mr. Merivale's opinion is briefly expressed:—"Early in the fourth century the island was overrun by the barbarians of Caledonia, whom we now first hear of under the name of Picts and Scots, and their predatory hordes were encountered by Theodosius, the general of the Emperor Valens, in the neighbourhood of London, in the year 368. The invaders were routed and driven back beyond both the limitary ramparts, and Theodosius restored, as we are expressly informed by a respectable historian, the camps, castles, and *prætenturæ*, or chains of forts in the north, and reconstituted the province beyond the Solway under the designation of Valentia. As, however, no prudent general could hope to retain the permanent occupation of this exposed district, it might be judged expedient to take this opportunity of securing the lower and more important line of defences by the strongest fortifications. If, hitherto, the bulwarks of the Lower Isthmus had been confined to the camps and mounds of Hadrian and Severus, it was now, we may suppose, that the stations were fenced with masonry, and the wall designated, and at least partly executed, with broad openings at every mile for the temporary shelter of the exposed provincials beyond it. After the retirement of Theodosius, the frontiers were again assailed by the restless savages. Stilicho, about 400, issued orders from Gaul for putting the island in a state of defence against the Saxons, the Picts, and the Scots, and, if we may rely on the evidence of the poet Claudian, his designs were carried fully into execution. We may at least admit that his engineers continued and extended the plan of Theodosius. Finally, after the withdrawal of the Roman garrison by Maximus, the Picts and Scots repeated their attacks, and the single legion which was sent from Rome in 414, and again a few years later, may have assisted or at least advised the natives in putting the finishing stroke to their defensive works, and thus the wall, the remains of which we now see, may have occupied, from first to last, fifty years in building."

The paucity of remains of the latter part of the fourth century, and the total absence of inscriptions and coins after the first decade of the fifth, including any evidence of Christianity in the period, strongly militate against this theory, that gains but little support from such authorities as Claudian or Gildas. I incline to Horsley's inferences, as modified by Mr. MacLauchlan, and think it very probable that the wall and works were repaired and altered in the times of Theodosius and Stilicho.

Turning from this question, regarding which (as I have never seen the remains and have no personal knowledge of the locality) I cannot but feel—*non nostrum*—*tantas componere lites*, I shall merely add to these prefatory remarks, with a view to the clearer apprehension of the statements in the subjoined analysis, that, in addition to a few incidental notices in classical authors, the authorities for the troops in Britain during the Roman occupation of the island are—**Notitia Dignitatum et Administrationum omnium tam civilium quam militarium in partibus Orientis et Occidentis*; three *Tabulæ Honestæ Missionis* found in the island, viz., Trajan's of A.D. 104, Trajan's of A.D. 106, and Hadrian's of A.D. 124; and other inscriptions, chiefly British; whilst the authorities for geographical items are †*Ptolemæi Geographia*, ‡*Antonini Itinerarium*, and ||*Anonymus Ravennas*.

* The date of this work is uncertain. Panciroli was of opinion that it was written at the close of the reign of Theodosius Junior, *i. e.* about the middle of the fifth century. This opinion is rejected as evidently erroneous, by Böcking. Gibbon was of opinion that it was composed between the division of the empire, A.D. 395, and the successful invasion of Gaul by the barbarians, A.D. 407. Guizot refers it to the time of the Emperor Theodosius I. that is, in the fifth century, when the empire was already divided into Eastern and Western. Mr. Hodgson Hinde, *History of Northumberland*, vol. 1, pp. 18-19, suggests reasons for inferring that "the *Notitia* was compiled in or about the year 403, the date of the battle of Pollentia." I have strong doubts that all the statements in it are records of the same year, and suspect that the original has in some places been modified. We may however, I think, safely assume that its notices do not extend lower than about the beginning of the second decade of the fifth century.

There is an able article on the Roman army in Britain, by Hübner, in the *Rheinische Museum für Philologie*, n. 1, 1856.

† Flourished A.D. 150.

‡ The date of this work, also, is uncertain. The Antoninus after whom it is called has been regarded as Marcus Aurelius, but there is reason to believe that this road-book of the Roman Dominions was commenced by order of Julius Cæsar, and completed in the reign of Augustus. The copy of it, that we at present

Accurate copies of the three *Tabulæ Honestæ Missionis* are printed in the *Lapidarium Septentrionale*, a work, which the present Duke of Northumberland has further enriched by the very valuable contribution of exact facsimiles of those diplomas, executed under the supervision of Mr. A. W. Franks. The geographical authorities may be conveniently consulted in *Monumenta Historica Britannica*, and Horsley's *Britannia Romana*.

§ 1. SEGEDUNUM=Wallsend.

"*Tribunus cohortis quartæ Lingonum Segeduno.*" NOTITIA.

The only legible inscriptions found at Wallsend mention the *Legio secunda Augusta* (LEG. II. AVG) and some centuries of different cohorts. At *Tynemouth, however, *Cohors quarta Lingonum* (COH. IIII. LINGONVM) is named, and on another stone the *Legio sexta Victrix* (LEG. VI. VI.) No date can be derived from any of the inscriptions; but we † know from Trajan's diploma of the date A.D.

possess, seems (like the *Notitia*) to have been modified, and the designation *Antonini Itinerarium* points to the time of the Antonines (*M. Aurelius* and *Antoninus Pius*) at which these modifications seem to have been made. Its date has been fixed by some, but on insufficient grounds, at about A.D. 320.

‡ Believed to have flourished in the seventh century.

* At the mouth of the Tyne in the bed of the river a remarkable relic of the Roman period was found—the boss (*umbo*) of a shield, that belonged, as we learn from an inscription on it, to a soldier of the 8th Legion, *Junius Dubitatus* of the century, probably, of *Julius Magnus*. An excellent engraving of it has been contributed by the owner, the Rev. Wm. Greenwell of Durham, to the *Lapidarium Septentrionale*, p. 58, and the subject is there fully discussed. Dr. Bruce remarks: "The eighth legion was never in Britain. The owner of the shield must therefore have been an occasional visitor; or, perchance, he may have approached our shores with the view of taking the command of some auxiliary cohort."

There is certainly no evidence that the eighth legion was ever in the island, but we know from Henzen's, n. 5456, that vexillations of that legion (*Augusta*), of the seventh (*Gemina*), and of the twenty-second (*Primigenia*), each a thousand strong, took part in Hadrian's expedition. These bodies were, I suspect, employed on the barrier. I have but little doubt that *Junius Dubitatus*, named on this boss, was a soldier of the vexillation of the eighth that is mentioned in that inscription. He seems to have been drowned, probably with some comrades, the boat or vessel in which he was having been upset or swamped whilst crossing or entering the river.

† On the inner side of the diploma we have the numeral IIII, but on the outer III. As we know from the *Notitia*, and from an inscription found in the island, that the fourth cohort was in Britain, the latter numeral is commonly regarded

106, that the *Cohors quarta Lingonum* was in the island at that date.

§ 2. PONS ÆLII=Newcastle.

"*Tribunus cohortis quartæ Cornoviorum Ponte Ælii.*" NOTITIA.

The only *corps* named on a stone found here is *Cohors prima Thracum* (COH· I· THRACVM·)

This cohort is named on two stones found at Bowes, in Richmondshire; one of the date A.D. 196 or 197, when Virius Lupus was Legate of Severus; the other, probably, of the time of Constantine. Four *Cohortes primæ Thracum* are distinguished. *Cohors prima Thracum*, *Cohors prima miliaria Thracum*, *Cohors prima Thracum C. R.* (of which the first two are placed in Arabia, and the third in Pannonia by the *Notitia*), and the *Cohors prima Thracum equitata* that was in Pannonia in A.D. 154. In Marini's *Atti de' fratelli Arvali* there is mention in an inscription, found at Rome, of *Claudius Paulus Præfectus cohortis primæ Thracum in Britann.*

Only three other inscriptions are ascribed to this station, one of which probably gives the names of two soldiers of a century.

No date can be derived from any of the inscriptions.

§ 3. CONDERCUM=Benwell.

"*Præfectus alæ primæ Asturum Conderco.*" NOTITIA.

The *Ala prima Asturum* (*ALA PRI HISPANORVM ASTVRVM, ALA I ASTORVM or ASTVRVM) is named on three inscriptions that have been found here. The date of one (L. S. n. 22) is between A.D. 238-244 (the period in which Gordian was emperor), of † another (L. S. n. 27)

as having been cut by mistake. See however Gazzera, "Notizie di Dipl. Imp. p. 40, n. 4, Cardinali, Dipl. Imp. p. 148, and Henzen, *Jahrb. des Vereins v. Alterth.*—Frouden im Rheinl. xiii, p. 92.

* In the Spanish cavalry regiments, the term *Hispani* sometimes, as here, precedes the names of the tribes or peoples: thus *Ala I Hispanorum Vettonum*. Such *alæ primæ* are not to be confused with the *Ala I Hispanorum*. Similarly the *Ala II Asturum* stationed at *Cilurnum* was different from *Ala II Hispanorum*, of which there must have been two, as we find this *ala* placed in the *Notitia* both in the Thebaid and in Arabia, or else these notices refer to different times.

† Dr. Bruce, L. S. p. 25, remarks: "This slab refers to a plurality of emperors, and belongs, according to present appearances, to the reign of Severus and his sons, A.D. 193-211. The inscription is, however, in so imperfect a state, that confidence cannot be placed on any reading of it." According to the text, as given by Horsley, *Brit. Rom.*, North., ix, the victory named in it is of two Augusti, and Alfenius Senecio is mentioned as *Consularis*, from which it may be inferred that the "victory" refers to the expedition of Severus and Caracalla

A.D. 208 or the beginning of 209, and of the third *doubtful. Two Legions, also, are named on other stones found here, viz. *Legio Secunda Augusta* (LEG· II· AVG·) in the time of Antoninus Pius, and *Legio Vicesima Valeria Victrix* (LEG· XX· V· V·) Of the †latter the

against the Caledonians, and that the date is before Geta was made Augustus in 209, and not earlier than 208, the year in which Severus and his sons came to Britain.

* This inscription is sadly mutilated. According to Mr. Mossman's reading as given in the wood cut, the extant letters are—

NIO
BI AV
I SV
AVG E
LÆIAS
OI I
V
I

Dr. Bruce, reading P for B, expands— [Imp. Cæs. M. Anto] nio [Gordiano] Pi [o Felici] Au [g] Aug [A] lio I As [turum] oi The second AVG may have been applied to an Imperial Legate scil. LEG· AVG·, whose name has been lost; but if we refer it to a joint Emperor, and adopt Mr. Mossman's reading BI, it would seem that we have here the two Galli—*C. Vibius Trebonianus Gallus* and *C. Vibius Afinius Gallus Vol-dumnianus Volusianus*. On this supposition, the date will be between A.D. 252-254.

† This inscription is on an altar erected by Tineius Longus, who may have been *Præfectus Alæ primæ Asturum* and *Tribunus Laticlavius Legionis Vicesimæ*. In it we have the words—*judicii optimorum maximorumque Imp. N. sub. Ulpio Marcello Cos*, from which it is difficult to derive an exact date. In treating the question it may, in my judgment, be assumed as certain, that the *Ulpus Marcellus Consularis* named here, was the Governor and General who drove back the insurgent Caledonians in A.D. 184; and as most probable, that the *Imperatores Nostri* were joint emperors, the "Augustor," in another inscription found along with this. The point of the difficulty then, is—that the inscription represents *Ulpus Marcellus* as *Consularis* in the island in the time of joint Emperors, whilst Niphiline, in his abridgment of Dio Cassius, states that it was Commodus who sent him against the Caledonians, and we know that he obtained the title *Britannicus* in A.D. 184, from the success of that General in the island. The following seem to be the only solutions that can be offered. The orders for the promotion of Tineius Longus may have been given by Aurelius and Commodus, but not carried out until some years afterwards—*sub Ulpio Marcello Consulari*—sent by Commodus to the island in 184. Or (according to my supposition, as stated in the Canadian Journal) *Ulpus Marcellus* may have been sent during the joint reigns of Aurelius and Commodus to Britain, where he continued in

date is probably between A.D. 180 and 184. In an *imperfect inscription (L. S. n. 29) I find the *Cohors prima Vangionum* (COH· I· VANGIONVM).

From Hadrian's diploma of A.D. 124, we know that the *ala prima Hispanorum Asturum*, and, probably, the *Cohors prima Vangionum*, were in the island at that date. The latter *corps* (with the addition *milliaria*) was there in A.D. 106, as we learn from Trajan's diploma of that date. In L. S. n. 18. DEO M || ARTI V || ICTOR || VINDI || V, expanded by Dr. Bruce—"Deo Marti Victori Vindi [cianus] ? votum [solvit]"—we have, perhaps, a trace of the Asturians, for VINDI in the fourth line = VINDIO seems to be an epithet of Mars derived from the mountain *Vindius*, in Spain, that separated the Astures and the Cautabri.

§ 4. VINDOBALA=Rutchester.

"*Tribunus Cohortis Primæ Frizagorum Vindobala.*" NOTITIA.

For *Frizagorum* we should most probably read *Frisiavonum*, as this cohort (*Cohors prima Frisiavonum*) was in the island in A.D. 106 and 124, as we learn from Trajan's and Hadrian's diplomas of those dates respectively. No inscription has been found at this place in

office up to the time of the outbreak, and was then sent by Commodus, at the time reigning alone, not from the Continent, but from the part of the island where he then was, to the North, to repel the insurgents who had crossed the barrier. These suppositions may be modified by the hypothesis that the orders for the promotion were given in A.D. 180, before March the 17th, the day on which Aurelius died, and that afterwards, in the same year, Ulpus Marcellus was sent by Commodus to Britain, where he continued in office up to the time of the outbreak, and was then dispatched to the North, from the part of the island where he at the time was. Or, finally, Xiphiline may in mistake have ascribed to Commodus alone what was done in the time of both Emperors. Of these the second hypothesis, as modified, seems to me the most probable.

* I restore the inscription thus:

[COH· I· VAN]GIO
 [NVM· CVIP]R·E· EST
 [MAE]C· CASSI
 [ANVS· PR]ÆF
 [V· S· L·] M

There were, probably, more letters than I have given before C· CASSI in the third line, and ÆF in the fourth. The point after PRÆ in PRÆEST is found in other inscriptions e. gr. in one of those lately discovered at Maryport, for copies of which I am indebted to Dr. Bruce.

which either *Fricagi* or * *Frisiavones* are named. There are memo-

* It has lately been ascertained from examination of the original *tabulae*, that it was a cohort of this people—*Frisiavonum*, not *Frisianonum*, nor *Frisianorum*—that served in Britain in A.D. 106, according to Trajan's diploma of that date, and in 124, according to Hadrian's. This cohort seems to be named in two inscriptions found at Manchester:—

- (1) COHO· I· FRISIAV || O MASAVONIS || P XXIII, and
 (2) COHR I FRISIAVO || ? OVI ??? || ? P XXIII·

In (1) FRISIAV is the correct reading, not FRISIN, as given by me in *Brit. Rom. Inscip. on Horsley's authority*. The second line in (2) is read by Dr. Bruce, L. S. p. 6, YOVIANVM, which yields no meaning. It has been suggested to me by Mr. Thompson Watkin, of Birkenhead, England, that this line may have contained the centurial mark and some such name as *Ioviani*. Can the word have been a contracted form of IOVIANORVM (from Diocletian) or BOVIANORVM (from *Bovium* in Britain)? In the third line, the character before P XXIII seems to have been P, which may stand for *Per* or *Pedatura*.

In an inscription found at Papecastle, in 1865, we have the form FRISIONVM. It appears uncertain whether the *Frisii*, *Frisei*, *Frisaci*, *Frisiai*, *Frisiones*, *Frisiavones*, *Frisiabones*, and *Frisavones*, should be regarded as the same people. The last three may be regarded as different forms of the name of one tribe, even though Pliny places the *Frisiabones* (or *Frisiavones*) in one passage, iv, 29, in the islands at the mouth of the Rhine, and in another, iv, 31, in northern Gallia, between the *Sunuci* (or *Sunici*) and the *Batasii* (or *Betasioi*).

I expand P XXIII *Pedes quatuor et viginti* as in similar inscriptions. See *Brit. Rom. Inscip.* pp. 117, 118. Dr. Bruce (L. S. p. 37) offers the following objections to my view that such centurial stones were intended to mark the space set apart for quarters in an encampment: "If centurial stones were peculiar to the stations this theory might be entertained, but they occur at intervals along the whole line of the wall. In very many instances they are found in places where there are no traces of encampments. What in such cases are we to make of them?" As my view was that such stones marked the boundaries of the quarters, not merely in *castra stativa*, but in temporary encampments, formed as the troops were moved from place to place to work on the barrier, I should expect to find them "at intervals along the whole line of wall." To the other objection the obvious answer is—that the stones remained, but other traces of the encampment were obliterated. "The occurrence of more than two stones with the same inscription, in one locality, is consistent," as Dr. Bruce remarks, "with this view, as four would be required to mark the ground appropriated." Add to this that only two would be required to mark the limits of work done, as we find tablets in pairs on the wall of Antoninus, that we sometimes have on these stones not only the name of the centurion, but also his rank *c. gr.* *Hastatus primus*, and *Princeps posterior*, (see *Brit. Rom. Inscip.* p. 120, and L. S. n. 127, and compare L. S. nn. 140 & 51), and that there is not one certain instance amidst the numerous examples of centurial stones of the use of

rials, however, of LEG. II. AVG. and LEG. VI. V., and we derive the date A.D. 213 from an inscription mentioning *C. Julius Marcus* as Legate of *Caracalla—*Trib. Pot. xvi. Cos. iiii. Imp. ii.*

§ 5. HUNNUM=Halton Chesters.

Præfectus Alæ Sabinianæ Hunno. NOTITIA.

This *ala* is named on one stone found here. We have, also, memorials of LEG. II. AVG., LEG. VI. V. P. F., and LEG. XX. VV. The only date that we can derive is A.D. 158, from a stone in which the *Legio sexta Victrix Pia Fidelis* is mentioned with the addition—*TER. ET SAC. COS=Tertullo et Sacerdote Consulibus.*

fecit or *posuit* As I have adverted to centuries, I may add that we cannot refer all such stones to legionary troops. The auxiliary cohorts were similarly divided (see n. (1) above in this note), and the centurions seem to have had similar designations, *e. gr. princeps* in the second cohort of Tungrians. (See *Brit. Rom. Inscrip.* pp. 13, 17.) Dr. Bruce, *L. S.* p. 196, remarks that "As the names of the commanders in inscriptions are usually Roman, we may further conclude that the auxiliary forces were generally officered by native Italians." Influenced by this view, he explains the passage in Tacitus, *Hist. iv, 12*, relative to the Batavians:—"Mox aucta per Britanniam gloria, transmissis illuc cohortibus, quas vetero instituto nobilissimi popularium regebant," as special. "Had this not been a somewhat peculiar case," he remarks, "it would not have been so distinctly mentioned." In this explanation, the words "vetero instituto" seem to have been overlooked; and the Roman forms of the names of the commanders, noticed by Dr. Bruce, merely show that those persons were Romanized provincials, probably, most of them *cives Romani*. Of the commanders of auxiliary troops in Britain, whose birthplaces are stated, we have, I think, but one native Italian, *viz.*, Quintus Petronius Urbicus, Præfect of the fourth cohort of Galli, from Brixia in Italy. Titus Domitius Heron, Præfect of the second cohort of Galli, was from Nicomedia in Bithynia. Æmilius Crispinus, Præfect of the *ala Augusta*, was from Tusdrus in Africa. Publius Ælius Magnus, another Præfect of the same *ala*, was from Mursa in Pannonia. Marcus Antonius Cornelianus, Præfect of the first cohort of Spaniards, was from Nemausus in Gallia Narbonensis, and Lucius Antistius Lupus Verianus, another Præfect of the same cohort, was from Sicca in Africa. It is remarkable that in examples of this kind, *viz.*, in which the birthplaces of the commanders of auxiliary troops are stated, their birthplaces almost always indicate that the commanders were not of the same nationality as that which gave name to the corps. Perhaps it was customary only in such cases to state the birthplaces. As to the men it can readily be proved that they were often of nationalities different from that of the corps to which they belonged. (See *Brit. Rom. Inscrip.* p. 245.)

* I give the form of this nick-name that has been generally adopted: the ancient authority, however, favors *Caracallus*.

§ 6. CILURNUM=Chesters.

Præfectus Alæ Secundæ Asturum. NOTITIA.

This *ala* is named on two stones found here. We have, also, memorials of *Ælius Longinus* and *Manius Suiilius Victor*, who certainly were in the cavalry, and very probably were, respectively, *Præfectus* and *Eques* of this *ala*. A legion, perhaps LEG. II. AVG., is mentioned in an inscription of A.D. 138. The *Cohors prima Vangionum* is distinctly read on a grave-stone, and I find **Cohors prima Cugernorum*, possibly, in L. S. n. 139, and †*ala Sabiniana*, possibly, in n. 146.

The dates of the *ala II Asturum* are A.D. 221, and, ‡perhaps, A.D. 237, and if VLPIO in n. 124 refers to *Ulpius Marcellus*, the Legate of Commodus, we get a year, about 184. The *Cohors prima Vangionum* was in Britain, as I have mentioned in §3, in A.D. 106 and 124, and the *Cohors prima Cugernorum* was there in A.D. 104 and 124, as it is named in Trajan's and Hadrian's diplomas of those dates respectively, and also between A.D. 140-144, as we learn from an inscription found in Scotland on the wall of Antoninus. (See Brit. Rom. Inscip. p. 233, note.)

§ 7. PROCOLITIA=Carrowburgh.

Tribunus Cohortis primæ Batavorum Procolitia. NOTITIA.

The *cohors prima Batavorum* is named on two stones found at this place, where we have also memorials of vexillations of the LEG. II.

* The extant letters are CVGI = possibly CVGERN.

† The extant letters are VLPI
SABIN

Dr. Bruce asks, "Can it have reference to Ulpius Marcellus, the legato of Commodus?" It is not improbable that he was the person who is named, and as there must have been stables here (for the *Ala II Asturum*) I suggest that the SABIN may have been part of SABINIANA, the name of the *ala* placed in the Notitia at Hunnum, but which may at some other time have been quartered here. It is remarkable that we have two *alæ* in successive stations.

‡ In L.S. n. 116, we have the inscription treated by me in Brit. Rom. Inscip. p. 164, and Canadian Journal, xii, p. 109. Dr. Bruce reads it—"D. M. Aventino Curatori Alæ II. Astur. Stip. XV. Æliomenus Dec. Her. pos. . . ." The only doubtful points are the names of the Curator, the Decurio, and the Consul (cos). I suggest (according to Mr. Mossman's reading, as given in the woodcut) for the first AVR. NOTHENO (or NOTHINO) = *Aurelio Notheno*, or *Nothino*; for the second—ÆL. IOMENVS (or IOMINVS) = *Ælius Iomenus* or *Iominus* (whence the modern name "Jomini"); and for the third—PERPET (or PERPETV) = *Perpetuo*, the Consul of A.D. 237, who is named alone in L. S. nn. 354 & 378.

AVG', LEG· VI· V· P· FIDELIS, and of LEG· XX· VAL· VIC, and of the *cohors prima Aquitanorum* (COH. I. AQVIT·)

The date of one of the inscriptions in which the first cohort of Batavians is named is A.D. 237, and of that mentioning the first cohort of Aquitanians about A.D. 124. Both these cohorts were in Britain in A.D. 124, as appears from Hadrian's diploma of that date. From the *Agricola* of Tacitus, we learn that there were three cohorts of Batavians in the island in A.D. 84.

§ 8. BORCOVICUS=Housesteads.

Tribunus Cohortis Primæ Tungrorum Borcovicio. NOTITIA.

The *cohors prima Tungrorum* is named on seven stones found at this place, and with the addition MIL. for *Milliaria* on two more.

We have also memorials here of LEG· II· AVG', LEG· VI· V· P· F', and of a * cohort of Pannonians. The only dates that we can derive from the inscriptions that were found here are—about A.D. 124 for the Second Legion, A.D. 252, and a doubtful one, but between A.D. 161–212. From the *Agricola* of Tacitus we learn that there were two cohorts of Tungrians in the island in A.D. 84.

§ 9. VINDOLANA=Chesterholm.

Tribunus Cohortis quartæ Gallorum Vindolana. NOTITIA.

The *cohors quarta Gallorum* is named on three stones found at this place. We have also memorials of LEG· VI· VIC', LEG· II· AVG, and LEG· XX· VV, and of *cohors secunda Nerviorum* (COH· II· NER·) and, perhaps, *cohors tertia Nerviorum*. In n. 258 there is, probably, a trace of a Pannonian cohort. We can derive no precise date from any of the inscriptions, but one n. 244, in which *Severianæ Alexandrianæ* seem to have been erased, may thus be placed after A.D. 235, and another n. 261 was probably of the fourth century. (See Brit. Rom. Inscip. p. 141.)

* It is certain that there was a cohort of Pannonians in Britain in A.D. 106, as it is named in Trajan's diploma of that date. From its position in that record it may be inferred that the numeral missing there was II = *secunda*, and this cohort is named in an inscription found at Malbray in Cumberland, but we learn from Mommsen's *Inscip. Neapol.* n. 5024, that the first cohort of Pannonians was in Britain under the command of P. Septimius Paternulus, and as he was *Flamen Divi Trajani*, he may have commanded this cohort in the island in 106. In the *Notitia* a *cohors prima Augusta Pannoniorum* is stationed in Egypt.

§ 10. ÆSICA=Great Chesters.

Tribunus Cohortis primæ Asturum Æsica. NOTITIA.

No record has been found here of *cohors prima Asturum*, but in two inscriptions *cohors secunda Asturum* (COH· II· ASTVRVM) is named, whence it has been inferred that "some transcriber [of the *Notitia*] has in error written one numeral for the other." It may be objected to this inference, that the *cohors secunda Asturum* is placed in the eastern portion of the *Notitia* at Busiris in Egypt. This objection, however, does not seem to be valid, for we have in the same work the *cohors secunda Thracum* placed at *Gabrosentum* in Britain, and at *Musæ* in Egypt. The obvious solution appears to be in this, as in other similar cases, that there were two *cohortes secundæ Asturum* and two *cohortes secundæ Thracum*. The other military bodies named on stones found here are *cohors sexta Nerviorum* (COH· VI· NERVIVRVM) and **cohors prima Rætorum* (COH· I· RÆTORVM). From the latter we get the date A.D. 166-169, and one of the inscriptions in which *cohors secunda Asturum* is named yields A.D. 225. The second cohort of Asturians was in the island in A.D. 106 and 124, as appears from Trajan's and Hadrian's diplomas of those dates respectively. In the latter of these records the sixth cohort of Nervians is named, and we know from an inscription found at Brough, in Yorkshire, that it was there about A.D. 208. In the *Notitia* its quarters were not here but at *Virosidum*, the 23rd and last station mentioned in the list.

§ 11. MAGNA=Carvoran.

"*Tribunus Cohortis Secundæ Dalmatarum Magnis.*" NOTITIA.

The *cohors secunda Dalmatarum* or *Dalmatarum* is † named in one inscription found near this place. We have memorials here also of LEG· II· AVG·, LEG· VI·, and LEG· XX· V· V·, and of *cohors prima*

* There is no other evidence that this cohort was in Britain. In the *Notitia*, the *cohors prima Herculea Rætorum* is placed at Parrodunum in Rætia.

† There is a faint trace of them in the sepulchral inscription (L. S. n. 321) to a woman, who was a native of Salona in Dalmatia. Her name has hitherto been read AVRE· FAIAE = *Aurelia Faia*, but Hübner has suggested the pretty emendation — AVR· ITALAE = *Aurelia Itala*, and this has been adopted by Dr. Bruce. Some years ago when I first saw the inscription I attempted to emend the name, but was deterred from tampering with it by the fact that F is distinct. Subsequently I accepted it, as I found in Dr. Bruce's 3rd edition of the Roman Wall, p. 346, what seemed to be the same name, i. e. AR (for A & V tied, followed by R) = AVR· FAIA.

Hamiorum Sagittariorum * (COH. I. HAMIORVM SAGITTAR.) and *cohors prima Batavorum* (COH. I. BATAVORVM). From the inscriptions in which the first cohort of Hamians is named we derive the dates A.D. 136-137, and about A.D. 163. On an altar (n. 295) we find the date A.D. 258, and an inscription to Constantine as Cæsar gives the period 306-308. The *cohors prima Hamiorum Sagittariorum* was in the island in A.D. 124, as we learn from Hadrian's diploma of this date. In the same record the first cohort of Dalmatians (of which there are memorials at Maryport) is named, and in both diplomas of Trajan—A.D. 104 and 106—the fourth cohort of Dalmatians is mentioned as being in those years in Britain. On the first cohort of Batavians see § 7.

§ 12. AMBOGLANNA=Birdoswald.

Tribunus Cohortis Primæ Æliæ Dacorum Amboglanna. NOTITIA.

This station is in Cumberland; the preceding eleven are in Northumberland. The *cohors prima Ælia Dacorum* is named in †twenty-two inscriptions found at Birdoswald. We have memorials here also of LEG. II. AVG., LEG. VI. VIO. PIA. FIDELIS, VEXILLATIO LEG. VI. VIO., and LEG. XX. VV, and (in the neighbourhood) of the *Ala Petriana* (AL PET). From the inscriptions in which the first Ælian Cohort of Dacia is named we derive the dates about †A.D. 212

* In the Canadian Journal for April, 1869, I remarked: "As I have adverted to the *cohors Hamiorum*, known only from British inscriptions, I may mention that I have but little doubt that it was named in Hadrian's diploma of 124. The letters are I·M·SALIN. I would supply HA as the missing letters. On the meaning of SALIN I can offer no feasible conjecture, but it has occurred to me that it may possibly be a misreading of SAGIT *i. e.* *Sagittariorum*." This suggestion—I·HAM·SAGIT· (which I regarded as uncertain, from doubt that that any one could have read SAGIT as SALIN)—is now known to be nearly correct, for Mr. Franks, on examination of the original plate in the British Museum, independently ascertained that the true reading was—I·HAMIOR·SAGITT *i. e.* *I. Hamiorum Sagittariorum*. (See L. S. p. 7.)

† There also seems to be a trace of them in L. S. n. 382, where we find the letters DECIBA that may be the beginning of the Dacian name—*Decibalus*.

‡ In this inscription *Modius Julius* is named as *Legatus Augusti Pro Prætor*. He is also mentioned in a "very roughly" cut inscription found at Netherby, the date of which may be ascertained from the first two lines. Dr. Bruce (Rom. Wall, 3rd ed. p. 400) reads—

IMP [ERATORI] [CAES. M. AVR.] (?) ANTONI [NO]
P. F. AVG. (?) BIS COS. VEXIL.

(L. S. n. 389), 237 (L. S. n. 354), 238-244 (L. S. n. 352), 258-267 (L. S. n. 359), 267-274 (L. S. n. 353). One (L. S. n. 374) on an altar erected by the soldiers of the 20th Legion gives A. D. 153, and of three imperfect inscriptions one (L. S. n. 386) yields possibly A.D. 219, another (L. S. n. 387) certainly A.D. 236, and a third (L. S. n. 368) not improbably A.D. 286-308. On a rock in the neighbourhood the names of the Consuls of A.D. 210 are cut.

The first Ælian Cohort of Dacians is not named in the diplomas found in the island, unless we suppose that it was the same as the *Cohors Ulpia Trajana Civium Romanorum* in Hadrian's of A.D. 124, a supposition for which I see no ground.

From the foregoing statements it appears that of the twelve stations there are * three—† *Pons Ælii* = Newcastle-upon-Tyne, ‡ *Vindobala* = Rutchester, and || *Æsica* = Great Chesters—at which no memorials have been found of the troops, whose quarters, according to the *Notitia*, were in those places. We also find the following at stations

and remarks—"The obliteration in the stone and other circumstances, lead to the conclusion that Elagabalus is the Emperor intended; he was Consul for the second time A.D. 219." In the *Canadian Journal*, September, 1865, I expressed the same opinion, but at the time I had not seen the stone figured, but depended merely on the copy as given in the *Monumenta Historica Britannica*. Since I have had the opportunity of examining Dr. Bruce's wood-cut, I am inclined to think that the letters before BIS were IMP, and that the numerals III were in the vacant space between COS and VEXIL. The Emperor will thus be Caracalla, and the date A.D. 212. I was led to these emendations by doubts as to the order—BIS COS instead of COS BIS for COS· II—of which I do not remember ever having seen an example. My conjecture seems to be confirmed by Hubner's *Inscrip. Hispan.* n. 1671, where we have IMP· BIS COS· III applied to Caracalla = A. D. 212.

* I have not counted *Segedunum* = Wallsend, as Tynemouth may reasonably be regarded as an outpost.

† Mr. Merivale, *History of the Romans under the Empire*, vii, p. 454, note, remarks:—"Pons Ælii of the 'Notitia Imperii' is amply identified with Newcastle-on-Tyne by inscriptions." There is unfortunately not one on which this identification can be based

‡ Dr. Bruce, *L. S.* p. 41, remarks:—"No inscription has been found at Rutchester telling us what troops were quartered there, but as the preceding and following stations have been identified with *Condercum* and *Hunnum*, there can be no doubt that Rutchester is the *Vindobala* of the *Notitia*, which, according to that document, is situated between *Condercum* and *Hunnum*."

|| See § 10.

different from those assigned to them in that record—*cohors prima Batavorum* at *Magna* = Carvoran (as well as at *Procolitia* = Carrawburgh), *cohors tertia Nerviorum* at *Vindolana* = Chesterholm, instead of *Alione*, and *cohors sexta Nerviorum* at *Æsica* = Great Chesters instead of *Virosido*. But such differences as these are not at all inconsistent with the identification, as, doubtless, for the sake of discipline and other reasons the military bodies were occasionally moved from one station to another. In these changes of quarters, however, we might expect to find at each station a succession of troops of the same kind, *i. e.* of cavalry or of infantry. Where there was a cavalry regiment there were of course stables for the horses, in addition to quarters for the men; here then *alæ* or *cohortes equitatae* could be accommodated.

The 2nd, 6th, and 20th Legions, and Vexillations also of the same, were employed in building this wall, as they also *worked on the wall of Antoninus, but no memoriais have been found here similar to those in Scotland, in which the number of paces is stated, with the name of the reigning Emperor—*Antoninus Pius*.

The list of Emperors, named or referred to in the inscriptions found in these twelve stations, begins with Hadrian and includes many of his successors up to the proclamation of Constantine (the Great) as *Cæsar*, *i. e.* from about A.D. 124 to 306-308. Of all these Emperors † Hadrian is the most frequently mentioned, but not so often, perhaps, as might be expected on the supposition that the wall was built under his orders. With one or two exceptions in the fourth century, all the dates are in the second and third, the majority being in the latter. It is surprising that we have not several inscriptions bearing dates within the hundred years that preceded the time of the *Notitia*, as indicated in its latest reference. Several coins, however, of this period down to the time of Honorius, have been found on or near the line of the wall.

* It was, I think, only a Vexillation of the 6th that was employed on the northern barrier.

† Dr. Bruce's assertion in "the Roman Wall," p. 382, 3rd edition, that "from Wallsend to Bowness we do not meet with a single inscription belonging to the reign of Severus" is too strong. He forgot the stone that was found at *Condercum*. See Horsley, *Brit. Rom. Nor.* ix, and *Lapidarium Septentrionale*, n. 27.

THE BIRTHPLACE OF ANCIENT RELIGIONS AND CIVILIZATION.

BY THE REV. J. CAMPBELL, M.A.

The important discoveries which, in recent years, have rewarded antiquarian research among the monuments, and especially among the written monuments, of the ancient world, have greatly tended to confirm an intelligent belief in the unity of the human race. Links, similar in character to those which the physical ethnologist finds between organisms differing in form and feature, bind in one the speakers of different languages and the inhabitants of widely separated regions. These links may be termed historical, and are found in the religions and mythologies of the nations of the earth. It is impossible to take up any work on Comparative Mythology, or treatise upon the religious systems of different peoples, and not find one's self involuntarily attempting to answer the question, "Whence comes this marvellous agreement?"

The learned Faber, who, in the early part of the present century, gave to the world, in three quarto volumes, a dissertation on the Origin of Pagan Idolatry, framed the following disjunctive judgment, which exhausts the whole field of hypothesis, and shuts the enquirer up into a definite conclusion, after a brief investigation of the subject:

1. Either all nations agreed peaceably to borrow from one, subsequent to their several settlements;
2. Or all nations, subsequent to their several settlements, were compelled by arms to adopt the superstition of one;
3. Or all nations were once assembled together in a single place and in a single community, where they adopted a corrupt form of religion, which they afterwards respectively carried with them into the lands that they colonized.

The first and second of these hypotheses carry absurdity upon their face. Is there any escape from the conclusion, which is the third? An attempt has been made to escape in two ways. The first denies that the disjunctive proposition is exhaustive of the subject; and the second calls in question the truth of the premise on which the proposition is based. Those who deny that the proposition of Faber is exhaustive, add to it a fourth hypothesis, and, showing the third to be

as untenable as the first and second, make it the conclusion. This final hypothesis may be stated as follows :

4. Or all nations, by virtue of similarity in the physical condition and mental constitution of the individuals (not necessarily of the same species) who composed them, developed independently certain similar forms of religious belief.

This is the conclusion at which a large proportion of the scientific men of the present day have arrived; a conclusion which is largely due to the prominence that physical science has acquired at the expense of historical study. Physiology and psychology, which, in the hands of the materialist, is nothing more than a higher kind of physiology, are prepared to depose the Historic Muse from her once proud eminence, to degrade her to the position of a mere annalist of indisputable facts, and themselves to set forth the origin and the destiny of man and nations. The element of truth in this fourth hypothesis has been much exaggerated in importance by the shallow thinkers who save labour by adopting it. It cannot be denied that all men act and think in conformity with the same laws of physical and mental action; but experience teaches us that the law of freedom so modifies the law of nature in man, that the details of his thought and action present an almost infinite variety. Man is a religious being, prone to worship; so that hardly a tribe of the human race is found without a divinity. Allow that mental constitution appears in this universality of worship; but what mental constitution or physical condition can account for that which is almost as universal—the bloody sacrifice? Nature may cause nations far removed from each other in time and place to frame similar laws, and even to appoint law-givers with similar functions; but by what law of mind or matter can we dispose of the Egyptian Menes, the Greek Minos, the Indian Menu, the Phrygian Manis, the Lydian Macon or Manes, the German Mannus, and the Welsh Menw? The Pyramids of Egypt and India,¹ and the Stonehenges of Arabia, Phœnicia and England,² cannot be accounted for in the same way as we account for the temple-building instinct. Now, Faber utterly demolishes this fourth hypothesis by stating that “the singular, minute and regular accordance among heathen systems appears not only in what is obvious and natural, but also in what is arbitrary and circumstantial,

¹ Wheeler, *Geography of Herodotus*. London, 1854; p. 421.

² *Geographical Works of Sadik Isfahani*. London, 1832; p. 9. *Palgrave's Travels in Central Arabia*, vol. i., p. 251. *Finn, Byeways in Palestine*. London, 1863; p. 283.

both in fanciful speculations and in artificial observances. The final means of escape, therefore, from the conclusion which sends us to a common cradle of the whole human race is that afforded by calling in question the truth of the above statement of Faber's. Can it be proved that the learned author of the *Origin of Idolatry* manufactured resemblances which did not exist, magnified mere accidental coincidences into identity of plan, or wilfully distorted facts to suit a preconceived theory? Far from it. There are instances, doubtless, in which he and others who have dealt with the same subject have allowed their general conviction to bias their judgment in particular cases of suspected agreement; but these are so few, compared with the large number of cases of indisputable connection, that they do not in the least invalidate the position which these writers have taken.

I propose, first of all, to glance briefly at a few of the connections and statements of connection which justify Faber's premise that there is "a manifest accordance among the various systems of Heathen Mythology." The myths best known at the present time, and indeed till a comparatively recent period the only ones with which English-speaking people were conversant, are those of the Greeks. It is interesting to notice Bacon's judgment upon the origin of Greek Mythology: "Many of these fables by no means appear to have been invented by the persons who relate and divulge them, whether Homer, Hesiod or others; for if I were assured that they first flowed from these later times and authors that transmitted them to us, I should never expect anything singularly great or noble from such an origin. But whoever attentively considers the thing, will find that these fables are delivered down and related by those writers, not as matters then first invented and proposed, but as things received and embraced in earlier ages. Besides, as they are differently related by writers nearly of the same ages, it is easily perceived that the relaters drew from the common stock of ancient tradition, and varied but in point of embellishment, which is their own. And this principally raises my esteem of these fables, which I receive not as the product of the age, or invention of the poets, but as sacred relics, gentle whispers and the breath of better times, that, from the traditions of more ancient nations, came at length into the flutes and trumpets of the Greeks."³ Herodotus is very explicit in regard to the origin of Greek divinities: "Almost all the names of the gods came into Greece from Egypt. My inquiries

³ Bacon, *Wisdom of the Ancients*; preface.

prove that they were all derived from a foreign source, and my opinion is that Egypt furnished the greater number. For, with the exception of Neptune and the Dioscuri, whom I mentioned above, and Juno, Vesta, Themis, the Graces and the Nereids, the other gods have been known from time immemorial in Egypt. This I assert on the authority of the Egyptians themselves. The gods with whose names they profess themselves unacquainted, the Greeks received, I believe, from the Pelasgi, except Neptune. Of him they got their knowledge from the Libyans, by whom he has been always honoured, and who were anciently the only people that had a god of the name."⁴ In another place, speaking of the anomalous fact of the Greeks regarding Hercules, Bacchus and Pan, oldest of the Egyptian deities, as the youngest of the gods, Herodotus says: "To me, therefore, it is quite manifest that the names of these gods became known to the Greeks after those of their other deities, and that they count their birth from the time when they first acquired a knowledge of them."⁵ In a previous paper I have illustrated the connection in religious observance or worship between Greece, Egypt and Phœnicia.⁶ Every classical scholar is familiar with some of the many myths that cluster round the name of Cadmus, and serve to bind Syria and Greece together. M. Maury, in his notes to the 7th book of Guigniaut, on the Relations of the worship of Bacchus in Egypt, thus speaks of the connection among themselves of religions which he has already indissolubly united to those of the Greeks. "The study of the religions of Western Asia reveals to us the innumerable points of resemblance which existed between the divinities of the banks of the Nile and those of Phœnicia and Syria, the worship of which extended afterwards into Phrygia, Lydia and Cappadocia. The myths of Attis and Cybele, of Adonis and Astarte, present an analogy to that of Osiris and Isis which cannot be got rid of. And we cannot withstand the impression that these religions had in part a common origin, as M. Guigniaut has shown in his Notes, &c., on the 4th book of this work."⁷ The celebrated Bryant, speaking of Greek historians, says: "The whole Theology of Greece was derived from the East. We cannot, therefore, but in reason suppose that Clement of Alexandria, Eusebius of Cæsarea, Tatianus of Assyria, Lucianus of Samosata,

⁴ Rawlinson's Herodotus, Bk. ii., ch. 50.

⁵ Id., Bk. ii., ch. 146.

⁶ "The Pharaoh of the Exodus Identified in the Myth of Adonis," in the *Canadian Journal* May, 1871, p. 36.

⁷ Guigniaut, *Religions de l'Antiquité*. Tome iii., 924.

Cyril of Jerusalem, Porphyry of Syria, Proclus of Lydia, Philo of Byblus, Strabo of Amasa, Pausanias of Cappadocia, Eratosthenes of Cyrene must know more upon this subject than any native Helladian. The like may be said of Diodorus, Josephus, Cedrenus, Syncellus, Zonaras, Eustathius and numberless more. These had the archives of ancient temples to which they could apply, (Philo Byblus mentions many authors in Phœnicia to which he applied); and had traditions more genuine than ever reached Greece.”⁸ Creuzer, who preceded Guigniaut and Maury, and who carefully abstained from the magnificent generalization and dogmatic theorizing of Bryant, having withal no remnant of Noah’s ark to identify, or other preconceived notion to justify, in treating of Greek mythology, is constrained to speak as follows: “We cannot repeat it too frequently: if, in the study of Greek mythology, we desire to arrive at the lowest foundation, we must consult the Oriental dogmas, and not imagine, as many still do, that the gods of Homer are the most ancient known and adored by the Greeks. There are, on the contrary, gods far more ancient than these, of whom indeed authors have transmitted to us but little and obscure information. To complete and make clear the knowledge they afford we must betake ourselves to the monuments of ancient literature in Persia and in India. These exhibit, in all its truth and fulness, the organic development of ancient religions.”⁹

If, passing from the Greek, we take up the Latin mythology, we find that, in all its branches, there is much of what one might be tempted to call a reproduction of the Greek, but possessing so distinctive a character that we must conclude against the theory of either people borrowing from the other. While the remains of the Sabine religion are strongly Egyptian in character, those of the Etruscan mythology, as Maury shows, manifest a very decided Perso-Assyrian connection, and are historically linked with the ancient Lydian state.¹⁰

We do not need the statement of Taliessin that the Britons came from Asia,¹¹ nor the authority of the Book of Conquests for deriving the ancient Irish stock from Africa,¹² to prove the eastern origin of the Celtic nations; since their mythological history and worship connect

⁸ Bryant’s *Analysis of Ancient Mythology*, i., 143.

⁹ Creuzer, *Symbolik und Mythologie der alten Völker*. Theil ii., Heft iii. Nachtrag 3.

¹⁰ Guigniaut, ii., 493. *Id.*, ii., 1204. Herodotus, i., 94.

¹¹ Davies, *British Druids*, x.

¹² Keating’s *General History of Ireland*, p. 84, &c.

them with Egypt and Phœnicia.¹³ Finn Magnusen, who first compared the Scandinavian and Persian systems of mythology, pointed out the striking coincidences every where manifest between them; and later writers have rendered it still more apparent.¹⁴ Grimm leaves little doubt in the mind of an unprejudiced reader that the Germanic theology (which includes the Scandinavian) has certain affinities with the Celtic, widely as the two peoples, Germans and Celts, may differ; and that Lithuanian gods may be found among the Hindoos in a Sanskrit dress.¹⁵ The Slavonian peoples, with whom the Lithuanians are often identified, occupy a peculiar position, in language approaching the Latins, and in religion the Persians and Indians. Carl Ritter cannot account for such undoubted traces of Indian mythology and religious observance as appear among many European peoples, otherwise than by the supposition that colonies of Indian priests settled around the Black Sea, in Thrace, and even in countries farther west.¹⁶ Not only into Europe, however, but also into Africa, these priests of Brahma and Buddha must have penetrated, if Ritter's hypothesis be the solution of the question—how did the similarity between the religions of India and those of western peoples originate? and the following statement by Dr. Pritchard be correct. "Some of the earliest travellers in India were struck with many religious ceremonies and theological fables prevalent in that country, which they observed to bear a comparison with parallel portions of the Egyptian system. Père Catrou, a Jesuit missionary, was, I believe, the first who remarked this connexion. La Croze followed him, and pointed the way for an ample investigation of the subject, and for the exertion of much ingenuity in tracing a variety of coincidences. These are found to amount, according to the general opinion of the learned in the present day, to a satisfactory proof that the mythology of the East emanated from the same source from which the fables of Egypt are derived."¹⁷ It is not at all surprising to find after this that Indian gods have a place in Persian mythology, so that Burnouf could say, in speaking of the identity of Yima-Kshæta, Thrætana and Keresaspa with Yama, Trita and Krisasva: "It is undoubtedly very strange to see one of the most

¹³ Banier, *La Mythologie et les Fables expliquées par l'histoire*, ii, 616.

¹⁴ Blackwell, in his edition of Kallet's *Northern Antiquities* p. 471.

¹⁵ Grimm, *Deutsche Mythologie*, 137, &c., 765, &c.

¹⁶ Ritter, *Die Vorhalle Europäischer Volkergeschichten vor Herodotus*.

¹⁷ *Researches into the Physical History of Man*, p. 341.

venerated of Indian divinities (Yama) give his name to the first sovereign of the Ario-Persian dynasty (Yima-Kshæta or Jemschid): it is one of the facts which most evidently attest the intimate union of the two branches of the great family, which extended many ages before our era from the Ganges to the Euphrates.”¹⁸ Sir William Jones shewed the affinities of the Hindoos with almost every other nation; and found no difficulty in establishing a great resemblance in the religious belief and ceremonial usages of all the people who inhabited the central parts of the Asiatic continent, and even of the Chinese and Tartars themselves, who were farther removed from the primeval seat of learning and civilization.¹⁹ Turning to the “mythology of the Babylonians, the first point which attracts attention is the apparent similarity of the system with that which afterwards prevailed in Greece and Rome. The same general grouping is to be recognized; the same genealogical succession is not unfrequently to be traced; and in some cases even the familiar names and titles of classical deities can be explained from Babylonian sources. It seems, indeed, to be highly probable that among the primitive tribes who dwelt on the Tigris and Euphrates, when the cuneiform alphabet was invented by reducing pictures to phonetic signs, and when such writing was first applied to the purposes of religion, a Scythic or Scytho-Arian race must have existed, who subsequently migrated to Europe, and brought with them those mythical traditions which, as objects of popular belief, had been mixed up in the nascent literature of their native country; so that we are at present able in some cases to explain obscurities both of Greek and Roman mythological nomenclature, not simply from the languages of Assyria and Babylonia, but even from the peculiar and often fantastic devices of the cuneiform system of writing.”²⁰ A people very different in character from the Greeks and Romans, namely, the Arabians, worshipped the gods of Babylonia. “It is impossible” say Lenormant and Chevalier “not to identify the Chaldæo-Assyrian gods—Ilu, Bel, Shamash, Ishtar, Sin, Samdan, Nisroch, in the gods of Yemen—Il, Bil, Shems, Athtor, Sin, Simdan, Nasr.”²¹ It would be a simple matter to swell the number of statements and evidences of connection among the mythologies of the different nations of the earth to such an

¹⁸ Max Muller, *Science of Language*, 2nd Series, Lecture xi.

¹⁹ Pococke, *India in Greece*, p. 251. Russell's *Connection of Sacred and Profane History*, b Wheeler, ii., p. 43

²⁰ Rawlinson's *Herodotus*, App. Bk. i., Essay x., Sec. 1.

²¹ Lenormant and Chevalier, *Ancient History of the East*, ii., p. 322.

extent as to fill a large volume. The literature upon the subject is vast, and is daily increasing. Nor is the subject an obscure one: on the contrary, many of the connections established are obvious to the most superficial observer. Thus the Syrian and Phœnician Baal is the Babylonian Bel, the Indian Bali, the Greek Belus, the German and Celtic Beli. Astarte becomes the Egyptian Athor, the Syrian Athara, the Arabian Athtor, the Chaldean Ishtar, and the Celtic Ostara, (whence Easter): a closely allied goddess, Anat or Anta of Egypt, is the Persian Anaitis and the Phœnician and Carthaginian Tanaitis: and Anna Perenna of the Romans agrees in all respects with Anna Purna of the Hindoos. The Persian Tir and the Scandinavian Tyr are the same; the Etruscan Mantus and the Egyptian Amenthe; the Greek Ceres, the Indian Cris, and the Welsh Ceridwen. In the Egyptian Ptah Soccari and Sem Hercules one can hardly fail to detect the Indian Buddha Soukra and the Sabine Semo Saucus. "The names of the children of Ammon, as well as of Chemosh their god," says Sir J. G. Wilkinson, "are too near to the Khem and Amun of Egypt to be accidental."²² Enough, I think, has been said to show that materials are not wanting to justify the position taken by Faber, and to deprive the sceptic of the last argument by which he seeks to overthrow his conclusion.

It may very naturally be asked, however, that evidence distinct from and in addition to that of a mere community of gods should be given of such an intimate connection among the various nations of the world as Faber supposes to have existed prior to the historic period. This evidence may be of two kinds: the most satisfactory, that of direct assertion or statement of historical fact; the second, that of inference, similar to the evidence on which Faber builds his theory. The first of these two kinds of evidence we find very decidedly in the writings of the Greeks. "Greek traditions establish various relations or mythical connexions between Egypt and Upper Asia. For example, Cepheus, in whom the primitive East is personified, is given as a son of Belus, a supposed King of Egypt. Belus himself is said to have transplanted the Chaldeans from Egypt to Babylouia, and to have naturalized Egyptian institutions there."²³ Perseus is a Greek, but Herodotus tells us that the Persians called him an Assyrian, and that the Egyptians claim him

²² Rawlinson's Herodotus, App. Bk. iii., Essay I., Sec. 21.

²³ Guignaut, iii., 601.

as a native of Chemmis.²⁴ The Scythians are derived from Hercules, and the whole known world included in the Greek genealogies.²⁵ The Egyptian and Phœnician derivation of many Greek peoples I have shown in a previous paper to be a cardinal belief of the Greek historians.²⁶ The Romans derived themselves from the Trojans, although Picus was an Assyrian king, and Saturn came from Crete, and the Etruscans claimed kindred with ancient Lydia.²⁷ The Lydians themselves, through Agron, Ninus and Belus, are derived from the royal line of Assyria.²⁸ The ancient Indian traditions give us the name of the Ionians as a people bordering on Hindoostan,²⁹ while the Shah Nameh makes the land of the Berbers part of Persia, the king of which reigns in Jerusalem.³⁰ The shepherd invasion of Egypt was an event that so nearly concerned the Hindoos that a tradition concerning it is found among their writings.³¹ The Germans looked back to Asgard on the Don, or farther east still,³² and the Celts to Deffrobane or Taprobane,³³ as the lands of their nativity as nations. Even the Phœnicians must be brought from the Red Sea,³⁴ and the Moors from Arabia,³⁵ long centuries before the Christian era. The Irish records give a most circumstantial account of the wanderings of the Hibernian family or families from the distant east, where Greeks, Assyrians, Egyptians, Spaniards and Danes were strangely intermingled.³⁶ Somewhat similar is the statement made by Hiempsal, king of the Numidians, concerning the original inhabitants of northern Africa.³⁷ These are but examples of what I have found almost universally in the so-called mythical histories of ancient peoples—first, a derivation from the East; and second, a drawing close together and mixing up of peoples widely separated and thoroughly distinct from each other at the commencement of the historical period. Were these

²⁴ Herodot. iv., 54, and ii., 92.

²⁵ Müller's Dorians. Oxford, 1830; i., 490.

²⁶ The Pharaoh of the Exodus, &c. *Canadian Journal*, May, 1871, p. 36.

²⁷ Livii Hist. Lib. i. Cory's Ancient Fragments, p. 76. Shuckford's Connection of Sacred and Profane History, iii., p. 53. Vide Note 10.

²⁸ Herodot. i., 7.

²⁹ Wilson, Vishnu Purana, p. 194.

³⁰ Atkinson, Shah Nameh, p. 161. Le Dabistan, Paris, Tom. i., p. 50.

³¹ Asiatic Researches, vol. iii., p. 46, p. 225, &c.

³² Anthon's Classical Dictionary. Art. Odin.

³³ Davies, British Druids, p. 98.

³⁴ Herodot. vii., 89. Justin. xviii., 3, 2.

³⁵ Russell's Connection, by Wheeler, ii., 248.

³⁶ Keating's General History of Ireland, 86.

³⁷ Sallustii Bellum Jugurth., xviii.

peculiarities confined to a few unenlightened peoples, such as the ancient Germans and Britons, it would be a graceful thing to admit that the schoolmaster was abroad when the so-called myth sprang into being, and there leave the matter. But when they are found common to the traditions of Phœnicia, Egypt, Chaldea, Persia, India, Arabia, Ethiopia, North Africa, Italy, Greece, the Celtic and Germanic peoples and the numerous families of Asia Minor; when they are seen to have been perpetuated from age to age, and retained in spite of advancing knowledge, even to the prejudice of the traditions in which they are found; when the romance of the middle ages, spite of all the changes to which it subjects the old world story, did not discard them nor alter what were well known as geographical absurdities and unheard of relations among nations: it is then wise to ask if no other reason than universal unbounded ignorance in regard to relation and locality on the part of the ancients can be given for their singular agreement in these particulars.

So numerous are the facts, from a consideration of which the intimate connection of all peoples prior to the historic period may be inferred, that I can simply indicate a few of the classes into which they may be divided. Some are philological in character. The study of comparative philology has resulted in an established belief in the common origin of the languages called Indo-European. It has, however, been customary to erect a barrier between the Semitic and the Indo-European languages, and thus to cut off Phœnician, Hebrew, Chaldee, Arabic, &c., from the last great brotherhood of tongues, while Coptic, Ethiopic, and the languages of the Assyrian inscriptions have been kept in a state of suspense, being assigned now to one family and now to another. It must surely have occurred to those who hold out *most strongly* for a radical diversity of the Semitic from the Indo-European languages, that the many connections of old Greek, Bœotic especially, with Phœnician,³³ and the conclusion often arrived at that the Pelasgian and Phœnician tongues were identical;³⁴ the fact that Coptic lies midway between the Semitic and Indo-European languages, and comes nearest of all to the Celtic branch of the latter;³⁵ and the unsatisfactory way in which the difficulty that leaves the cuneiform inscriptions of Chaldea between heaven and earth is removed by calling them Hamitic:—from these considerations—it must surely have

³³ Stillingslect, *Origines Sacrae*, p. 400. Rawlinson in Herod. ii., 49.

³⁴ *Russell's Connection*, by Wheeler, ii., 99.

³⁵ Pococke, *India in Greece*, 208. Rawlinson, Herod. App. Bk. ii., Ch. 1.

occurred to such philologists, as it has to Sir Henry Rawlinson, possible that Indo-European and Semitic might be traced to a common parent form of speech.⁴¹ Hitzig has discovered that the language of the Philistines, intimately as they must have associated with the Phœnicians proper to the north, the Hebrews in the east, and the Egyptians on the south, manifests no Semitic but decidedly Indo-European affinities, occupying a position midway between the Sanskrit and the Greek.⁴² The theory of an ancient Cushite civilization has been developed in recent years out of the language of the Himyaritic inscriptions, a theory bearing much resemblance to the Finnic hypothesis of Arndt and Rask. Traces of the Cushites are found with more or less distinctness in Phœnicia, Arabia, Persia, India, Chaldea, Ethiopia, North Africa, Italy, Spain, and even in Ireland, by writers who have adopted the Cushite hypothesis; and it is clearly shewn by them that not a language in the world has escaped altogether from Himyaritic influences.⁴³ In regard to alphabets we learn from Herodotus that the Ionian letters were much the same as the Phœnician.⁴⁴ Dr. Thomson, the author of *The Land and the Book*, speaking of that famous monument of Phœnician literature, the inscribed sarcophagus of Ashmunazar, says: "Many of the letters so clearly resemble those of our own alphabet that we can scarcely be mistaken in tracing ours up through the Roman and the Greek to that of Phœnicia. Still more interesting is the fact that the characters on this stone are so like the old Hebrew as to establish their clear relationship, if not their actual identity."⁴⁵ In an article upon the Moabite stone so recently discovered, Dr. A. B. Davidson has the following: "This primal Semitic inscription shows that 900 years before Christ, at least, an alphabet was in use among the Semitic tribes of Palestine; that the alphabet was employed in public monuments by the meanest and lowest of them in the scale of civilization; that it is essentially the alphabet which we call Phœnician; that, in all likelihood, it was common to all the Semitic races of Asia, being also most probably invented by them; that it is the alphabet which was carried into Greece; and that, as modified at Rome, it is the alphabet which we now use. Further, though we cannot say precisely at what date the Greeks received this alphabet, whether

⁴¹ Rawlinson's *Herodotus*, App. Bk. i., Essay vi., Sec. 18.

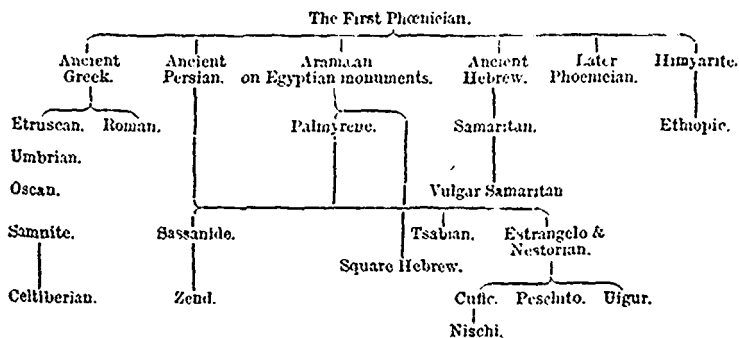
⁴² Hitzig, *Urgeschichte und Mythologie der Philistaer*, vi.

⁴³ Baldwin, *Prehistoric Nations*. New York, 1869.

⁴⁴ Herodot. v., 59.

⁴⁵ Thomson, *The Land and the Book*. London, 1868, p. 139.

before the date of this inscription or no, it is certain that at the time they received it the Semitic alphabet was complete, consisting of twenty-two letters. Of these, twenty-one are found on this inscription, and the other certainly occurred several times on the monument. The oldest Greek alphabet corresponds very closely to that on the monument. And whether the Greeks accepted at first all the letters they afterward used or no, it is certain that all their alphabet came ultimately from this, and that it was all at their disposal at the time they received any of it." ⁴⁶ Professor Rawlinson, in a note on the 58th chapter of the 5th book of Herodotus, in which the Greek alphabet is traced to a Phœnician source, says: "This is strong evidence to the fact that European Greece got its alphabet direct from the Phœnicians. Otherwise there is so great a similarity between the various alphabets of Western Asia and Southern Europe (the Lycian, Phrygian, Etruscan, Umbrian, &c.,) that it would be difficult to prove more than their common origin from a single type, which might be one anterior to the Phœnician." Runic and Etruscan characters, we are told, have been found in Central Arabia, supposed to be the home of the old Cushite race that included the Phœnician. ⁴⁷ The Gauls had letters something like the early Greek letters of Cadmus. ⁴⁸ And even the Touariks of the Sahara, according to M. Boissonnet, have an alphabet almost identical with that of ancient Phœnicia. ⁴⁹ The following table of Gesenius must, I believe, shew some nearer relationship between the peoples who wrote the characters he has arranged in genealogical order than has been generally admitted:—



⁴⁶ British and Foreign Evangelical Review, No. lxxv., p. 159.

⁴⁷ Baldwin, Prehistoric Nations, 87.

⁴⁸ Davies, Celtic Researches, 242.

⁴⁹ Journal Asiatique. Mai, 1847.

It is gratifying to see that even alphabetical forms help to swell the tide of evidence that flows in the direction indicated and required by Faber's hypothesis. The presence of foreign words in a modern language does not excite wonder, since the intercourse of nations and the spread of knowledge make it a necessary result; but it is worthy of attention that almost all the sacred appellations of the Etruscans show an eastern origin,⁵⁰ that the musical instruments of the Greeks have Syrian names,⁵¹ and that words and phrases of almost pure Hebrew occur in the oldest of Welsh poems.⁵²

Another class of facts illustrative of the intimate connections existing between peoples prior to the historic period may be termed geographico-philological. The author of that suggestive book, "India in Greece," says that the names of places must be explained by the language of the people inhabiting them if the ordinary theory of ancient history be the true one; in Greece this cannot be.⁵³ What is true of Greece is true of the whole ancient world. Names of places, like the names of mythical characters, may in many (not all) cases, after being subjected to the most arbitrary treatment, be made capable of receiving certain far-fetched and absurd significations; but no sensible man who has puzzled over ancient geographical nomenclature ever felt satisfied with these. Mr. Pococke would reduce all geographical names whatsoever to the language of the Vedas, because he finds that language serviceable (as no doubt it is) in explaining the names which are common to Europe and Western Asia and to the Indian peninsula. I believe that Bochart was far nearer the mark when he sought to accomplish a similar task by the aid of a Phœnician dialect manufactured for the purpose. The most important fact in connection with this class of evidence is that the same geographical names are found in many different parts of the world, generally applied to the same objects, as districts, cities, rivers, mountains, &c., and even that several names frequently occur in exactly the same geographical order and connection in different countries. Thebes in Egypt, Palestine, Asia Minor and Greece; Belka (Boulak), in Egypt, Balkh, in Persia, and Phylace (Phulake), in Greece; Tentyra, in Egypt, Tantura in Palestine, and Tyndaris, in Sicily and Marmarica;

⁵⁰ Vossii de Idololatriâ, L. ii., c. 57.

⁵¹ Strabo, x., 3, 17.

⁵² Davies, British Druids, 137, 564, 573, &c.

⁵³ Pococke, India in Greece, 22.

the Jordan of Palestine, the Jardanus of Elis and Crete, and the Eridanus of Italy; Meru of India, Moore of Persia and Meroe of Ethiopia; Atabyrion, (or Tabor,) in Palestine, and Atabyron in Persia, Rhodes and Sicily: these are examples of an almost endless connection. A very striking instance of the double connection of several names of places is given by Poccoke in Accho, Kishen, Carmel and Dor, which, with Magadha for Megiddo, occur in the same order in India as in Palestine.⁵⁴ Ritter, speaking of the position of Ophir, says "Ophir is sometimes used by the ancients to designate countries which lie far apart and in different directions. * * * Hartmann draws the inference that Ophir was one of those wandering names, like Tartessus, Cush, Taurus and the like, and that it was first given to a port of Southern Arabia; but when emigration began, and the inhabitants pushed their way further on and established colonies on the coast of Africa and India, the name too was transplanted and multiplied, and many Ophirs were to be found. His theory furnishes a satisfactory solution of the fact that, for whatever cause, many places bearing the same name are continually referred to in the ancient records, manifestly lying widely apart."⁵⁵ With all truthfulness Poccoke may say "The whole map is positively nothing less than a journal of emigration on the most gigantic scale."⁵⁶ An emigration of the character to which he refers must have had one, not many, starting points, and thus sends us back to a great centre such as that of which Faber speaks.

Monuments, not more enduring, indeed, but more substantial than names, add their weight to the preponderance of evidence in favour of the commencement of civilization in a single locality. Such are the numberless objects preserved in archæological museums, or descriptions of which are furnished in ancient writings, that exhibit mechanical skill. Mr. Osburn informs us that the garners pictured on the Egyptian monuments are the same as those now used in parts of Greece and Italy.⁵⁷ The chariots of the ancient Britons were the same as those used by the Greeks at the siege of Troy, by the nations of Palestine, and by the Egyptians.⁵⁸ Diodorus Siculus mentions the use of the old Egyptian waterwheel in Spain.⁵⁹ The Celtic church-plank,

⁵⁴ Id. 223.

⁵⁵ Ritter, *Comparative Geography of Palestine*, &c. Edinburgh, 1866; p. 94.

⁵⁶ Poccoke, *India in Greece*, 47.

⁵⁷ Osburn, *Monumental History of Egypt*, i., 452.

⁵⁸ *Cæsar's de bello Gallic*, iv., 33. *Taciti Agricola*, 12. *Diod. Sic.* v. 15.

⁵⁹ *Diod. Sic.* v. 25.

used in place of a ball for calling together the congregation, appears in the Greek *Σημάντρον* or the *nakoos* of the Armenians, which is found in many parts of the East.⁶⁰ "Assyrian sculpture," say Lenormant and Chevalier, "is one of the greatest of ancient arts; its teachings, received and transmitted by the peoples of Asia Minor, presided over the first steps of Grecian sculpture. Between the works of Ninevite artists and the early works of the Greeks, even to the Aeginetans, we may observe an astonishing connection; the celebrated primitive bas-relief of Athens, known by the common name of the 'Warrior of Marathon,' seems as if detached from the walls of Khorsabad or Koy-undjik."⁶¹ Sir J. G. Wilkinson holds that Assyrian and Greek pottery, sculpture, architecture, &c., were to a great extent borrowed from the Egyptians;⁶² and Lenormant and Chevalier make Phœnician art a mixture of Assyrian and Egyptian.⁶³ "Cotton stuffs and indigo must have been known to the Israelites from a very ancient period; for they have been found in the burial places of Thebes, which date back to the eighteenth Egyptian dynasty, and which were used for purposes of sepulture from 1822 to 1476 B.C. Both of them must have been of Indian origin."⁶⁴ Mr. Baldwin, in his *Prehistoric Nations*, quotes Dr. Livingstone in favour of his adopted Cushite hypothesis; the extract will answer as well or a great deal better for Faber's. "Dr. Livingstone, in the account of his 'Expedition to the Zambesi,' describes articles manufactured by the African people, and specifies 'hammers, tongs, hoes, adzes, fish-hooks, needles, and spear-heads, having what is termed *dish* on both sides, to give them the rotary motion of rifle-balls.' He admires their skill in spinning and weaving, and in manufacturing certain kinds of pottery, similar to pottery found in India. He points out that they have admirably-made fish nets, 'nearly identical with those now used in Normandy;' a blacksmith's bellows like that used in Central India; 'fish-baskets and weirs like those used in the Highlands of Scotland;' and other implements like those found in Egypt and India. He is sure that this striking similarity of manufactured articles in widely-separated countries — articles 'from identical patterns widely spread over the globe' — makes it very probable that the arts and usages of these different people were derived

⁶⁰ Finn, *Byeways in Palestine*, 440.

⁶¹ Lenormant and Chevalier, i., 465.

⁶² Wilkinson, *A Popular Account of the Ancient Egyptians*, ii., 263.

⁶³ Lenormant and Chevalier, ii., 232.

⁶⁴ Ritter, *Comparative Geography of Palestine, &c.*, i., 121.

from the same source. Not seeing any other explanation, he suggests that they may have been given by direct revelation from God. This hypothesis is reverent, but the very interesting fact to which he calls attention can be explained without resort to miracle. The original instructor in these arts was the ancient Cushite civilization, which went into Africa from the east and the north, and was felt for a very long period of time in all its central countries.⁶⁵ The merest tyro in archæology would find little difficulty in filling an entire number of the *Journal* with extracts illustrative of this third class of facts.

Another class of facts may be called ethological. I do not use this word in the same sense as Sir William Hamilton or Mr. Mill, nor is it indeed the same word which they employ; since *ἔθος*, rite, custom, and not their *ἦθος*, disposition, character, is the root. Ethology would thus be the doctrine of customs or rites. Among the most notable rites practised in different parts of the world are those connected with burial, and which the name of Charon, the ferryman of the Styx, at once suggests. Diodorus Siculus brings these rites from Egypt, with many other ceremonies;⁶⁶ and even the Muscovites, it appears, received the knowledge of them.⁶⁷ Pluto and the paraphernalia of Hades wandered westward from the Stygian fount in Idumea, through Greece, Sicily and Gallia Narbonensis, to Spain.⁶⁸ The branch of gold, gathered from a tree in the wood of Hecate, is plainly the mistletoe of the Druids;^{68*} the Gallic forest-worship is the grove-worship of Palestine;⁶⁹ the Druidical cauldron is that of Dodona;⁷⁰ and Taliessin's Metempsychosis claims kindred with that of the 'Hindoos.⁷¹ The rites of Ceres, or the Eleusinian mysteries, may be traced in Egypt, India and Britain as distinctly as in Greece.⁷² The extent to which circumcision is found to have been practised has led many to deny the fact of its being a purely Abrahamic institution.⁷³ Phallus-worship, often wrongly connected with this rite, is found to have been still more widely diffused.⁷⁴ Festivals of lamps and Bale-(Baal)fires

⁶⁵ Baldwin, *Prehistoric Nations*, 327.

⁶⁶ Diod. Sic. i., Sec. ii., 34, 36.

⁶⁷ Banier, ii., 436.

⁶⁸ Id. ii., 449.

^{68*} Virgili *Æneis*, vi., 201.

⁶⁹ Id. ii., 624.

⁷⁰ Davies, *British Druids*, 217.

⁷¹ Id., 573.

⁷² Herodot., ii., 171. *Asiatic Researches*, v., 297. Strabo, iv., 4 6.

⁷³ Kenrick, *Ancient Egypt under the Pharaohs*, i., 376.

⁷⁴ Maurice, *Indian Antiquities*, Vol. I., Pt. i., p. 264.

are not confined to one nation, but preserve among different peoples the memory of a time when all dwelt within the same illuminated circle.⁷⁵

Facts connected with literary and scientific institutions attest the same truth. The identity of the four books of Indian and of Egyptian Scripture;⁷⁶ the similarity between the Ramayana and Mahabharata and the Dionysiacs of Nonnus;⁷⁷ the agreement of the priests of Memphis with the Brahmins of Benares in their division of the earth;⁷⁸ the wide diffusion of the stories of Rhampsinitus and his treasury, of Rhodope, of Midas and the ass's ears, of the mice at Pelusium, of Melampus and the cows, of a partial deluge, &c.;⁷⁹ the minute coincidences in the most arbitrary of astronomical systems;⁸⁰ all these are worthy of consideration in a cumulative argument.

I close the testimony to the truth of Faber's premise, and thus of his legitimately drawn conclusion, by citing a few of the authors who have been led from various kinds of evidence to the belief that nations now widely separated were once parts of a single community. Weber thinks that Menu and similar names (Minos, Menes, &c.) arose before the separation of the Indo-European stock.⁸¹ Pococke holds a national unity of Egyptians, Greeks and Indians.⁸² Sozomen speaks of the Ethiopians as Indians,⁸³ and other ancient writers insist that they are the same people,⁸⁴ a conclusion to which the historian Alison arrived on hearing of the conduct of the Sepoys in Egypt in 1801.⁸⁵ The names of Wilford and Tod are on the side of an Indo-Greek connection.⁸⁶ Sir J. G. Wilkinson finds the Egyptians as an Aryan race in Asia;⁸⁷

⁷⁵ Wheeler, Geog. of Herodotus, 45s. Jamieson, Scottish Dictionary, Art. Beltane.

⁷⁶ The four books of Hermes (Clem. Alex., Strom. vi., 4), and the four Vedas. Asiatic Researches, iii. De Lanoye's Rameses the Great, Appendix, Note 1.

⁷⁷ Asiatic Researches, i., 258. Guignaut, iii., 1016.

⁷⁸ Wheeler, Geography of Herodotus, 36.

⁷⁹ Guig ii., 330 G W in Rawlinson's Herod., ii., 121 Smith, Dict of Greek and Roman Biography and Mythology, Art. Rhodops. Ovid, Metamorphoses, xi. Keating's Ireland, 190. Hitzig, die Philistaer, 201. Compare the story of Melampus with that of Sarana in the Rig Veda. Vide Max Muller's Lecture XI, Second Series, on Science of Language.

⁸⁰ Rawlinson's Herodotus, App Bk ii., ch. 7.

⁸¹ Journal Asiatic Society, Vol. XX., 3 and 4, p. 429.

⁸² India in Greece, 122.

⁸³ Sozomen, ii., ch. 24.

⁸⁴ Russell's Connection, by Wheeler, ii., 271.

⁸⁵ Alison, History of Europe, Soc., 1843, Vol. IV., p. 595, note. The Sepoys, finding themselves in the midst of emblems of their own religion, fell on their faces and worshipped.

⁸⁶ Pococke's India in Greece, 145.

⁸⁷ Wilkinson, A Popular Account of the Ancient Egyptians, i., 302.

while Professor Rawlinson derives the Chaldeans from Meroe.⁸⁸ The Atlantica of Olaus Rudbeck brings Greeks and Romans, Germans and Danes from Sweden, which he makes the Atlantis of Plato.⁸⁹ Von Hammer calls the Germans a Bactriano-Median nation and gives them a local habitation of the past in Khorassan.⁹⁰ Dom Pezron, who wrote on the "Origin and antiquity of the Celtic tongue," would have Celts to be the chief people of the ancient world.⁹¹ Dr. Pritchard's Eastern origin of the Celtic nations is well known; and the latter part of his *Researches into the Physical History of Man*, which happily deals with anything rather than physical history, is so full of links to connect civilized peoples one with the other that it almost appears as if it were written for the special purpose of proving Faber right.⁹²

Enough I think has been said to show that "all nations were once assembled together in a single place and in a single community, where they adopted a corrupt form of religion which they afterwards respectively carried with them into the lands that they colonized;" the term "all nations" being understood generally of *civilized peoples*, and not absolutely of *all*, except in regard to the time prior to the earliest dispersion, and the terms "single place" and "single community," except in regard to the same, being capable of sufficient expansion to denote an empire half as large as that of Alexander the Great, of which the states that constituted and the tribes that peopled it were distinct one from the other.

It has proved a far more difficult matter to settle the locality in which the primitive civilization, that Faber and others have supposed, sprang into existence, than to justify a belief in their conclusion. A faithful adherence, not to the letter of the Bible, but to the inferences of early commentators, has shut up believers in the truth of the statements contained in the book of Genesis to a single centre, from which the human race spread at a very remote period, and to a later central seat of civilization and empire. The first is the mountainous region of Armenia; the second, the plain of Shinar. The idea commonly entertained in regard to the dispersion from Armenia is, that the grandsons of Noah at once betook themselves to the regions which, at the com-

⁸⁸ Rawlinson's Herodot., App. Bk. i., Essay vi., sec. 16.

⁸⁹ Atlantica, Sive vera Japheti posterorum sedes ac patria, 1679-98.

⁹⁰ Von Hammer, Wien Jahrbuch, ii., 319.

⁹¹ Pezron, Antiquités de la Nation et de la Langue des Celtes. Paris, 1703.

⁹² Physical History of Man, from p. 318.

meccement of the historic period, bore their names, or could in some way be identified with them or their descendents. In accordance with this view, Javan, the fourth son of Japhet's, is represented as moving through hundreds of miles of an uninhabited wilderness, and over rivers and seas, to Greece, the abode of the Ionians; settling his eldest son Elisha in Elis, sending Tarshish, the second, far off to Tartessus in Spain, and Kittim, the third, to Macedonia, nearer at hand, while Dodanim, the youngest, either founds the oracle of Dodona, or, the initial *daleth* of his name being transmuted to *resh*, emigrates to Rhodes. For this absurd trifling with history there is not the slightest authority in the language of Scripture. Many reasons may be given for not adopting this crude theory of the origin of nations and the peopling of the countries of the earth. One that will suggest itself to any practical mind is the unlikelihood of small families, in the world's second infancy, finding a reason for emigrating to any great distance from the original centre, to which they were bound by mutual ties. Even allowing that very early migrations did take place, we have the example of Abraham (and even his was a very peculiar case), together with the testimony of history in all ages, even to the present day, as our authorities for saying that the progress of the emigrants from one seat to another must have been very gradual, and with long periods of time intervening. The first migration we do read of is not northward through a wild and inhospitable and difficult tract, where but little provision for the way could be found, but southward into a warm and fertile region, watered by the Tigris and Euphrates. Every consideration would prompt the small band that set out from Armenia to preserve its unity; and the facts that they feared lest they should "be scattered abroad upon the face of the whole earth," and that God is represented as saying, "Behold the people is one and they have all one language," tend to prove that this unity was maintained until the dispersion of Babel.⁶² At Babel a dispersion certainly did take place. Are we then to decide that from Mesopotamia at this point of time men carried to their respective settlements the mythology, arts, literature, etc., that we find common to so many nations? I answer emphatically, No! And here I take objection, as I have hinted above, to the form in which Faber puts his conclusion. "Single place" and "single community" suit the times before the dispersion of Babel very well; but they do not suit the facts upon which Faber founds his

⁶² Genesis, xi., 4. 6.

hypothesis. If the Arkite theory, upon which Bryant spent so much labour, be found untenable, because based upon a forced interpretation of every rite and myth of the ancients as a reminiscence of the Noachian deluge, as untenable must the theory be which makes a Babel of mythology by seeking to harmonize it with a reminiscence of what might have occurred in that ancient seat. Even more unintelligible is the latter theory, inasmuch as Nimrod, the great hero of whom all nations are supposed to have had a grateful remembrance, was, in all probability, posterior to the dispersion, or at least contemporary with it. Moreover, we have found that the ancient traditions regard Babylonia, not as the primitive seat of empire, but as occupying a very secondary position, receiving its religion by way of the Erythræan sea, and its royal line from Egypt.⁹⁴ The arts and mythology of Chaldæa are generally allowed to be derived from some other source.⁹⁵

The great centre to which all the tribes of men gradually converged was Egypt. Whether Noah himself moved westward and planted vines in Hebron, which was built seven years before Zoan in Egypt, as the Rabbins inform us,⁹⁶ will be a difficult question to answer; but there can be little doubt that the great majority of his descendants, or at least those of them whose life history, in its mythical or accepted forms, cares to record, did pass through Palestine and Arabia on their way to the banks of the Nile. One of the earliest seats of civilization I believe to have been what M. de Lanoye calls "the opulent pentapolis of the Jordan;"⁹⁷ and the earliest of all legends, which many have confused with the story of the Noachian flood, I am convinced arose from the overthrow of the Cities of the Plain. Here, or in the region between the Nile and the Dead Sea, I unhesitatingly place the deluges of Deucalion and Ogyges, with the accompanying events that form an

⁹⁴ Oannes, mentioned by Berosus, who came by way of the Red Sea, brought letters and religion with him to Babylonia. Belus, brother of Agenor, and father of Ægyptus, connects Babylonia, as its first monarch, with Phœnicia and Egypt.

⁹⁵ Baldwin, Prehistoric Nations, 186. Rawlinson's Herodot., App. Bk. 1., Essay vi., sec. 16, &c.

⁹⁶ Ritter, Comparative Geography of Palestine, iii., 297.

⁹⁷ "Since the opulent Pentapolis of the Jordan had sunk in the bituminous gulf of the Dead Sea, the most compact centres of permanent population, existing between Egypt and Upper Asia, were the maritime establishments which the Cushites of Canaan, driven from the shores of the Erythræan Gulf by convulsions of the soil, had founded upon the Syria coast; the fortified cities which the Chetas (Hittites) had built between the Orontes and the Euphrates; and lastly, Babel, in the land of Sengar, where a celebrated temple of the Sun and great navigable river, attracted caravans and flotillas of pilgrims and traders from all directions." *Rameses the Great*, 117.

introduction to the history of civilization. One of the oldest of ancient records, the Phœnician History of Sanchoniatho, while commencing with Phœnicia proper (Tyre, Sidon, Byblus, &c., which may have been transported names from the original home on the Red Sea even there), gradually leads the line of Cronus southward through Peræa into Egypt. This line has decided Indo-European affinities in Ouranos, Atlas, Pontus, Nereus, Poseidon, Athene, Melcartus, &c. From a consideration of the evidence afforded in the traditions of the ancients, the Abbé Banier decides that Syria, Palestine, Arabia and Egypt, were the parts of the world first peopled, and from which civilization was diffused over the earth.⁹⁸ Plato, in his *Epinomis*, thus speaks of the origin of astronomical science: "The first who observed these things was a barbarian who lived in an ancient country, where, on account of the clearness of the summer season, they could first discern them; such are Egypt and Syria, where the stars are clearly seen, there being neither rains nor clouds to hinder their sight; and because we are more remote from this fine summer weather than the barbarians, we came later to the knowledge of those stars."⁹⁹ The following passage, from the Rev. W. B. Galloway's book on Egypt, coincides most thoroughly with what I have already stated in regard to the topography of the first mythical period: "The conflagration of Phæthon, divested of fable, is interpreted as that of Sodom by the author of an ancient poem ascribed to Tertullian; it is also regarded by the historians and philosophers of antiquity as a physical fact. Plato in his *Timæus* mentions that a venerable Egyptian priest told Solon so, though associating it with an erroneous physical theory. The Scholiast in the *Timæus* connects it with the mention of the flood of Ogyges and Deucalion, and with the period of the latter; and he informs us that the conflagration was in Ethiopia, which we may construe vaguely as some part of the subject territory of Cush, who in early times may be viewed as claiming patriarchal supremacy over all the tribes of Ham, and thus over Canaan.¹⁰⁰ Even Egypt was called Ethiopia and Ogygia, as we learn from Eustathius. Julius Africanus gives the same general designation of the locality; and he too associates it with the period

⁹⁸ Banier, i., 45.

⁹⁹ Costard, *History of Astronomy*, p. 113.

¹⁰⁰ Mr. Galloway must have forgotten the fact that Ethiopia and Southern Palestine are conjoined in ancient story, as in the case of Cepheus, king of Ethiopia, whom we have the authority of Strabo, Mela, and other geographers, for making king of Joppa and the surrounding country

of a flood, indicating, but erroneously, that of Deucalion. On the authority of Acusilaus he puts Ogyges 1020 years before the first Olympiad, or equivalent to 1796 years before Christ; to which time he also refers the Exodus of Israel, much too early a date for the latter event, perhaps not early enough for the flood of Ogyges, but which would place it during the residence of the Israelites in Egypt, 255 years before the Exodus. Ogyges, who afterwards founded Eleusis, is said by Thallus to have been of the race of giants who warred against heaven; and, being defeated, he fled as an emigrant from Phœnicia to the land then called Acte, but since Attica. The flood which happened in his day through the overflowing of a river, may, therefore, have been not in Greece, but in the country from which he emigrated thither. The Scholiast on Plato does not say that it was in Greece, but only that Ogyges was king of Attica. In the Latin of the Chronicus Canon of Eusebius we accordingly find it mentioned thus: "Diluvium Egypti hoc tempore fuit, quod factum est sub Ogyge."¹⁰¹ More probably it was in Canaan than in Egypt, though known to the Egyptians;¹⁰² and it is not unlikely that the flow of the waters of the Jordan, which must necessarily have preceded the bursting in and final settling down of the basin of the Dead Sea to its present form, meets us in this tradition, which has since become transferred to Greece, partly from the emigration of Ogyges thither, and also partly from its having become confounded with a later flood. Ptolemy the geographer informs us that near the Climax, an ascent or hill in or near the Idumean range, there was a spring having Avernian associations, for it was called "the Stygian fountain." Apollodorus makes Phœthon a native of Syria and son of Tithonus (who has Egyptian, and Assyrian, and Persian connections). Ovid, who seems in some things to have taken his materials from Acusilaus, in others doubtless from a variety of other ancient writers of history genuine or traditionary, makes him contemporary with Epaphus, and he glances at the existence of a wide-spread inundation, or sea of collected waters, at or just following the period of the conflagration of Phœthon, and at the spot where the earth sank down to a lower level. Clement of Alexandria puts the conflagration in the time of Crotopus. Johannes Antiochenus

¹⁰¹ "The Egyptian deluge was at this time, which took place under Ogyges."

¹⁰² There is every reason to believe that the plutonic agency at work in the lower basins of the Jordan was of a wide-spread character, and materially altered the face of the country towards the shores of the Red Sea, and probably eastward towards Egypt.

connects it with the story of the giants (Titans as Thallus calls them), but throws it back towards the flood, and he places it on the river Eridanus, but he does not understand the right Eridanus, the Jordan. The Titans are mentioned in Phœnician history as a race of men who lived by agriculture and hunting. The name Ogyges, as connected with the Titans or giants, may itself be suggestive of the neighbourhood of the Jordan, where, at a later period, the last survivor of the remnant of the giants bore the name of Ὠγ, γίγας, "Og, the giant,"¹⁰³ (the spelling γόγγης survives only as a proper name of one of the giant race).¹⁰⁴ Minos, the first great lawgiver of Greece, is frequently called a Phœnician, while his descent from Cadmus through Europa (Cadmus being placed midway between Egypt and Phœnicia), and the presence of his name in Minois near Gaza, which is the border of the Cherethites or Cretans, completely identify him with Palestine. We have the authority of Pausanias for stating that the Hebrews shewed the grave of Silenus, and that statues of him were dug up in Palestine;¹⁰⁵ and that of Pliny to the fact that the nurse of Bacchus was buried at Bethshan or Scythopolis.¹⁰⁶ As interesting as these is the tradition that Feridun of Persia, who lived a considerable time after the great destruction that preceded the reign of Gilshah or Ubul Muluk, founded Jerusalem in 1729 B.C.¹⁰⁷ "Gentile and Jewish records," says Dean Stanley, "combine in placing the earliest records of Phœnician civilization by the Assyrian lake" (the Dead Sea).¹⁰⁸ The Hysesos or shepherd line of Egypt, who are made the authors of civilization, are invariably derived from Phœnicia, Philistia and the borders of Palestine and Arabia, to which region they are in part supposed to have returned. The name "Phœnician pastors" is the one by which they are most frequently designated.

The extracts and references given above tend to prove two things: first, that the primitive civilization, of which records remain, is to be found in the southern part of Palestine, whence it extended south-westward into Egypt; and second, that this primitive civilization was the work of a very mixed people, known as Phœnicians. I call the

¹⁰³ The name of Agaz, common to the Amalekite kings of that region, who are numbered among the invaders of Egypt, comes nearer still.

¹⁰⁴ Galloway, *Egypt's Record*, p. 463.

¹⁰⁵ Pausanias *Geog.*, vi., 24, 6.

¹⁰⁶ Pliny, *H. N.*, v., 16.

¹⁰⁷ *Dabistan*, i., 50.

¹⁰⁸ Stanley, *Sinai and Palestine*, 28

Phœnicians a very mixed people, although it has been customary to call them pure Hamites, and to accept the statement of Augustine that they descended from Canaan,¹⁰⁹ because the evidence of Semitic, and especially of Indo-European elements, in their persons, language and civilization, is diametrically opposed to any such notion. As well might we conclude, because the inhabitants of England are called Britons, that their physical conformation, character, language, civilization, etc., are Celtic. The following passage from Lenormant and Chevalier's Manual must be read *cum grano salis*, the *granum* being a wholesome ignoring of all such ethnic terms as Canaanite, Cushite, Semitic, Japetic. It will then simply indicate that a people who once dwelt in the eastern part of Southern Palestine, at a subsequent period migrated to Phœnicia. "The traditions of the Phœnicians collected at Tyre itself by Herodotus, ever careful and intelligent in the choice of his sources of information, and also accepted by the judicious Trogius Pompeius; those of the inhabitants of Southern Arabia preserved by Strabo; and finally those still current in Babylonia during the first centuries of the Christian era, when the Syro-Chaldee original of the book of Nabathæan Agriculture was revised—all agree in stating that the Canaanites (Phœnicians) at first lived near the Cushites, on the banks of the Erythræan Sea or Persian Gulf, on that portion of the coast of Bahrein designated El Katif on our modern maps of Arabia. Pliny speaks of a land of Canaan, in this neighbourhood, in his time. Strabo speaks of the "Islands of Tyre and Aradus," the Bahrein Isles of our day, containing temples similar to those of the Phœnicians; "and," he adds, "if we may believe the inhabitants, the islands and the town of the same name in Phœnicia are their own colonies." According to Trogius Pompeius, the Canaanites (Phœnicians) were driven from their first settlements by earthquakes, and then journeyed (northwards) towards Southern Syria. The traditions preserved in "Nabathæan Agriculture" state, on the contrary, that they were violently expelled, in consequence of a quarrel with the Cushite (?) monarchs of Babylon of the dynasty of Nimrod; and this is also the account given by the Arabian historians, who have recorded very precisely the traditions as to the migration of the Canaanites, whom they term the original Amalekites, descendants of Ham, carefully distinguishing them from the second, the Biblical Amalekites, of Semitic race.¹¹⁰ One branch of

¹⁰⁹ Lenormant and Chevalier, ii., 144.

¹¹⁰ *Id.*

the great Phœnician stock, according to Dr. Movers,¹¹¹ is the nation of the Philistines, and of them I cannot forbear quoting Hitzig's decided language, "Ich habe gefunden: die Philistäer sind keine Semiten, sondern pelasgischen Stammes; und ihre Sprache war deren spärliche Ueberreste, meist Eigennamen, darthun, mit dem Sanskrit und dem Griechischen verwandt."¹¹² It is not a little remarkable that the first state we hear of after the destruction of the cities of the plain is that of Abimelech, king of the Philistines of Gerar, who bordered closely upon the Amalekites.¹¹³ These Philistines, who are shown from the names Phicol, Ahuzzath, Gerar, etc., to have been of the Indo-European or Japhetic family, like the Phœnician pastors of Egypt,¹¹⁴ were in a favourable position for invading that country, as the Arabian tradition charges them with doing;¹¹⁵ being situated just midway between the old home on the Jordan, whence earthquake and flood expelled them, and the coveted wealth of the Nile valley. A striking coincidence appears in the earliest history of Persia, which has links to bind it with that of almost every other people, and especially with the histories of Egypt, India, Chaldea and Arabia. The first Iranian king, after the great destruction of mankind, which came upon them on account of their wickedness, was Gilshah or Kaiomers, whom the Arabs call Ubul-Muluk, or the Father of Kings.¹¹⁶ His grandson Houcheng, or Pischdad, connects by the first name with the Indian Vichnou, and by the second, removing the mere prefix of the Coptic article (Pi), with the Arab Shedad, which is identical with the Welsh Seithwedd, the Indian Soutadanna, the Egyptian (Fo)stat, the Philistine Ashdod, and the Athenian Astu or Fastu.^{116*} The legend connected with this name is invariably that of a flood. The son of Houcheng, again, is Tahmouras, who is thoroughly identified with Demarous, or Demaroon, of Phœnicia, and Demophon of the Greek story.¹¹⁷ This latter

¹¹¹ Movers die Phœnizier, i., p. 1, &c.

¹¹² "I have found it: the Philistines are no Semites, but of a Pelasgian stock, and their language, as the slender remains, mostly of proper names, prove, was related to the Sanskrit and the Greek,"

¹¹³ Genesis, xx., xxvi.

¹¹⁴ Hitzig, die Philistäer, 77, 119, 294, &c.

¹¹⁵ Ritter, Comp Geog of Pal., iii., 269. Sale's Koran (Preliminary Discourse, Section 1).

¹¹⁶ Russell's Connection, ii., 28, 31.

^{116*} Diod. Sic. i., 16.

¹¹⁷ This connection appears in Dewbund (demon destroyer), a name of Tahmouras. Demophon is a word like Bellerophon. Movers (die Phœnizier, 661, &c.) connects Demarous (Demaroon) with the river Damouras or Tamyras, in Phœnicia, and thus with Tamyras of Cyprus. Tahmouras, like Tamyras, is the sun. As Demarous is the father of Melcartus, so Tahmouras is father of Djemschid. As Demaroon is adopted son of Dagon, so is Tahmouras the

name, as well as the Dagon connection of Houcheng, Vichnou, Shedad, Ashdod, etc., give us families whose history is connected with that of Ceres, which forms one of the earliest of ancient traditions. Eleusis, the abode of Demophoon, Celeus, his supposed father, Elysium of the Greeks and Latins, Kailasa of the Hindoos, and Gilshah of the Persians, with many similar names, meet in Elusa or Khulasa (according as the breathing is absent or present), which is a town and region in Gerar. Near at hand is Aroer, whence came one of the Ceres line, Erechtheus of Aroura. There, indeed, sprang into existence the Aryan race, as a race of husbandmen. Not far off, towards the Mediterranean, is Jenysus, which is so thoroughly identified with the Nyssa in which Bacchus was born, and from which Proserpine was carried away.¹¹⁸ Space will not permit me to enlarge further upon this most interesting subject. Enough has been said to indicate, if not to prove true, my belief (the proof is yet to come in future papers), that the morning of History rose in the south of Palestine, whence it passed to a brighter Egyptian day; and that the "Myths of the Dawn" may all be transmuted into genuine narratives of facts by a careful comparison of them one with the other, with the region specified, and with undoubted history, Biblical and Monumental.

Let the "single community and place" of Faber be the Egyptian Empire at its largest extent, when no civilized nation was known to exist beyond its bounds. These were marked on the north by Mount Amanus; on the east by the Euphrates and Tigris and the Persian Gulf; on the south by the limits of Arabia Felix and Ethiopia; and on the west by the Sahara and the Mediterranean. Europe was a desert wilderness, peopled, perhaps, after the manner of the American continent, when first discovered; and the greater part of Asia was in the same condition. When did the nations who received their schooling within the limits mentioned go forth into the world beyond, to give to history the unmistakable record of a distinct national life in Persia and Asia Minor, Greece, and the Islands, Rome and Carthage, and the later seats of empire in the north and west? This question may be difficult to answer with exactness; but monumental evidence exists to show that as late as the date of the Exodus (1491 B.C.), the

son of Houcheng or Pischdad, and Demophoon of Celeus (Khulasa), the favourite of Ceres. There is a Wady Taamirah running from Bethlehem (the house of bread) to the Dead Sea. Ritter's Comp Geog., iii., 135. The Demo or Dema in the above names suggest of themselves a connection with Demeter, Damthales, Demo, Damia, &c. Guigniaut, iii., 616.

¹¹⁸ Guigniaut, iii., 67. Diod. Sic. i., 8, iii., 34, &c.

bounds specified were not exceeded. There is also decided evidence to the fact that, with Egyptians, Ethiopians, Libyans, Chaldæans, Arabians, Phœnicians and Syrians, whose respective countries fall within these limits, there then dwelt Persians and Indians; Lydians, Cappadocians, Phrygians and other peoples, who afterwards colonized Asia Minor; Greeks and Italians; Moors and Carthaginians; as well as the ancestors of the German and Celtic peoples.¹¹ During the long period lying between the Dispersion of Babel and the Exodus of Israel, the common literature, religion, art, language—the common civilization, in fact,—of the world had time to develope itself in Egypt and the adjacent countries. Egypt was the cradle of civilization, not the teacher, but the school of the whole world. Of humanity, as of humanity's divine representative, the saying of the Father is true, "Out of Egypt have I called my son."¹²⁰

¹¹⁹ Lenormant and Chevalier, i., 246, 249, 255, 259, 260, &c.

¹²⁰ Hosea, xi., 1. Matthew, ii., 15.

CANADIAN LOCAL HISTORY.

TORONTO OF OLD:

A SERIES OF COLLECTIONS AND RECOLLECTIONS.

(Continued from Vol. XIII., p. 112.)

BY THE REV. DR. SCADDING.

XLI—QUEEN STREET—FROM BROCK STREET TO BATHURST STREET.

The first occupant of the next lot (No. 16) westward was Mr. Baby, of whom we have spoken in former sections. Opposite was the home of Bernard Turquand, an Englishman of of note, for many years first clerk in the Receiver General's department. He was an early promoter of amateur boating amongst us, a recreation with which possibly he had become familiar at Malta, where he was long a resident. Just beyond, and on the same side, was the dwelling-place of Major Winniett,—a long, low, one-storey bungalow, of a neutral tint in colour, its roof spreading out, verandah-wise, on both sides.

After the name of Mr. Baby, on the early plan of the park-lots, comes the name of Mr. Grant—"the Hon. Alexander Grant." During the interregnum between the death of Governor Hunter and the arrival of Governor Gore, Mr. Grant, as senior member of the Executive Council, was President of Upper Canada. The Parliament that sat during his brief administration, appropriated £800 to the purchase of instruments for illustrating the principles of Natural Philosophy, "to be deposited in the hands of a person employed in the Education of Youth;" from the debris of which collection, preserved in a mutilated condition in one of the rooms of the Home District School building, we ourselves, like others probably of our contemporaries, obtained our very earliest inkling of the existence and significance of scientific apparatus. In his speech at the close of the session of 1806, President Grant alluded to this action of Parliament in the following terms: "The encouragement which you have given for procuring of the means necessary for communicating of useful and ornamental knowledge to the rising generation, meets with my approbation, and, I have no doubt, will produce the most salutary effects." Mr. Grant was also known as Commodore Grant, having had, at one time, command of the Naval Force on the Lakes.

After Mr. Grant's name appears that of "E. B. Littlehales." This is the Major Littlehales with whom those who familiarize themselves with the earliest records of Upper Canada become so well acquainted. He was the writer, for example, of the interesting Journal of an Exploring Excursion from Niagara to Detroit in 1793, to be seen in print in the *Canadian Literary Magazine* of May, 1834; an expedition undertaken, as the document itself sets forth, by the Lieut. Governor, accompanied by Captain Fitzgerald, Lieutenant Smith of the 5th Regiment, and Lieutenants Talbot, Grey and Givins, and Major Littlehales, starting from Niagara on the 4th of February, arriving at Detroit on the 15th, by a route which was 270 miles in length. The return began on the 23rd, and was completed on the 10th of the following month. It was in this expedition that the site of London, on the Thames, was first examined, and judged to be "a situation eminently calculated for the metropolis of all Canada." "Among other essentials," says Major Littlehales, "it possesses the following advantages:—command of territory,—internal situation,—central position,—facility of water-communication up and down the Thames into Lakes St. Clair, Erie, Huron, and Superior,—navigable for boats to near its source, and for small craft probably to the Moravian settlement,—to the southward by a small portage to the waters flowing into Lake Huron—to the south-east by a carrying-place into Lake Ontario and the River St. Lawrence; the soil luxuriantly fertile,—the land rich and capable of being easily cleared, and soon put into a state of agriculture,—a pinery upon an adjacent high knoll, and other timber on the heights, well calculated for the erection of public buildings,—a climate not inferior to any part of Canada." The intention of the Governor, at one time, was that the

future capital should be named GEORGINA, in compliment to George III. Had that intention been adhered to, posterity would have been saved some confusion. To this hour, the name of our Canadian London gives trouble in the post-office and elsewhere. Georgina was a name not inaptly conceived, suggested doubtless by the title "Augusta," borne by so many places of old, as, for example, by London itself, the Veritable, in honour of the Augustus, the Emperor of the day. We might perhaps have rather expected Georgiana, on the analogy of Aureliana (Orleans), from Aurelius, or Georgia, after Julia, a frequent local appellation from the imperial Julius.—Already, in a preceding reign, had Georgius yielded Georgia as the name of a province, and more recently, Herschel's *Georgium sidus*, rather elegantly imitative of Horace's *Julium sidus*.—We presume, also, that the large subdivision of Lake Huron, known as the Georgian Bay, had a like loyal origin for its name.

An incident not recorded in Major Littlehales' Journal was the order of a grand parade (of ten men), and a formal discharge of musketry, issued in jocosé mood by the Governor to Lieut. Givins; which was duly executed as a ceremony of inauguration for the new capital.—The name Georgina, which probably originated on this occasion, is preserved in that of the now flourishing township of Georgina on Lake Simcoe. An adventure, however, in which Lieut. Givins' name appears, is recorded by Major Littlehales, as taking place at this time, in the following terms. "The young Indians who had chased a herd of deer in company with Lieut. Givins," he says, "returned unsuccessful, but brought with them a large porcupine; which was very seasonable," he remarks, "as our provisions were nearly exhausted. This animal," he observes, "afforded us a good repast, and tasted like a pig." The Newfoundland dog, he continues, attempted to bite the porcupine, but soon got his mouth filled with the barbed quills, which gave him exquisite pain. An Indian undertook to extract them, Major Littlehales says, and with much perseverance plucked them out, one by one, and carefully applied a root or decoction, which speedily healed the wound. From Major Littlehales' journal it appears that it was the practice of the party to wind up each day's proceedings by singing "God save the King." Thus on the 28th Feb., before arriving at the site of London, we have it recorded: "At six we stopped at an old Mississagua hut, upon the south side of the Thames. After taking some refreshment of salt pork and venison, well-cooked by Lieutenant Smith, who superintended that department, we, as usual, sang God save the King, and went to rest." The Duke de Liancourt, in his *Travels in North America*, speaks of Major Littlehales in the following pleasant terms: "Before I close the article of Niagara," he says, "I must make particular mention of the civility shewn us by Major Littlehales, adjutant and first secretary to the Governor, a well-bred, mild and amiable man, who has the charge of the whole correspondence of government, and acquits himself with peculiar ability and application. Major Littlehales," the Duke says, "appeared to possess the confidence of the country. This is not unfrequently the case with men in place and power; but his worth, politeness, prudence, and judgment, give this officer peculiar claims to the confidence and respect which he universally enjoys."

In the *Oracle* of Feb. 24, 1798, a report of the death of this officer is contradicted. "We have the pleasure of declaring the account received in December last of the death of Col. Littlehales premature. Letters have been recently received from him dated in England." He had probably returned home with Gen. Simcoe. In the same paper a flying rumour is noticed, to the effect "that His Excellency Governor Simcoe is appointed Governor General of the Canadas."

Major Littlehales' park-plot became subsequently the property of Capt. John Denison, and from him descended to his heir Col. George Taylor Denison, from whom the street now passing from south to north has its name, Denison Avenue. This thoroughfare was, in the first instance, the drive up to the homestead of the estate, Bellevue, a large white cheery-looking abode, lying far back but pleasantly visible from Lot Street through a long vista of overhanging trees.—From the old Bellevue has spread populous colonies at Dovercourt, Rusholme and elsewhere, marked, like their progenitor, with vigour of character, and evincing in a succession of instances strong aptitude for military affairs. Col. Denison's grandson, G. T. Denison *tertius*, is the author of a work on "Modern Cavalry, its Organisation, Armament and Employment in War," which has taken a recognized place in English strategical literature.

In accordance with an early Canadian practice, Capt. John Denison set apart on his property a plot of ground as a receptacle for the mortal remains of himself and his descendants. The

place selected for this purpose was a picturesque spot on land possessed by him on the Humber river, entailing at the same time the surrounding property. In 1853,—although at that date an act of parliament had cancelled entails,—his heir, Col. G. T. Denison, *primus*, connected the land referred to together with the burial plot, perpetually with his family and descendants, by converting it into an endowment for an ecclesiastical living, to be always in the gift of the legal representative of his name. This is the projected rectory of St. John's on the Humber. In 1857, a son of Col. Denison's, Robert Britton Denison, erected at his own cost, in immediate proximity to the old Bellevue homestead, the church of St. Stephen, and took steps to make it in perpetuity a recognized ecclesiastical benefice.

The boundary of Major Littlehales' lot westward was near what is now Bathurst Street. In front of this lot, on the south side of Lot Street, and stretching far to the west, was the Government Common, of which we have previously spoken, on which was traced out, at first ideally, and at length in reality, the arc of a circle of 1,000 yards' radius, having the Garrison as its centre. Southward of the concave side of this arc no buildings were for a long time permitted to be erected. This gave rise to a curiously-shaped enclosure, northward of St. Andrew's Market-house, wide towards the east, but vanishing off to nothing on the west, at the point where Lot Street formed a tangent with the military circle.

Of Portland Street and Bathurst Street we have already spoken in our survey of Front Street. Immediately opposite Portland Street was the abode, at the latter period of his life, of Dr. Lee to whom we have referred in our accounts of Front and George Streets. Glancing northward as we pass Bathurst Street, which, by the way, north of Lot Street, was long known as Crookshank's Lane, we are reminded again of Mr. Murchison, whom we have likewise briefly commemorated elsewhere. The substantial abode to which he retired after acquiring a good competency, and where in 1870 he died, is to be seen on the east side of Bathurst Street.

XLII.—QUEEN STREET—FROM BATHURST STREET TO THE ASYLUM.

The names which appear in the early plans of York and its suburbs, as the first possessors of the park lots westward of Major Littlehales', are, in order of succession, respectively, Col. David Shank, Capt. McDonell, Capt. S. Smith, Capt. E. Shaw, Capt. Bouchette. We then arrive at the line of the present Dundas road, where it passes at right angles north from the line of Queen Street. This thoroughfare is not laid down in the plans. Then follow the names of David Burns, William Chewett and Alexander MacNab (conjunctly), Thomas Rudout and William Allan (conjunctly), and Angus Macdonell. We then reach a road duly marked, leading straight down to the French Fort, Fort Rouillé, commonly known as Fort Toronto. Across this road westward, only one lot is laid off, and on it is the name of Benjamin Hallowell.

Most of the names first enumerated are very familiar to those whose recollections embrace the period to which our attention is now being directed. Many of them have occurred again and again in these papers.

In regard to Col. David Shank, the first occupant of the park lot westward of Major Littlehales', we must content ourselves with some brief "collections." In the Simcoe correspondence, preserved at Ottawa, there is an interesting mention of him, associated, as it appropriately happens, with his neighbour-locates to the east and west here on Lot Street. In a private letter to the "Secretary of War," Sir George Yonge, from Governor Simcoe, dated Jan. 17th, 1792, announcing his arrival at Montreal, *en route* for the new Government, still far up "the most august of rivers," Capt. Shank is spoken of as being on his way to the same destination in command of a portion of the Queen's Rangers, in company with Capt. Smith. There is noted in the same document, it will be observed, a gallant achievement of Capt. Shaw's, who, the Governor reports, had just successfully marched with his division of the same regiment all the way from New Brunswick to Montreal, in the depth of winter, on snow-shoes. "It is with infinite pleasure," writes Governor Simcoe to Sir George Yonge, "that I received your letter of the 1st of April by Capt. Littlehales. On the 13th of June," he continues, "that officer overtook me on the St. Lawrence, as I was on my passage in batteaux up the most august of rivers. It has given me great satisfaction," the Governor says, "that the Queen's Rangers have arrived so early. Capt. Shaw, who crossed in the depth of winter on snow-shoes from New Brunswick, is now at Kingston with the troops of the two

first ships ; and Captains Shank and Smith, with the remainder, are, I trust, at no great distance from this place,—as the wind has served for the last 36 hours, and I hope with sufficient force to enable them to pass the Rapids of the Richelieu, where they have been detained some days." Governor Simcoe himself, as we learn from this correspondence, had landed at Quebec on the 11th of November preceding (1791) in the "Triton," Capt. Murray, "after a blustering passage."

In addition to the lot immediately after Major Littlehales', Col. Shank also possessed another in this range, just beyond, viz., No. 21.

The Capt. McDonell, whose name appears on the lot that follows Col. Shank's first lot, was the aide-de-camp of Gen. Brock, who fell, with that general, at Queenston Heights. Capt. McDonell's lot was afterwards the property of Mr. Crookshank, from whom what is now Bathurst Street North had, as we have remarked, for a time the name of Crookshank's Lane.

Capt. S. Smith, whose name follows those of Capt. McDonell and Col. Shank, was afterwards President Smith, of whom already. The park lot selected by him was subsequently the property of Mr. Duncan Cameron, a member of the Legislative Council, well-remembered. The southern half of this lot now forms the site and grounds of the University of Trinity College. At an early period, the whole property was known by the graceful appellation of Gore Vale. Gore was in honour of the Governor of that name. Vale denoted the ravine which indented a portion of the lot through whose meadow-land meandered a pleasant little stream. This brooklet will hereafter be famous in scholastic song. It will be regarded as the Chervell of an infant Christ Church, the Cephussus of a Canadian Academus. It irrigates the elmy dale which gives such agreeable variety to the park of Trinity College, and which renders so charming the views from the Provost's Lodge. After the decease of Mr. Cameron, Gore Vale was long occupied by his excellent and benevolent sister, Miss Janet Cameron. We observe Mr. Cameron's name, in conjunction with that of Mr. Allan, attached to an advertisement calling for tenders for the erection of a Church in York in 1803. "Wanted: a Quantity of Pine, Boards, Scantling, Stones and Lime for building a Church in this Town. Any person inclined to furnish any of these articles, will please to give their proposals at the lowest prices, to the Subscribers, to be laid before the Committee. D. CAMERON; W. ALLAN. York, 1st June, 1803."

Here we have the rudiments of St. James's Church, whose history we have already traced. In 1812, Mr. Cameron is churchwarden of the same church, with Mr. Alexander Legge as his colleague.

On the steep mound which overhangs the brook above mentioned, on its eastern side, just where it is crossed by Queen Street, was, at an early period, a Blockhouse commanding the western approach to York. On the old plans this military work is shown, as also a path leading to it across the Common from the Garrison, trodden often probably by the relief party of the guard that would be stationed there in anxious times.

In the valley of this stream a little farther to the west, on the opposite side of Queen Street, was a Brewery of local repute. it was a long, low-lying dingy-looking building of hewn logs: on the side towards the street a railed gangway led from the road to a door in its upper storey. Conspicuous on the hill above the valley on the western side was the house, also of hewn logs but cased over with clap-boards, of Mr. Farr, the proprietor of the brewery, a north-of-England man in appearance and aspect, as well as in staidness and shrewdness of character. His spare form and slightly crippled gait were everywhere familiarly recognized. Greatly respected, he was still surviving in 1871. His chief assistant in the old brewery bore the name of Bow-beer. (At Canterbury, we remember, many years ago, when the abbey of St. Augustine there, now a famous Missionary College, was a Brewery, on the beautiful turreted gateway, wherein were the "coolers," the inscription "Beer, Brewer" was conspicuous; the name of the brewer in occupation of the grand monastic ruin being BEER, a common name, sometimes given as Bere; but which in reality is Bear.)

The stream which is here crossed by Queen Street is the same that afterwards flows below the easternmost bastion of the Fort. A portion of the broken ground between Farr's and the Garrison was once designated by the local Government,—so far as an order in Council has force,—and permanently set apart, as a site for a Museum and Institute of Natural History and Philosophy, with Botanical and Zoological Gardens attached. The project, originated by

Dr Dunlop, Dr Rees and Mr. Fothergill, and patronized by successive Lieutenant-Governors, was probably too bold in its conception, and too advanced to be justly appreciated and earnestly taken up by a sufficient number of the contemporary public forty years ago. It consequently fell to the ground. It is to be regretted that, at all events, the land, for which an order in Council stands recorded, was not secured in perpetuity as a source of revenue for the promotion of Science. In the Canadian Institute we have the kind of Association which was designed by Drs. Dunlop and Rees and Mr. Fothergill, but minus the revenue which two or three building lots in a flourishing city would conveniently supply without wronging anyone.

Capt. Enecas Shaw, the original locatee of the park-lot next westward of Colonel Shank's second lot, was afterwards well known in Upper Canada as Major General Shaw. Like so many of our early men of note he was a Scotchman; a Shaw of Torlorach in Strathairn. Possessed of great vigour and decision, his adopted country availed itself of his services in a civil as well as a military capacity, making him a member of the legislative and executive councils. The name by which his house and estate at this point were known, was Oakhill. The primitive domicile still exists and in 1871 is yet occupied by one of his many descendants, Capt. Alex. Shaw.

Of Col. Joseph Bouchette, whose name is read on the following allotment, we have had occasion already to speak. He was one of the many French Canadians of eminence who, in the early days, were distinguished for their chivalrous attachment to the cause and service of England. The successor of Col. Bouchette in the proprietorship of the park lot at which we have arrived, was Col. Givins.—He, as we have already seen, was one of the companions of Gov. Simcoe in the first explorations of Upper Canada. Before obtaining a commission in the army, he had been as a youth employed in the North West, and had acquired a familiar acquaintance with the Otchibway and Huron dialects. This acquisition rendered his services of especial value to the Government in its dealings with the native tribes, among whom also the mettle and ardor and energy of his own natural character gave him a powerful influence. At the express desire of Governor Simcoe he studied and mastered the dialects of the Six Nations, as well as those of the Otchibways and their Mississagua allies. We ourselves remember seeing a considerable body of Indian chiefs kept in order and good humour mainly through the tact exercised by Col. Givins. This was at a Council held in the garden at Government House some forty years since, and presided over by the then Lieut.-Governor Sir John Colborne.

Col Givins was Superintendent of Indian Affairs down to the year 1842. In 1828 his name was connected with an incident that locally made a noise for a time. A committee of the House of Assembly, desiring to have his evidence and that of Col. Coffin, Adjutant General of Militia, in relation to a trespass by one Forsyth on Government property at the Falls of Niagara, commanded their presence at a certain day and hour. On referring to Sir Peregrine Maitland, the Lieutenant-Governor at the time, and also Commander-in-Chief of the Forces, permission to obey the mandate of the House was refused. Col. Givins and Col. Coffin were then arrested by the Sergeant-at-arms, after forcible entry effected at their respective domiciles, and were kept confined in the common gaol until the close of the session. The following is Col. Coffin's letter to Major Hillier, private secretary to the Governor, on the occasion:

"YORK, March 22nd, 1828.

"Sir,—I beg leave to request that you will state to the Lieutenant Governor that in obedience to the communication I received through you, that his Excellency could not give me permission to attend a Committee of the House of Assembly for the reasons therein stated, that I did not attend the said Committee, and that in consequence thereof, I have been committed this evening to the common gaol of the Home District, by order of the House of Assembly. I have therefore to pray that his Excellency will be pleased to direct that I may have the advice and assistance of the Crown Officers, to enable me to take such steps as I may be instructed on the occasion. I have the honour, &c.,

N. COFFIN, Adj. Gen. of Militia."

No redress was to be had. The Executive Council reported in regard to this letter that upon mature consideration they could not advise that the Government should interfere to give any direction to the Crown Officers, as therein solicited. Sir Peregrine Maitland was removed from the Government in the same year. Sir George Murray, who in that year succeeded Mr. Husk-

son as Colonial Secretary, severely censured him for the line of action adopted in relation to the Forsyth grievance. Colonels Givins and Coffin afterwards brought an action against the Speaker of the House for false imprisonment, but they did not recover: for the legality of the imprisonment, that is the right of the House to convict for what they had adjudged a contempt, was confirmed by the Court of King's Bench, by a solemn judgment rendered in another cause then pending, which involved the same question.

Although its hundred-acre domain is being rapidly narrowed and circumscribed by the encroachments of modern improvement, the old family abode of Col. Givins still stands, wearing at this day a look of peculiar calm and tranquillity, screened from the outer world by a dark grove of second-growth pine, and overshadowed by a number of acacias of unusual height and girth. Governor Gore and his lady, Mrs. Arabella Gore, were constant visitors at this house; and here to this day is preserved a very fine portrait, in oil, of that Governor. It will satisfy the ideal likely to be fashioned in the mind by the current traditions of this particular ruler of Upper Canada. In contour of countenance and in costume he is plainly of the type of the English country squire of a former day. He looks good humoured and shrewd; sturdy and self-willed; and fond of good cheer. The cavalier style adopted by him towards the local parliament was one of the seeds of trouble at a later date in the history of Upper Canada. "He would dismiss the rascals at once." Such was his determination on their coming to a vote adverse to his notions; and, scarcely like a Cromwell, but rather like a Louis XIV, though still not, as in the case of that monarch, with a riding-whip in his hand, but nevertheless, in the undress of the moment, he proceeded to carry out his hasty resolve. The entry of the incident in the Journals of the House is as follows: "On Monday, 7th April, at 11 o'clock a.m., before the minutes of the former day were read, and without any previous notice, the Commons, to the great surprise of all the members, were summoned to the bar of the Legislative Council, when his Excellency having assented, in his Majesty's name, to several bills, and reserved for his Majesty's pleasure the Bank bill, and another, to enable creditors to sue joint debtors separately, put an end to the session by the following speech:—"Honourable Gentlemen of the Legislative Council, and Gentlemen of the House of Assembly,—The session of the provincial legislature having been protracted by an unusual interruption of business at its commencement, your longer absence from your respective avocations must be too great a sacrifice for the objects which remain to occupy your attention. I have therefore come to close the session and permit you to return to your homes. In accepting, in the name of his Majesty, the supply for defraying the deficiency of the funds which have hitherto served to meet the charges of the administration of justice and support of the civil government of this province, I have great satisfaction in acknowledging the readiness manifested to meet this exigence."

Upper Canadian society was, indeed, in an infant state; but the growing intelligence of many of its constituents, especially in the non-official ranks, rendered it unwise in rulers to push the feudal or paternal thes of government too far. The names of the majority in the particular division of the Lower House that brought on the sudden prorogation just described are the following:—McDonell, McMartin, Cameron, Jones, Howard, Casey, Robinson, Nellis, Secord, Nichol, Burwell, McCormack, Cornwall. Of the minority: Van Koughnet, Crystler, Fraser, Cotter, McNabb, Swayze, and Clench.

Six weeks after, Governor Gore was on his way to England, not recalled, as it would seem, but purposing to give an account of himself in his own person. He never returned. He is understood to have had a powerful friend at Court in the person of the Marquis of Camden.

In the account which we gave of some of the early York elections, a spirited address of Judge Thorpe's will be remembered. The independent course pursued by that gentleman, when elected, excited the ire of the lieutenant-governor and his docile executive; and the colonial minister of the day was induced to remove him from the Bench. On Governor Gore's second and final visit to England, some expressions of his gave rise to an action for libel on the part of Mr. Thorpe, the result of which was an award of damages for the plaintiff.

One of the "districts" of Upper Canada was called after Governor Gore. It was set off, during his régime, from the Home and Niagara districts. But of late years country names have rendered the old district names unfamiliar. In 1837, "the men of Gore" was a phrase invested with stirring associations.

The town of Belleville received its name from Gov. Gore. In early newspapers and other documents the word appears as Bellviue, without the central *e*, which gives it now such a fine French look. And this, it is said, is the true orthography. "Bell," we are told, was the Governor's familiar abbreviation of his wife's name, Arabella: and the compound was suggested by the Governor jocosely as a name for the new village: but it was set down in earnest, and has continued, the sound at least, to this day. This off-hand assignment of a local name may remind some persons that Flos, Tay, and Tiny, which are names of three now populous townships in the Penetanguisheno region, are a commemoration of three of Lady Sarah Maitland's lap-dogs. Changes of names in such cases as these are not unjustifiable.

In fact, the Executive Council itself, at the period of which we are speaking, had occasionally found it proper to change local names that had been frivolously given. In the *Upper Canada Gazette* of March 11th, 1822, we have several such alterations. It would seem that some one having access to the map or plan of a newly surveyed region, had inscribed across the *parallelograms* betokening townships a fragment of a well-known Latin sentence, "*jus et norma*," placing each separate word in a separate compartment. In this way Upper Canada had for a time a township of "J_s," and more wonderful still, a township of "Et." In the number of the *Gazette* of the date given above these names are formally changed to Barrie and Palmerston respectively. In the same advertisement, "Norma," which might have passed, is made "Clarendon." Other impertinent appellations are also at the same time changed. The township of "Yea" is ordered to be hereafter the township of "Burleigh," with a humorous allusion to the famous nod, probably. The township of "No" is to be the township of Grimsthorpe; and the township of "Aye," the township of Anglesea. The name "Et" may recall the street known as "Of" alley, on the south side of the Strand, in London, which "Of" is a portion of the name and title "George Villiers, Duke of Buckingham," distributed severally among a cluster of streets in that locality.

Gov. Gore was so fortunate as to be away from his Province during the whole of the war of 1812-13. He obtained leave of absence to visit England in 1811, and returned to his post in 1815, the Presidents, Isaac Brock, Roger Hale Sheaffe, and Gordon Drummond, Esquires, reigning in the interim.

Under date of York U. C., Sep. 30, 1815, we read the following particulars in the *Gazette* of the day:—"Arrived on Monday last, the 25th instant, His Excellency Francis Gore, Esq., Lieutenant Governor of the Province of Upper Canada, to reassume the reins of government. His Excellency was received with a cordial welcome and the honours due to his rank; and was saluted by his M. S. Montreal, and Garrison." We are also informed that "On Wednesday the 27th instant, he was waited on by a deputation, and presented with the following address, To His Excellency, Francis Gore, Esq., Lieutenant Governor of the Province of Upper Canada, &c., &c., &c. We, the Judges, Magistrates and principal Inhabitants of the Town of York, in approaching your Excellency to express our great satisfaction at beholding you once more among us, feel that we have still greater reason to congratulate ourselves on this happy event. Our experience of your past firm and liberal administration, by which the prosperity of the Province has been so essentially promoted, teaches us to anticipate the greater benefit from its resumption; and this pleasing anticipation is confirmed by our knowledge of that paternal solicitude which induced you while in England to bring, upon all proper occasions, the interests of the Colony under the favourable attention of His Majesty's Government, a solicitude which calls forth in our hearts the most grateful emotions. We rejoice that the blessings of peace are to be dispensed by one who is so well acquainted with the wants and feelings of the Colony; and we flatter ourselves that York, recovering from a state of war, (during which she has been twice in the power of the enemy,) will not only forget her disasters, but rise to greater prosperity under your Excellency's auspicious administration. York, September 27th, 1815. Thos. Scott, C.J., W. Dummer Powell, John Strachan, D.D., John McGill, John Bekie, M.P., Grant Powell, J.P., W. Chewett, J.P., J. G. Chewett, W. Lee, Sam. Smith, W. Claus, Benjamin Gale, D. Cameron, D. Boulton, jun., George Ridout, And. Mercer, Thomas Ridout, J.P., W. Jarvis, Sec. and Reg., S. Jarvis, J. P., John Small, J.P., W. Allan, J.P., J. Givins, E. MacMahon, J. Scarlett, S. Heward, Thos. Hamilton, C. Baynes, John Denuis, P. K. Hartney, Jno. Cameron, E. W. McBride, Jordan Post, jun., W. Knott, jun., Levi Bigelow, John Hays, T. R. Johnson, Lardner Bostwick, John Burke, John Jordan, W. Smith, sen., W. Smith, jun., J. Cawthra,

John Smith, Alex. Leggo, Jordan Post, sen., Andrew O'Keefe, S. A. Lumsden, John Murchison, Thomas Deary, Ezek. Benson, A. McNabb, Edward Wright, John Evans, W. Lawrence, Thos. Duggan, George Duggan, Benjamin Cozens, Philip Clinger and Sheriff Ridout. To which His Excellency was pleased to make the following answer: Gentlemen: After so long an absence from this place it is particularly gratifying to find the same sentiments of cordiality to me, and of approbation of my conduct, which I experienced during my former residence in this Province. It is but doing me justice to say that, while in Europe, I paid every attention in my power to promote your prosperity; and such, you may be assured, shall be my future endeavour when residing amongst you; earnestly hoping that, under the fostering care of our Parent State, and under that security which Peace alone can bestow, this Colony will speedily become a valuable, though distant part of the British Empire. York, 27th September, 1815." Under date of Oct. 7th following it is announced that "His Royal Highness, the Prince Regent acting in the name and on the behalf of His Majesty, has been pleased to appoint Thomas Fraser, Esquire, of Prescott, Neil McLean, Esquire, of Cornwall, Thomas Clark, Esquire, of Queenston, and William Dickson, Esquire, of Niagara, to be members of the Legislative Council; Samuel Smith, Esquire, of Etobicoke, to be a member of the Executive Council, and Doctor John Strachan, to be an Honorary Member of the same Council."

By one of the acts passed during the administration of Gov. Gore, the foundation was laid of a parliamentary library, to replace the one destroyed or dispersed during the occupation of York in 1813. In the session of 1816 the sum of £800 was voted for the purchase of books for the use of the Legislative Council and House of Assembly. The sum of £800 for such a purpose contrasts poorly, however, with the £3,000 recommended in the same session to be granted to Gov. Gore himself for the purchase of "Plate." The joint address of both Houses to the Prince Regent, on this subject, was couched in the following terms: "To his Royal Highness, George, Prince of Wales, Prince Regent of the United Kingdom of Great Britain and Ireland, &c., &c., &c.: May it please your Royal Highness: We, his Majesty's most dutiful and loyal subjects, the Legislative Council and House of Assembly of the Province of Upper Canada, in Provincial Parliament assembled, impressed with a lively sense of the firm, upright, and liberal administration of Francis Gore, Esq., Lieutenant-Governor of this Province, as well as of his unceasing attention to the individual and general interests of the colony during his absence, have unanimously passed a bill to appropriate the sum of three thousand pounds to enable him to purchase a service of plate, commemorative of our gratitude. Apprized that this spontaneous gift cannot receive the sanction of our beloved Sovereign in the ordinary mode, by the acceptance of the Lieutenant-Governor in his name and behalf, we, the Legislative Council and Assembly of the Province of Upper Canada, humbly beg leave to approach your Royal Highness with an earnest prayer that you will approve this demonstration of our gratitude, and graciously be pleased to sanction, in his Majesty's name, the grant of the Legislature in behalf of the inhabitants of Upper Canada. Wm. Dummer Powell, Speaker, Legislative Council Chamber, 26th March, 1816. Allan Maclean, Speaker, Commons House of Assembly, 25th March, 1816." To which, as we are next informed, his Excellency replied: "Gentleman: I shall transmit your address to his Majesty's Minister, in order that this expression of your approbation of my past administration may be laid at the feet of his Royal Highness, the Prince Regent. Government House, York, 26th March, 1816." The Bill which suggested this allowance was popularly spoken of as the "Spoon-bill." The House that passed the measure was the same that, a few weeks later, was so abruptly dismissed

XIII.—QUEEN STREET—FROM THE ASYLUM WESTWARD.

The name on the allotment following that occupied successively by Col. Bouchette and Col. Givins is "David Burns." Mr Burns, who had been a Navy surgeon, was the first Clerk of the Crown for Upper Canada, and one of the "Masters in Chancery." He died in 1806. In the *Oracle* of Saturday, Feb. 15, in that year, we have verses to the memory of the late David Burns, Esq. We make the following extract, which is suggestive:—

"Say, power of Truth, so great, so unconfined,
And solve the doubt which so distracts my mind—
Why Strength to Weakness is so near allied?
Perhaps 'tis given to humble human pride.

At times perchance frail Nature held the sway,
 Yet dimm'd not it the intellectual ray :
 Reason and Truth triumphant held their course,
 And list'ning hearers felt conviction's force :
 No precept mangled, text misunderstood,
 He thought and acted but for public good :
 His reasoning pure, his mind all manly light,
 Made day of that which else appear'd as night.
 In him instruction aim'd at this great end—
 Our fates to soften and our lives amend.
 Yet he was man, and man's the child of woe,
 Who seeks perfection, seeks not here below."

Of Col W Chewett, whose name appears next, we have made mention more than once. His name, like that of his son, J. G. Chewett, is very familiar to those who have to examine the plans and charts connected with early Upper Canadian history. Both were long distinguished *attachés* of the Surveyor-General's department. In 1802, Col. W. Chewett was Registrar of the Home District.

Alexander Macnab, whose name occurs next in succession, was afterwards Capt. Macnab, who fell at Waterloo, the only instance, as is supposed, of a Canadian slain on that occasion. In 1868, his nephew, the Rev. Dr. Macnab, of Bowmanville, was presented by the Duke of Cambridge in person with the Waterloo medal due to the family of Capt. Macnab.

Alexander Macnab was also the first patentee of the first plot of ground whereon stands the house on Bay Street noted, in our account of the early press, as being the place of publication of the Upper Canada Gazette at the time of the taking of York, and subsequently owned and occupied by Mr. Andrew Mercer up to the time of his decease in 1871.

Of Messrs. Ridout and Allaa, whose names are inscribed conjointly on the following park lot, we have already spoken, and Angus Macdonell, who took up the next lot, was the barrister who perished, along with the whole court, in the Speedy.

The name that appears on the westernmost lot of the range along which we have been passing is that of Benjamin Hollowell. He was a near connection of Chief Justice Elmsley's, and father of the Admiral, Sir Benjamin Hollowell, K.C.B. We observe the notice of Mr. Hollowell's death in the *Gazette and Oracle* of the day, in the following terms: "Died, on Thursday last (in March 25th, 1799), Benjamin Hollowell, Esq., in the 75th year of his age. The funeral will be on Tuesday next, and will proceed from the house of the Chief Justice to the Garrison Burying Ground at one o'clock precisely. The attendance of his friends is requested."

Associated at a later period with the memories of this locality is the name of Col. Walter O'Hara. —In 1808 an immense enthusiasm sprang up in England in behalf of the Spaniards, who were beginning to rise in spirited style against the domination of Napoleon and his family. Walter Savage Landor, for one, the distinguished scholar, philosopher and poet, determined to assist them in person as a volunteer. In a letter to Southey, in August, 1808, he says: "At Brighton, I preached a crusade to two auditors. *i. e.*, a crusade against the French in Spain: Inclination, he continues, was not wanting, and in a few minutes everything was fixed." The two auditors, we are afterwards told, were both Irishmen, an O'Hara and a Fitzgerald. Landor did not himself remain long in Spain, —although long enough to expend, out of his own resources, a very large sum of money, but his companions continued to do good service in the Peninsula, in a military capacity, to the close of the war. In a subsequent communication to Southey, Landor speaks of a letter just received from his friend O'Hara. "This morning," he says, "I had a letter from Portugal, from a sensible man and excellent officer, Walter O'Hara. The officers do not appear," he continues, "to entertain very sanguine hopes of success. We have lost a vast number of brave men, and the French have gained a vast number, and fight as well as under the republic." The Walter O'Hara whom we here have Landor speaking of as "a sensible man and excellent officer," is the Col. O'Hara at whose homestead, on a portion of the Hollowell park lot, we have arrived, and whose name is one of our household words. Colonel O'Hara built on this spot in 1831, at which date the surrounding region was in a state of nature. The area cleared for the reception of the still existing spacious residence, with its lawn, garden and orchards, remained for a number of years an oasis in the midst of a grand forest. A brief memorandum which we are enabled to give from his own pen of the Peninsular

portion of his military career, will be here in place, and will be deemed of interest. "I joined, he says, the Peninsular army in the year 1811, having obtained leave of absence from my British Regiment quartered at Canterbury, for the purpose of volunteering into the Portuguese army, then commanded by Lord Beresford. I remained in that force until the end of the war, and witnessed all the varieties of service during that interesting period during which time I was twice wounded, and once fell into the hands of a brave and generous enemy." From 1831 Col. O'Hara held the post of Adjutant General in Upper Canada. His contemporaries will always think of him as a chivalrous, high-spirited, warm-hearted gentleman; and in our annals hereafter he will be named among the friends of Canadian progress, at a period when enlightened ideas in regard to government and social life, derived from a wide intercourse with man in large and ancient communities, were, amongst us, considerably misunderstood.

After passing the long range of suburban properties on which we have been annotating, the continuation, in a right line westward, of Lot Street, used to be known as the Lake Shore Road. This Lake Shore Road, after passing the dugway, or steep descent to the sands that form the margin of the Lake, first skirted the graceful curve of Humber Bay, and then followed the irregular line of the shore all the way to the head of the Lake. It was a mere track, representing doubtless a trail trodden by the aborigines from time immemorial. So late as 1813 all that could be said of the region traversed by the Lake Shore Road was the following, which we read in the "Topographical Description of Upper Canada," issued in London in that year, under the authority of Governor Gore: "Further to the westward (*i. e.* of the river Humber)," we are told, "the Etobicoke, the Credit, and two other rivers, with a great many smaller streams, join the main waters of the Lake; they all abound in fish, particularly salmon... the Credit is the most noted: here is a small house of entertainment for passengers. The tract between the Etobicoke and the head of the Lake," the Topographical Description then goes on to say, "is frequented only by wandering tribes of Mississaguas. At the head of Lake Ontario," we are then told, "there is a smaller Lake, within a long beach, of about five miles, from whence there is an outlet to Lake Ontario, over which there is a bridge. At the south end of the beach," it is added, "is the King's Head, a good inn, erected for the accommodation of travellers, by order of his Excellency Major-General Simcoe, the Lieutenant-Governor. It is beautifully situated at a small portage which leads from the head of a natural canal connecting Burlington Bay with Lake Ontario, and is a good landmark. Burlington Bay," it is then rather boldly asserted, "is perhaps as beautiful and romantic a situation as any in interior America, particularly if we include with it a marshy lake which falls into it, and a noble promontory that divides them. This lake is called Coote's Paradise, and abounds with game." (Coote's Paradise had its name from Capt. Coote, of the 8th, a keen sportsman.)

As to the wandering tribes of Mississaguas who in 1813 were still the only noticeable human beings west of the Etobicoke, they were in fact a portion of the great Otchibway nation. From time to time, previous and subsequent to 1813, and for pecuniary considerations of various amounts they surrendered to the local Government their nominal right over the regions which they still occupied in a scattered way. In 1792 they surrendered 3,000,000 acres, commencing four miles west of Mississauga point, at the mouth of the river Niagara for the sum of £1,180 7 4. On the 8th of August, 1797, they surrendered 3,450 acres in Burlington Bay for the sum of £65 2 6. On the 6th September, 1806, 85,000 acres, commencing on the east bank of the Etobicoke river, brought them £1,000 5. On the 28th of October, 1818, "the Mississauga tract, Home District," consisting of 648,000 acres, went for the respectable sum of £8,500. On the 8th of February, 1820, 2,000 acres, east of the Credit reserve, brought in £50. All circumstances at the respective dates considered, the values received for the tracts surrendered as thus duly enumerated may, by possibility, have been reasonable. Lord Carteret, it is stated, proposed to sell all New Jersey for £5,000, 150 years ago. But there remains one transfer from Mississauga to White ownership to be noticed, the equivalent accepted for which excites surprise; and we can offer no explanation. On the 1st of August, 1805, the records of the Indian Department inform us, the "Toronto Purchase" took place, comprising 250,880 acres and stretching eastward to the Scarborough Heights: and the consideration accepted therefor was the sum of ten shillings. Two dollars for the site of Toronto and its suburbs with an area extending eastward to Scarborough heights. On the early map from which we have been taking the names of the first locatees of the range of park-lots extending along

Queen Street from Parliament Street to Humber Bay, we observe the easternmost limit of the "Toronto Purchase" conspicuously marked by a curved line drawn northwards from the water's edge near the commencement of the spit of land which used to fence off Ashbridge's Bay and Toronto Harbour from the lake.

In 1804, the Lake Shore Road stood in need of repairs, and in some places even of "opening" and "clearing out." In the *Oracle* of Aug. 4th, in that year, we have an advertisement for "Proposals from any person or persons disposed to contract for the opening and repairing the Road and building Bridges between the Town of York and the Head of Burlington Bay." "Such proposals," the advertisement goes on to say, "must state what prices the Party desirous of undertaking the aforesaid work will engage to finish and complete the same, and must consist of the following particulars: At what price per mile such person will open and clear out such part of the road leading from Lot Street, adjoining the Town of York (beginning at Peter Street) to the mouth of the Humber, of the width of 33 feet, as shall not be found to stand in need of any causeway. With the price also per Rod at which such party will engage to open, clear out, and causeway such other part of the same road as shall require to be causewayed, and the last-mentioned price to include as well the opening and clearing out, as the causewaying such Road. The causewaying to be 18 feet wide; as also the price at which any person will engage to build Bridges upon the said Road of the width of 18 feet. And the same Commissioners will also receive proposals from any person or persons willing to engage to cut down three Hills at the following places, viz. — One at the Sixteen Mile Creek, another between the Sixteen and Twelve Mile Creek, and the third at the Twelve Mile Creek. And also for repairing, in a good and substantial manner, the Bridge at the outlet of Burlington Bay. All the before-mentioned work to be completed, in a good and substantial manner, on or before the last day of October next, and, when completed, the Money contracted to be given shall be paid by the Receiver-General. This advertisement is issued by William Allan and Duncan Cameron, of York, James Ruggles and William Graham, of Yonge Street; and William Applegarth, of Flamboro' East, Commissioners for executing Statute passed in Session of present year."

We now return to that point on Queen Street where, instead of continuing on westward by the Lake Shore Road, the traveller of a later era turned abruptly toward the north in order to pass into Dundas Street proper, the great highway projected, as we have observed, by the first organisers of Upper Canada and marked on the earliest manuscript maps of the Province, but not made practicable for human traffic until comparatively recent times.

From an advertisement in the *Oracle* of August 1806, we learn that Dundas Street was not, in that year, yet hewn out through the woods about the Credit. "Notice is hereby given," thus runs the advertisement referred to, "that the Commissioners of the Highways of the Home District will be ready on Saturday, the 23rd day of the present month of August, at eleven o'clock in the forenoon, at the Government Buildings in the town of York, to receive proposals and to treat with any person or persons who will contend to open and make the road called Dundas Street, leading through the Indian Reserve on the River Credit, and also to erect a bridge over the said River at or near where the said Road passes. Also to bridge and causeway (in aid to the Statute Labour) such other parts of such Road passing through the Home District, when such works are necessary, and for the performance of which the said Statute Labour is not sufficient. Thomas Rudout, Clerk of the Peace, Home District. York, 6th August, 1806."

The early line of communication with the Head of the Lake was by the Lake Shore Road. This cross thoroughfare between the park lots of Mr. Bouchette or Col. Givins and Mr. David Burns, was opened up by Col. G. T. Denison, senior, with the assistance of some of the embodied militia. The work of opening the road here, as well as further on through the front, was at first undertaken by a detachment of the regulars under the direction of an officer of the Royal Engineers. The plan adopted, we are told, was first to fell each tree by very laboriously severing it from its base close to the ground, and then to smooth off the upper surface of the root or stump with an adze. As this process was necessarily slow, and after all not likely to result in a permanently good road, the proposal of Colonel, then Lieutenant, Denison to set his militia-men to eradicate the trees bodily, was accepted—an operation with which they were all more or less familiar on their farms and in their new clearings. A fine broad

open track, ready, when the day for such further improvements should arrive, for the reception of plank or macadam, was soon constructed.

Immediately at the turn northwards, out of the line of Lot Street, on the east side, were Sandford's Inn, a watering-place for teams on their way into York, provided accordingly with a conspicuous pump and great trough, a long section of a huge pine tree dug out like a canoe. Near by, a little to the east, was another notable inn, an early rival, as we suppose, of Sandford's: this was the Blue Bell. A sign to that effect, at the top of a strong and lofty pole in front of its door, swung to and fro within a frame.

Just opposite, on the Garrison Common, there were for a long while low log buildings belonging to the Indian department. One of them contained a forge, in charge of Mr. Higgins, armourer to the department. Here the Indians could get, when necessary, their fishing-spears, axes, knives and tomahawks, and other implements of iron, sharpened and put in order. One of these buildings was afterwards used as a school for the surrounding neighbourhood.

Immediately across from Sandford's, on the park lot originally occupied by Mr. Burns, was a house, shaded with great willow-trees, and surrounded by a flower-garden and lawn, the abode for many years of the venerable widow of Capt. John Denton, who long survived her husband. Of her we have already once spoken in connexion with Peterfield. She was, as we have intimated, a sterling old English gentlewoman of a type now vanishing, as we imagine. The house was afterwards long in the occupation of her son-in-law, Mr. John Fennings Taylor, a gentleman well-known to Canadian M. P.'s during a long series of years, having been attached as Chief Clerk and Master in Chancery first to the Legislative Council of United Canada and then to the Senate of the Dominion.

To the right and left, as we passed north, was a wet swamp, densely filled with cedars of all shapes and sizes, and strewn plentifully with granitic boulders: a strip of land held in light esteem by the passers-by, in the early day, as seeming to be irreclaimable for agricultural purposes. But how admirably reclaimable in reality the acres hereabout were for the choicest human purposes, was afterwards seen, when, for example, the house and grounds known as Foxley Grove, came to be established. By the outlay of some money and the exercise of some discrimination, a portion of this same cedar swamp was rapidly converted into pleasure-ground, with labyrinths of full-grown shrubbery ready-prepared by nature's hand. Mr. James Bealey Harrison, who thus transformed the wild into a garden and pleasure, will be long remembered for his skill and taste in the culture of flowers and esculents choice and rare: as well as for his eminence as a lawyer and jurist. He was a graduate of Cambridge; and before his emigration to Canada, had attained distinction at the English bar. He was the author of a work well known to the legal profession in Great Britain and here, entitled "An Analytical Digest of all the Reported Cases determined in the House of Lords, the several Courts of the Common Law in Banc and at Nisi Prius, and the Court of Bankruptcy, from Michaelmas Term, 1756, to Easter Term, 1843; including also the Crown Cases Referred: in Four Volumes." During the regime of Sir George Arthur, Mr. Harrison was Secretary of the Province and a member of the Executive Council; and at a later period he was Judge of the County and Surrogate Courts. The memory of Judge Harrison, as an English Gentleman, genial, frank, and straightforward, is cherished among his surviving contemporaries.

On turning westward into Dundas Street proper, we were soon in the midst of a magnificent pine forest, which remained long undisturbed. The whole width of the allowance for road was here for a number of miles completely cleared. The highway thus well-defined was seen bordered on the right and left with a series of towering columns, the outermost ranges of an innumerable multitude of similar tall shafts set at various distances from each other, and circumscribing the view in an irregular manner on both sides, all helping to bear up aloft a matted awning of deep-green, through which, here and there, glimpses of azure could be caught, looking bright and cheery. The yellow pine predominated, a tree remarkable for the straightness and tallness of its stems, and for the height at which its branches begin. No fence on either hand intervened between the road and the forest; the rider, at his pleasure, could rein his horse aside at any point and take a canter in amongst the columns, the underwood being very slight. Everywhere, at the proper season, the ground was sprinkled with wild flowers, with the wild lupin and the wild columbine; and everywhere, at all times, the air was more or less fragrant with resinous exhalations.

In the heart of the forest, midway between York and the bridge over the Humber, was another famous resting-place for teams—the Peacock Tavern—a perfect specimen of a respectable wayside hostelry of the olden time, with very spacious driving-houses and other appropriate outbuildings on an extensive scale.

Not far from the Peacock a beaten track branched off westerly, which soon led the Equestrian into the midst of beautiful oak woods, the trees constituting it of no great magnitude, but, as is often the case on sandy plains, of a gnarled, contorted aspect, each presenting a good study for the sketcher. This track also conducted to the Humber, descending to the valley of that stream where its waters, now become shallow but rapid, passed over sheets of rock. Here the surroundings of the bridle-road and foot-path were likewise picturesque, exhibiting rock plentifully amidst and beneath the foliage and herbage. Here in the vale of the Humber stood a large Swiss-like structure of hewn logs, with two tiers of balcony on each of its sides. This was the house of Mr. John Scarlett. It was subsequently destroyed by fire. Near by were mills and factories also belonging to Mr. Scarlett. He was well connected in England; a man of enlightened views and fine personal presence. He loved horses and was much at home in the saddle. A shrewd observer when out among his fellow men, at his own fireside he was a diligent student of books.

METEOROLOGICAL REGISTER.

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO, —JANUARY, 1871.
Latitude—43° 39' 4 North. Longitude—81° 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day	Barom. at temp. of 32°.		Temp. of the Air.		Excess of Moisture above Normal.		Tension of Vapour.		Humidity of Air.		Direction of Wind.		Velocity of Wind.		Rain In Inches.	In Snow In Inches.		
	U. A. M.	2 P. M.	U. A. M.	10 P. M.	Mean.	U. A. M.	10 P. M.	U. A. M.	10 P. M.	U. A. M.	10 P. M.	U. A. M.	10 P. M.	U. A. M.			10 P. M.	
1	30.012	30.023	30.003	30.021	30.017	32.7	0	—	—	88	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
2	29.792	29.834	29.806	29.827	29.811	32.0	0	1.66	1.62	88	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
3	29.620	29.621	29.605	29.627	29.617	31.7	0	—	—	68	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
4	29.623	29.634	29.659	29.642	29.642	31.5	0	—	—	78	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
5	29.551	29.562	29.547	29.567	29.557	31.4	0	—	—	81	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
6	29.337	29.348	29.323	29.343	29.333	31.2	0	—	—	86	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
7	29.484	29.489	29.479	29.495	29.487	31.3	0	—	—	80	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
8	29.501	29.504	29.494	29.507	29.498	31.3	0	—	—	80	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
9	29.012	29.023	29.003	29.021	29.017	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
10	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
11	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
12	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
13	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
14	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
15	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
16	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
17	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
18	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
19	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
20	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
21	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
22	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
23	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
24	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
25	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
26	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
27	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
28	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
29	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
30	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
31	29.016	29.027	29.007	29.025	29.016	31.3	0	—	—	77	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
27.7692	29.723	29.725	29.725	29.725	29.725	31.3	0	—	—	80	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43
27.7692	29.723	29.725	29.725	29.725	29.725	31.3	0	—	—	80	N	W S W	8 S W	4.1	13.2	16.3	10.16	11.43

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR JANUARY, 1871

COMPARATIVE TABLE FOR JANUARY.

YEAR.	TEMPERATURE.				RAIN.		SNOW.		WIND.	
	Excess above Average.	Max. num.	Min. num.	Range.	No. of days.	Inches.	No. of days.	Inches.	Direction.	Mean Velocity.
1843	+ 5.6	55.4	-1.8	57.2	6	4.295	12	14.2	0	0.60 lbs
1844	+ 2.9	45.3	-7.2	52.5	7	3.005	11	24.9	...	0.70
1845	+ 3.4	45.7	-0.2	45.9	6	Inspr.	9	23.7	...	0.70
1846	+ 3.6	44.0	+ 1.3	45.3	5	2.335	10	6.0	...	0.55
1847	+ 0.2	42.4	+ 2.7	39.7	7	2.135	7	7.6	...	1.09
1848	+ 5.6	51.1	-11.4	62.5	7	2.245	8	7.1	N 82 W	2.03
1849	+ 4.0	39.5	-14.2	53.7	4	1.175	10	9.2	N 63 W	3.06
1850	+ 6.6	46.4	-4.3	39.5	5	1.259	8	5.2	N 37 W	0.69
1851	+ 2.4	43.4	-12.8	51.2	4	1.275	10	7.8	N 77 W	3.26
1852	+ 4.7	37.3	-10.6	47.9	0	0.006	19	30.9	N 68 W	3.14
1853	+ 0.1	40.9	-9.7	50.6	1	0.296	6	7.6	N 27 W	2.52
1854	+ 0.5	45.1	-5.4	51.8	7	1.270	11	7.5	N 71 W	2.44
1855	+ 2.8	49.0	-5.4	54.4	5	0.625	13	23.3	N 73 W	1.91
1856	+ 7.1	34.4	-12.0	46.4	0	0.000	14	13.6	N 75 W	5.24
1857	-10.3	37.2	-20.1	57.3	3	Inspr.	16	21.8	N 70 W	4.96
1858	+ 6.9	47.4	-6.5	49.9	6	1.152	11	4.0	N 71 W	2.53
1859	+ 3.3	43.2	-26.5	69.7	6	1.449	19	16.4	N 81 W	3.17
1860	+ 0.3	49.4	-0.8	53.2	6	0.740	16	8.7	N 89 W	6.09
1861	+ 3.2	37.0	-11.2	48.2	4	0.685	23	24.6	N 86 W	2.92
1862	-1.4	44.5	-2.6	47.1	6	0.116	19	27.4	N 26 W	2.69
1863	+ 6.0	47.2	-14.0	61.0	10	1.124	17	20.6	N 61 W	1.13
1864	+ 0.3	44.0	-9.0	53.2	6	1.165	14	26.3	N 73 W	6.00
1865	-2.4	37.2	-9.0	46.2	1	0.440	18	14.8	N 85 W	4.80
1866	-5.6	44.0	-14.0	58.0	4	0.622	19	10.3	N 75 W	2.98
1867	-6.5	43.8	-4.8	48.6	1	Inspr.	21	42.0	N 55 W	3.27
1868	-4.1	39.0	-7.0	46.0	2	Inspr.	21	14.6	N 83 W	3.97
1869	+ 4.6	45.0	-1.0	46.0	4	0.885	12	9.8	N 72 W	3.40
1870	+ 1.3	45.0	-3.2	48.2	8	3.412	18	21.3	N 89 W	6.32
1871	-1.8	46.4	-13.2	59.6	8	0.564	23	43.6	S 49 W	2.56
Results for 1871	.....	43.65	-7.22	50.57	4.48	1.240	13.08	15.93	N 78 W	3.06
Excess of 1871	.....	+ 2.75	-6.95	+ 8.75	+ 3.52	0.376	+ 0.32	27.67	...	+ 1.62

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

Highest Barometer.....30.388 at 2 p.m. on 25th. } Monthly range—
 Lowest Barometer.....29.045 at 4 p.m. on 31st. } 1.340
 (Maximum temperature.....46°4 on 13th. } Monthly range—
 Minimum temperature.....-13.2 on 23rd. } 59°
 Mean maximum temperature.....28°41 } Mean daily range—
 Mean minimum temperature.....13°41 } 15°00
 Greatest daily range.....34°3 from a.m. of 4th to a.m. of 5th.
 Least daily range.....2°9 from a.m. to p.m. of 14th.
 Warmest day.....13th; mean temperature 39°70 } Difference—49°40
 Coldest day.....23rd; mean temperature—5°70 }
 Maximum { Solar..... } Monthly range—
 Radiation { Terrestrial..... } 86°0
 Aurora observed on 3 nights, viz.: 13th, 21st and 27th.
 Possible to see aurora on 9 nights; impossible on 22 nights.
 Snowing on 23 days; depth 43.6 inches; duration of fall 140.2 hours.
 Raining on 8 days; depth, 0.864 inches; duration of fall, 23.5 hours.
 Mean of cloudiness=0.80.

WIND.

Resultant direction, N. 49° W.; Resultant velocity, 2.56.
 Mean velocity, 9.84 miles per hour.
 Maximum velocity, 35.5 miles, from 1 to 2 p.m. of 2nd.
 Most windy day, 2nd; mean velocity, 21.25 miles per hour.
 Least windy day, 11th; mean velocity, 2.56 miles per hour.
 Most windy hour, 1 p.m.; mean velocity, 12.08 miles per hour.
 Least windy hour, 1 a.m.; mean velocity, 8.38 miles per hour.
 Fog recorded 11th, 12th, 13th, 30th & 31st. Solar halo 17th. Lunar haloes 9th & 31st.
 8th, very stormy; snow and drift.
 23rd, very stormy; furious snow and drift. 28th, stormy; snow and drift.
 17th, bay completely frozen—the E. & S.E. portion having been kept open by the current through the gut.
 11th to 14th, well marked January thaw.

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR FEBRUARY, 1871.

Note.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely, at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

Highest Barometer 30.119 at 8 a.m. on 22nd } Monthly range=
 Lowest Barometer 28.673 at 6 a.m. on 18th } 1.446 inches.

Maximum Temperature 48°0 on 9th } Monthly range=
 Minimum Temperature -16°8 on 5th } 63°8
 Mean Maximum Temperature 39°36 } Mean daily range=
 Mean Minimum Temperature 17°03 } 13°33
 Greatest daily range 38°1 from midnight of 3rd to midnight of 4th.
 Least daily range 3°2 from a.m. to p.m. of 27th.

Warmest Day 24th } Mean Temperature 42°20 } Difference = 46°60
 Coldest Day 5th } Mean Temperature -7°20 }

Maximum Solar 57°4 on 25th } Monthly range=
 Radiation. { Terrestrial -10°2 on 5th } 70°0

Aurora observed on 4 nights, viz., 11th, 16th, 21st, and 24th.

Possible to see Aurora on 12 nights; impossible on 16 nights.

Snowing on 16 days; depth 23.0 inches; duration of fall 69.1 hours.

Raining on 3 days; depth 0.040 inches; duration of fall 6.7 hours.
 Mean of Cloudiness = 0.71.

WIND.

Resultant Direction N. 70° W.; Resultant Velocity 4.26.

Mean Velocity 0.87 miles per hour.

Maximum Velocity 41.5 miles, from 10 to 11 p.m. of 3rd.

Most Windy day 3rd; Mean Velocity 23.70 miles per hour.

Least Windy day 8th; Mean Velocity 2.19 miles per hour.

Most Windy hour 2 p.m.; Mean Velocity 13.25 miles per hour.

Least Windy hour 3 a.m.; Mean Velocity 7.45 miles per hour.

Solar haloes on 16th, 20th, 22nd and 28th.

Lunar haloes 4th, 6th, 23th and 28th.

Crows active 28th.

COMPARATIVE TABLE FOR FEBRUARY

YEAR.	TEMPERATURE.				RAIN.		SNOW.		WIND.		Mean Velocity	
	Mean	Excess above average	Max. num.	Min. num.	Range.	No. of days.	Inches.	No. of days.	Inches.	Resultant.		
										Direction.		Velocity.
1843	14.5	-8.6	35.6	-6.4	41.0	1	0.475	21	14.4	0	...	1.05 Ds
1844	26.0	+3.0	47.9	-4.2	53.3	5	0.436	7	10.0	...	...	0.43
1845	26.0	+3.0	49.1	-4.2	53.3	5	Imp.	9	19.0	...	...	0.90
1846	20.4	-2.6	41.9	-16.7	48.6	0	0.000	13	46.1	...	...	0.65
1847	21.6	-1.6	40.9	0.0	40.9	2	0.650	13	27.3	...	...	0.69
1848	26.6	+3.0	46.6	0.0	46.6	4	0.776	8	10.8	N 65 W	2.53	6.69ms
1849	19.6	-3.5	40.6	-9.8	50.4	7	0.240	13	18.2	N 41 W	1.48	6.68
1850	26.0	+3.0	49.6	2.2	47.4	2	1.233	9	23.1	N 80 W	3.48	7.01
1851	27.0	+4.0	50.2	2.0	48.2	3	2.000	4	2.4	N 64 W	1.99	6.94
1852	23.4	+0.4	41.2	-6.2	47.4	3	0.650	11	13.0	N 75 W	3.34	6.42
1853	24.1	+1.1	43.4	-1.4	44.8	6	1.030	16	12.6	N 49 W	2.61	7.30
1854	21.1	-1.9	42.8	-10.8	53.6	6	1.460	15	18.0	N 7 E	1.75	6.91
1855	16.4	-7.0	39.0	-25.4	64.4	2	1.770	14	21.8	N 40 W	4.34	8.17
1856	16.7	-7.3	37.8	-18.7	56.6	0	0.000	8	9.7	N 81 W	7.10	10.71
1857	28.6	+6.0	52.4	-6.9	58.3	11	3.050	11	11.7	N 78 W	3.68	9.82
1858	17.0	-0.0	42.4	-7.3	49.7	1	Imp.	16	26.7	N 72 W	2.72	8.50
1859	26.0	+3.0	46.2	-2.1	44.1	7	0.453	14	8.3	N 61 W	3.28	8.73
1860	22.6	+0.2	50.2	-8.6	58.7	0	1.330	13	18.8	N 64 W	3.86	10.58
1861	26.1	+3.1	46.0	-20.8	66.8	3	0.816	17	29.7	N 77 W	3.13	8.62
1862	22.6	+0.6	37.8	-6.2	43.6	4	0.180	17	23.1	N 65 W	3.13	8.62
1863	22.4	-0.0	41.5	-10.8	61.2	7	1.450	12	22.0	N 23 W	2.27	10.13
1864	24.3	+1.3	45.0	-16.0	60.0	2	0.397	14	9.6	N 84 W	6.48	10.11
1865	22.4	-0.1	42.2	-10.0	62.2	6	0.810	11	16.8	N 23 W	3.95	8.23
1866	22.6	-0.5	45.0	-8.0	53.0	8	0.830	12	16.9	N 80 W	6.14	9.40
1867	28.0	+6.8	44.0	0.2	43.8	3	1.324	13	13.4	N 57 W	1.68	8.85
1868	17.2	-6.5	45.0	-11.6	60.6	1	0.046	16	32.8	N 63 W	3.23	10.84
1869	25.0	+2.0	46.0	-1.0	47.0	2	0.165	19	39.7	N 31 W	4.18	10.04
1870	21.6	-1.0	40.6	-6.6	47.2	2	0.520	18	29.1	N 20 W	2.84	8.10
1871	24.3	+1.3	48.0	-15.8	63.6	3	0.040	15	23.0	N 70 W	4.26	9.87
Monthly	22.97	...	44.06	-7.68	61.74	4.03	0.923	12.48	19.17	N 68 W	3.09	8.68
Excess	+	...	+	-	+	-	+	+	+	...	...	+
for 71	1.36	...	3.94	8.12	12.04	1.03	0.883	2.62	3.63	...	...	1.29

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO, —MARCH, 1871.
 Latitude—43° 34' North. Longitude—5h. 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day	Barom. at temp. of 52°.			Temp. of the Air.			Tension of Vapour			Humidity of Air.			Direction of Wind.			Resultant.			Velocity of Wind.			Rain in inches.	Snow in inches.	
	Mean.			Mean.			Mean.			Mean.			Mean.			Mean.								
	6 A.M.	10 P.M.	2 P.M.	6 A.M.	10 P.M.	2 P.M.	6 A.M.	10 P.M.	2 P.M.	6 A.M.	10 P.M.	2 P.M.	6 A.M.	10 P.M.	2 P.M.	6 A.M.	10 P.M.	2 P.M.	6 A.M.	10 P.M.	2 P.M.			
1	29.176	29.478	29.724	29.4937	38.6	52.3	29.134.07	+ 8.50	121.113	111.114	62	64	69	68	W S W	W S W	N W	8.89 W	2.2	10.36	12.07	1.5		
2	.711	.430	.307	.4750	29.1	34.9	34.9.33.20	+ 7.40	126.180	186.169	78	92	92	86	E N E	E N E	E N E	N 43 W	7.2	3.5	4.80	0.60		
3	.674	.391	.648	.4037	37.8	52.3	25.23.03.3	+ 3.92	208.140	115.144	81	85	86	86	N N W	N W	Calin.	N 43 W	11.6	18.0	10.55	.160		
4	.708	.644	.644	.6090	20.6	52.4	32.0.28.77	+ 2.62	093.131	106.130	85	71	91	81	W S W	W S W	W S W	8.41 W	5.0	2.4	4.21	0.2		
5	—	0.25	—	—	—	52.8	—	—	186	—	70	—	—	—	W S W	W S W	W S W	N 55 E	0.3	3.8	1.41	—		
6	—	—	—	—	—	52.8	—	—	186	—	70	—	—	W S W	W S W	W S W	N 55 E	0.3	3.8	1.41	—			
7	.390	.686	.668	.6645	31.0	39.3	30.6.33.62	+ 6.85	186.140	135.165	92	65	80	80	W N W	W N W	W N W	N 57 W	14.4	22.0	8.13	—		
8	.635	.639	.639	.6640	23.7	30.7	30.0.33.16	+ 0.19	112.137	164.144	87	63	77	70	Calin.	Calin.	Calin.	N 57 W	0.0	12.0	5.0	—		
9	.635	.470	.410	.4838	37.8	43.9	43.9.42.17	+ 14.87	173.180	235.203	70	60	82	74	E N E	E N E	E N E	N 57 E	1.6	8.8	2.8	—		
10	.339	.223	.350	.3235	39.6	53.3	43.2.45.05	+ 17.60	206.261	244.233	84	63	87	78	E N E	E N E	E N E	N 57 E	0.0	10.2	11.6	—		
11	.618	.648	.651	.5702	37.4	45.4	46.4.42.35	+ 14.48	170.179	114.158	76	69	35	59	W S W	W S W	W S W	8.31 W	7.4	17.0	0.0	—		
12	.612	.670	.650	.6771	37.8	37.1	36.8.38.16	+ 10.05	165.190	202.195	82	90	94	81	N E	N W	Calin.	N 2 E	16.4	29.2	2.9	—		
13	—	.290	—	—	—	37.1	—	—	169	—	76	—	—	—	N	N W	W N W	N 61 W	0.0	7.4	4.2	—		
14	.630	.662	.668	.6017	29.8	37.1	31.3.32.37	+ 3.60	154.176	144.164	93	70	81	83	Calin.	Calin.	Calin.	N 62 W	2.8	8.0	0.8	—		
15	.702	.778	.760	.7752	27.8	30.3	31.3.32.00	+ 2.82	116.123	152.136	79	60	80	80	E N E	E N E	E N E	N 62 W	0.0	7.4	4.2	—		
16	.768	.692	.670	.6510	32.7	32.7	34.1.32.77	+ 3.36	157.169	174.168	85	90	92	80	E N E	E N E	E N E	N 62 E	10.2	7.6	2.6	—		
17	.693	.434	.347	.4368	32.4	38.1	39.6.37.23	+ 7.46	160.157	232.203	91	81	95	91	E N E	E N E	E N E	N 62 E	2.0	8.2	2.0	—		
18	.295	.479	.612	.4690	39.6	41.6	34.9.38.53	+ 8.45	241.192	151.194	98	76	77	70	W S W	W S W	W S W	N 61 W	3.0	6.5	6.0	—		
19	.620	.714	.695	.6995	31.3	41.3	37.8.30.85	+ 0.42	144.187	175.166	81	72	77	70	N E	N E	N E	N 61 W	12.6	8.2	15.2	—		
20	—	.950	—	—	—	33.8	—	—	122	—	63	—	—	—	N	N E	N E	N 61 W	0.0	7.4	4.2	—		
21	.767	.446	.338	.4812	31.2	42.1	41.0.30.02	+ 7.06	116.170	218.179	66	62	85	73	E N E	E N E	E N E	N 62 W	15.8	11.2	2.2	—		
22	.322	.289	.354	.3267	35.6	42.1	32.0.34.08	+ 2.62	151.164	135.141	73	66	74	72	W S W	W S W	W S W	N 63 E	10.6	18.0	0.0	—		
23	.414	.476	.487	.4648	29.8	32.1	29.8.30.96	+ 0.93	140.120	147.134	84	64	88	78	W S W	W S W	W S W	N 63 E	7.2	10.6	6.0	—		
24	.354	.382	.573	.4440	25.6	28.6	23.7.25.73	+ 0.48	123.131	098.113	69	63	70	74	W N W	W N W	W N W	N 63 W	6.0	13.0	7.0	—		
25	.707	.740	.674	.7678	17.2	30.3	28.4.27.75	+ 4.78	081.116	119.104	65	63	70	70	W N W	W N W	W N W	N 63 W	4.6	2.43	4.6	—		
26	.890	.862	.820	.8527	25.9	30.5	31.0.33.38	+ 0.46	100.130	119.110	70	62	66	68	W N W	W N W	W N W	N 63 E	1.8	16.0	12.2	—		
27	.133	.273	.446	.3048	31.3	30.7	34.2.34.17	+ 0.48	166.156	162.165	—	90	21	70	E N E	E N E	E N E	N 63 E	15.0	12.8	13.0	—		
28	.696	.728	.817	.7267	39.6	38.1	30.0.33.15	+ 0.92	144.126	104.124	85	65	60	62	N W	N W	N W	N 64 W	1.6	0.5	1.6	—		
29	.762	.770	.762	.7533	24.0	34.7	33.8.34.83	+ 0.68	112.143	166.144	84	56	85	72	N W	N W	N W	N 64 W	1.6	0.5	1.6	—		
30	.646	.695	.639	.6228	32.4	40.4	38.9.42.93	+ 5.12	161.169	134.163	87	68	63	62	N E	N E	N E	N 64 W	1.6	0.5	1.6	—		
31	.709	.726	.698	.7195	31.1	38.1	29.5.32.77	+ 2.40	144.134	136.133	81	68	83	72	N	N	N	N 64 E	11.6	3.2	0.6	—		
32	.6500	.20.6521	.20.6044	.29.5893	31.37	38.04	31.05.31.65	+ 4.65	147.157	157.154	82	68	70	70	—	—	—	—	7.77	11.08	5.85	—		
																							8.312.782	13.0

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR MARCH, 1871

COMPARATIVE TABLE FOR MARCH.

YEAR.	TEMPERATURE.					RAIN.			SNOW.			WIND.	
	Mean.	Excess above Average.	Maxi. mum.	Mini. mum.	Range.	No of days.	Inches.	No. of days.	Inches.	No. of days.	Inches.	Resultant.	
												Direction.	Velocity.
1843	21.3	- 8.2	30.9	- 2.5	42.4	2	0.625	18	0.625	18	25.7	...	...
1844	31.3	+ 1.8	50.8	9.6	41.2	2	2.470	8	2.470	8	14.0	...	...
1845	35.4	+ 6.0	62.7	0.6	56.1	6	Imp.	8	Imp.	8	2.8	...	...
1846	33.1	+ 3.0	49.6	8.3	41.3	5	1.985	6	1.985	6	2.3	...	...
1847	28.2	- 3.3	43.0	6.0	38.3	5	0.860	6	0.860	6	4.2	...	...
1848	28.0	- 0.9	58.0	0.0	58.0	6	1.220	6	1.220	6	9.7	N 66 W	2.03
1849	33.5	+ 4.0	53.0	15.1	37.9	7	1.625	2	1.625	2	2.3	N 3 W	1.48
1850	32.4	+ 0.3	46.5	7.2	39.3	7	0.745	7	0.745	7	11.2	N 62 W	2.62
1851	32.7	+ 2.0	59.3	12.0	47.3	3	0.770	8	0.770	8	8.8	N 21 W	1.93
1852	30.6	+ 1.1	56.3	7.4	52.2	8	3.080	12	3.080	12	19.5	N 8 W	6.71
1853	30.7	+ 1.2	65.1	0.0	65.3	6	1.080	8	1.080	8	7.1	N 68 W	2.60
1854	30.5	+ 1.0	46.4	2.9	62.3	5	2.425	3	2.425	3	2.8	N 63 W	3.39
1855	28.5	- 0.4	41.4	- 4.0	55.4	0	0.000	12	0.000	12	16.2	N 71 W	7.68
1856	27.8	- 1.7	57.6	5.5	63.1	4	0.335	15	0.335	15	11.3	N 63 W	6.63
1857	28.4	+ 1.1	55.4	6.5	60.9	10	0.917	6	0.917	6	0.2	N 68 W	5.45
1858	30.3	+ 6.8	64.2	9.8	44.4	15	4.054	8	4.054	8	1.0	N 64 W	1.06
1859	34.5	+ 5.0	67.0	12.8	54.2	5	0.882	11	0.882	11	2.4	N 64 W	7.61
1860	28.0	- 2.0	47.4	6.2	62.6	8	2.125	14	2.125	14	7.1	N 64 W	3.33
1861	28.8	- 0.7	43.2	8.0	35.2	8	2.660	11	2.660	11	18.5	N 12 W	2.69
1862	28.8	- 3.7	46.2	4.0	46.2	4	0.087	17	0.087	17	11.4	N 27 W	2.62
1863	29.1	- 0.4	50.2	3.0	47.2	9	1.620	12	1.620	12	3.7	N 63 W	2.29
1864	29.1	+ 4.1	55.6	3.5	50.1	10	3.050	12	3.050	12	18.9	N 61 W	2.16
1865	33.0	+ 1.9	45.8	7.5	38.3	8	0.916	18	0.916	18	7.2	N 73 W	6.84
1866	26.6	- 2.0	46.8	3.0	43.8	6	0.617	14	0.617	14	33.4	N 34 W	2.12
1867	31.2	+ 1.8	60.8	- 16.0	74.6	7	2.660	5	2.660	5	4.2	N 21 W	2.12
1868	33.1	- 0.4	46.8	5.4	62.2	3	0.985	9	0.985	9	16.0	N 52 W	2.86
1870	26.3	- 3.2	44.0	6.2	38.8	8	0.765	18	0.765	18	62.4	N 18 W	4.73
1871	34.7	+ 5.2	58.5	17.0	41.5	8	2.782	12	2.782	12	13.0	N 31 W	2.59
Results to 1870.	29.62	.....	50.01	1.77	40.17	6.13	1.245	9.04	1.245	9.04	12.16	N 63 W	3.20
Are for 1871	6.13	.....	7.56	16.23	7.67	1.87	1.637	2.06	1.637	2.06	0.82	...	...

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations usually, namely, at 6 A.M., 8 A.M., 11 A.M., 1 P.M., and midnight. The means and resultants for the wind are from hourly observations.

Highest Barometer.....29.960 at 8 a.m. on 10th. } Monthly range=29.074 from 6 a.m. and 6 a.m. on 3rd. } 0.886 inches.
 Lowest Barometer.....29.074 from 6 a.m. and 6 a.m. on 3rd. }
 { Maximum temperature58° on 9th. } Monthly range=58° on 9th. }
 { Minimum temperature17.0° on 24th. } 41°
 { Mean maximum temperature41°42 } Mean daily range=41°42 }
 { Mean minimum temperature23°08 } 12°23 }
 { Greatest daily range21°05 from a.m. to p.m. of 21st. }
 { Least daily range3°4 from a.m. to p.m. of 21st. }
 Warmest day.....9th; mean temperature.....45°03 }
 Coldest day.....23rd; mean temperature.....23°73 } Difference=19°32 }
 Maximum { Solar.....71° on 9th. } Monthly range=71° on 9th. }
 Radiation { Terrestrial.....6° on 24th. } 65° }
 Aurora observed on 5 nights, viz.—17th, 18th, 24th, 28th and 31st.
 Possible to see Aurora on 16 nights; impossible on 15 nights.
 Snowing on 12 days; depth 13.0 inches; duration of fall 49.5 hours.
 Raining on 8 days; depth, 2.782 inches; duration of fall, 64.0 hours.
 Mean of cloudiness=0.70.

WIND.

Resultant direction, N. 31° W.; resultant velocity, 2.59.
 Mean velocity, 8.31 miles per hour.
 Maximum velocity, 28.2 miles, from 1.30 to 2.30 p.m. of 12th.
 Most windy day, 6th; mean velocity, 13.62 miles per hour.
 Least windy day, 4th; mean velocity, 2.77 miles per hour.
 Most windy hour, 1 p.m.; mean velocity, 12.19 miles per hour.
 Least windy hour, 10 p.m.; mean velocity, 5.26 miles per hour.

Fog on 16th and 17th. First thunder Storm of season on the evening of 2nd.
 Solar haloes recorded on 7th, 9th, 10th, 20th, 24th and 26th.
 Lunar haloes recorded on 1st, 3rd, 4th, 5th, 6th, 29th and 30th.
 13th, Ice broken up and mostly driven from Bay.
 1st, Robins and Song Sparrows about. 10th, Blue Blts.

METEOROLOGICAL REGISTER.

OXIX

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO—APRIL, 1871.
 Latitude—43° 39' 4 North. Longitude—81° 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day.	Barom. at temp. of 32°.			Temp. of the Air.			Excess of Mean above Normal.			Tension of Vapour.			Humidity of Air.			Direction of Wind.			Resultant.			Velocity of Wind.			Rain in Inches.	Snow in Inches.	
	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	10 P.M.	6 A.M.	10 P.M.	Normal.	6 A.M.	10 P.M.	M.N.	6 A.M.	10 P.M.	M.N.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	10 P.M.	6 A.M.	10 P.M.	6 A.M.	10 P.M.			Mean.
1	20.681	20.428	20.4325	32.0	32.0	31.6	33.62	2.08	13	151	102	166	74	83	96	82	E N E	N b W	E N E	N b W	6	11.0	3.0	6.85	8.05	0.70	
2	123	146	2252	37.1	44.0	40.7	41.08	4.72	19	253	204	223	80	80	80	80	W S E	N E W	S S E	N E W	6	0.8	0.7	4.60	7.39	0.70	
3	601	269	4286	53.4	59.4	59.9	54.55	7.82	17	211	115	170	41	44	44	44	N E E	N W W	S S E	N W W	6	21.6	2.0	21.6	6.04	1.63	
4	700	600	7043	27.0	37.8	32.0	32.25	4.88	09	106	135	112	63	47	74	62	W b N	W b N	W b S	W b N	6	31.5	28.5	16.45	19.62	...	
5	631	636	6185	29.1	42.6	36.7	39.82	0.68	14	130	163	141	87	75	67	67	N N E	E b N	E b N	W b N	6	8.8	3.6	5.55	6.73	...	
6	438	431	4333	49.0	70.2	59.5	68.17	+10.86	307	318	313	306	83	68	65	65	N E E	S W	S W	S W	6	1.0	0.6	5.60	6.23	...	
7	442	417	4513	35.8	43.5	38.6	39.7	1.05	105	178	116	156	77	62	47	55	S W	S W	S W	S W	6	13.2	6.4	7.18	7.46	...	
8	703	113	0902	87.2	61.8	89.0	42.75	3.37	202	311	161	209	93	80	72	72	N W b	S E W	S E W	S W	6	10.2	19.7	9.09	12.09	...	
9	117	278	2510	37.0	44.0	42.5	41.83	2.03	140	145	190	164	67	49	69	59	E b N	S E W	S E W	W b S	6	7.4	17.6	8.16	10.09	...	
10	270	283	3172	33.8	47.2	38.3	40.22	0.05	144	229	140	177	75	71	65	71	W b N	S E W	S E W	W b S	6	2.0	19.6	7.47	13.19	...	
11	381	338	3727	29.8	42.8	36.0	37.40	3.17	133	177	137	147	80	64	65	66	W b N	S E W	S E W	W b S	6	0.4	4.0	3.97	6.52	1.00	
12	426	475	4995	33.8	42.1	35.3	37.00	3.03	134	127	127	130	75	40	61	60	W N W	S E W	S E W	W b S	6	11.8	25.2	2.8	11.89	12.37	
13	741	716	7342	34.2	49.3	40.3	42.48	0.78	162	162	178	116	156	77	62	47	N W	S W	S W	W b N	6	10.0	7.6	6.27	8.35	...	
14	690	627	6802	37.1	46.8	45.0	44.72	2.57	140	161	148	148	64	46	49	50	N N W	N W	N W	N W	6	7.6	6.2	6.57	8.15	...	
15	699	333	3333	43.0	43.9	46.8	45.36	2.87	159	203	235	251	66	92	92	83	E b N	E b N	E b N	E b N	6	18.5	12.0	13.64	13.93	...	
16	157	160	2373	46.7	68.7	49.3	51.42	4.06	278	264	213	251	90	62	60	66	N b W	W b S	W b S	W b S	6	4.0	9.8	5.62	7.31	0.08	
17	351	357	3695	42.5	44.6	39.9	43.15	0.06	227	235	198	215	83	80	77	77	S W b	W b S	W b S	W b S	6	0.5	0.0	1.4	2.77	8.25	
18	401	450	4153	41.0	45.0	38.3	40.40	3.16	237	194	178	199	92	83	82	79	W b S	W b N	W b N	W b N	6	14.4	13.5	11.27	11.91	...	
19	800	824	8602	40.3	47.2	42.1	43.62	0.68	168	136	161	166	63	42	59	55	S E E	N W	N W	N W	6	23.0	4.3	10.73	11.94	...	
20	576	29	2929	53.0	53.3	43.5	46.45	1.82	170	301	142	214	60	74	60	65	N b W	N W	N W	N W	6	4.4	4.4	4.45	6.28	0.70	
21	765	746	7163	39.0	52.6	41.0	46.36	1.25	158	148	146	141	62	36	49	45	N N E	N N W	N N W	N N W	6	4.3	4.6	2.40	4.33	5.20	
22	432	345	3563	43.9	49.7	45.7	46.68	1.27	273	333	288	301	93	93	94	94	N N E	E N E	E N E	E N E	6	17.0	15.8	13.53	13.73	1.025	
23	807	325	3042	46.4	66.2	45.4	48.77	2.03	263	275	216	253	80	70	74	74	E b N	S E E	S E E	S E E	6	13.6	8.2	6.66	8.98	...	
24	207	292	3368	45.0	47.9	46.1	46.10	0.05	269	270	273	273	80	81	87	87	S W b	S W b	S W b	S W b	6	4.2	0.0	3.20	3.79	0.80	
25	385	385	385	45.1	55.1	45.1	46.10	0.05	260	260	260	260	61	61	61	61	N W	S W b	S W b	S W b	6	0.0	3.7	3.06	4.01	...	
26	4505	29	4394	29	4055	29	4584	38.13	48.01	41.40	42.03	1.86	187	210	186	194	79	62	69	69	6	6.86	10.72	3.92	...	8.85	
27	4848	3448	4848	3448	4848	3448	4848	3448	4848	3448	4848	3448	4848	3448	4848	3448	4848	3448	4848	3448	6	6.86	10.72	3.92	...	8.85	

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR APRIL, 1871.
COMPARATIVE TABLE FOR APRIL

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

YEAR.	TEMPERATURE.			RAIN.		SNOW.		WIND.		
	Mean.	Excess above average.	Maxi- mum.	Range.	No of days.	Inches.	No. of days.	Direction.	Resultant. Vely.	Mean Velocity.
1843	40.9	-0.2	71.0	14.7	56.6	7	3.185	0	...	...
1844	47.6	+0.4	74.6	14.9	69.7	10	1.615	1	...	0.24
1845	42.1	+1.0	66.7	15.5	61.2	11	3.290	4	...	0.20
1846	44.0	+2.0	81.8	21.2	67.4	10	1.300	2	...	0.55
1847	59.2	+1.0	65.1	9.3	55.8	8	2.870	2	...	0.59
1848	41.3	+0.2	65.1	22.7	42.4	5	1.456	4	...	1.40
1849	39.0	-2.1	72.0	15.5	56.6	6	1.456	0.5	...	1.40
1850	37.9	-3.2	65.7	18.0	47.7	7	4.720	2	...	3.14
1851	41.3	+0.2	59.3	25.8	33.6	11	2.288	1.2	...	7.64
1852	38.2	-2.9	53.8	20.0	33.8	6	1.900	3	...	8.07
1853	41.9	+0.8	65.7	26.0	40.7	10	2.625	4	...	6.08
1854	41.0	-0.1	64.5	20.2	44.8	12	2.682	1	...	6.20
1855	42.4	+1.3	69.4	10.7	58.7	8	2.030	2	...	6.81
1856	42.3	+1.2	72.2	14.2	68.0	13	2.780	3	...	7.57
1857	35.4	-5.7	62.0	6.9	46.1	10	1.755	0.1	...	6.55
1858	41.4	+0.4	65.2	21.9	43.4	13	1.642	2	...	10.24
1859	39.5	-1.6	61.8	22.0	42.2	9	2.527	0.2	...	9.57
1860	39.5	-1.6	61.8	19.5	42.3	11	2.82	8	...	10.79
1861	42.0	+0.9	67.0	23.8	43.2	12	1.019	6	...	10.30
1862	39.6	-1.5	68.0	14.6	63.5	10	2.235	4	...	8.90
1863	42.0	+0.9	69.0	8.6	60.4	8	2.210	4	...	9.77
1864	40.9	-0.2	69.4	26.1	31.3	10	3.633	8	...	9.20
1865	43.1	+2.0	62.5	23.0	39.5	17	3.972	6	...	7.77
1866	43.9	+2.8	71.0	28.5	42.5	17	1.675	2	...	8.59
1867	39.5	-1.6	65.6	25.4	40.1	12	2.147	6	...	7.89
1868	38.0	-3.1	64.0	9.2	54.6	7	0.990	10	...	9.24
1869	40.1	-1.0	72.2	16.6	55.6	9	2.065	6	...	8.91
1870	44.6	+3.5	67.0	29.6	37.4	9	2.145	2	...	7.63
1871	43.0	+1.9	72.8	26.4	46.4	17	3.318	2	...	8.85
Result to 1860.	41.07	...	66.32	18.55	47.47	0.77	2.410	3.68	N 17 W	2.06
Excess for 71	1.88	...	6.48	7.65	1.07	7.23	0.908	1.63	...	0.75

Highest Barometer.....39.116 at 8 a.m. on 24th. } Monthly range=
Lowest Barometer.....29.014 at 2 p.m. on 11th. } 1.102.
Maximum Temperature.....79°8 on 8th. } Monthly range=
Minimum Temperature.....26°4 on 6th. } 40.4.
Mean Maximum Temperature.....52°81. } Mean daily range=
Mean Minimum Temperature.....35°57. } 17°24.
Greatest daily range.....31°3 from a.m. to p.m. of 7th.
Least daily range.....7°6 from a.m. to p.m. of 22nd.
Warmest day.....8th.....Mean Temperature.....58°17. } Difference=25°92.
Coldest day.....6th.....Mean Temperature.....32°25. }
Maximum (Solar).....94°0 on 8th. }
Radiation. { Terrestrial.....17°0 on 14th. }
Aurora observed on 0 nights, viz.: 9th, 12th, 13th, 15th, 16th, and 17th.
Possible to see Aurora on 19 nights; impossible on 11 nights.
Snowing on 2 days; depth 1.3 inches; duration of fall 7.5 hours.
Raining on 17 days; depth 3.318 inches; duration of fall 70.1 hours.
Mean of Cloudiness, 0.71.

WIND.

Resultant Direction N. 48° W.; Resultant Velocity 1.86.
Mean Velocity 8.85 miles per hour.
Maximum Velocity 33.0 miles, from 4 to 5 p.m. of 4th.
Least Windy day 4th; Mean Velocity 10.62 miles per hour.
Most Windy day 21st; Mean Velocity 3.25 miles per hour.
Least Windy hour 3 p.m.; Mean Velocity 12.23 miles per hour.
Least Windy hour 6 a.m.; Mean Velocity 5.85 miles per hour.
Fog on 1st and 3rd. Solar haloes 2nd, 5th and 8th.
Lunar haloes 3rd, 6th and 24th. Lightning alone April 7th.
Thunder storms 19th and 27th. East Snow of season April 12th.
6th. Swallows seen. 7th. Butterflies.
7th. Frogs croaking. 3rd. Large flocks of Pigeons.

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR MAY, 1871

NOTE.—The nobly means do not include Sunday observations. The daily means, excepting those that relate to the wind are derived from six observations daily, namely, 4 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

Highest Barometer..... 29.952 at 8 a.m. on 21st. } Monthly range=
 Lowest Barometer..... 29.265 at 4 p.m. on 16th. } 0.687 inches.
 { Maximum temperature..... 85° on 30th } Monthly range=
 { Minimum temperature..... 32.4 on 13th } 52.6
 { Mean maximum temperature..... 63.967 } Mean daily range=
 { Mean minimum temperature..... 43.923 } 19° 4
 { Greatest daily range..... 32.53 from a.m. to p.m. of 20th.
 { Least daily range..... 9.6 from a.m. to p.m. of 4th.
 Warmest day..... 30th; mean temperature..... 70.3 } Difference=33° 63.
 Coldest day..... 8th; mean temperature..... 41.055 }
 Maximum { Solar..... 95.4 on 31st } Monthly range=
 Radiation { Terrestrial..... 21.98 on 15th. } 76° 6
 Aurora observed on 9 nights, viz.:—8th, 12th, 13th, 14th, 19th, 20th, 22nd, 24th and 26th.
 Possible to see Aurors on 24 nights; impossible on 7 nights.
 Raining on 7 days; depth, 2.302 inches; duration of fall, 35.4 hours.
 Mean of cloudiness=0.48.

WIND.

Resultant direction, N. 23° W.; resultant velocity, 2.53.
 Mean velocity, 7.70 miles per hour.
 Maximum velocity, 35.0 miles, from 1.30 to 2.30 p.m. of 7th.
 Most windy day, 4th; mean velocity, 30.33 miles per hour.
 Least windy day, 25th; mean velocity, 1.54 miles per hour.
 Most windy hour, 1 p.m.; mean velocity, 10.80 miles per hour.
 Least windy hour, 4 a.m.; mean velocity, 4.65 miles per hour.

Fog recorded on 6th, 12th, 25th, 26th and 30th. Dew, on 11th, 12th, 15th, 16th, 24th, 27th and 30th.
 Frost, on 2nd, 6th, 7th, 8th and 9th. Thin ice on 8th.
 Thunder Storm on 25th. Lightning alone, 30th.
 Solar haloes, 16th, 19th, 23rd and 27th. Lunar haloes, 2nd, 23rd and 26th.
 Sunday, 21st, at 1 a.m., a smart shock of an earthquake f.t.

COMPARATIVE TABLE FOR MAY.

YEAR	TEMPERATURE.				RAIN.			SNOW.			WIND.	
	Mean.	Excess above Average.	Max.imum.	Min.imum.	Range.	No of days.	Inches.	No. of days.	Inches.	Resultant.	Mean Velocity.	
1843	61.1	+ 2.5	79.8	29.2	50.6	5	1.570	0	0.0	0	0.62 lbs.	
1844	53.6	+ 2.0	78.4	28.7	49.7	14	5.670	0	0.0	...	0.53	
1845	49.6	+ 2.7	77.8	27.8	50.0	8	2.360	0	0.0	...	0.33	
1846	55.6	+ 3.9	79.7	33.1	46.5	12	4.375	0	0.0	...	0.43	
1847	54.4	+ 2.8	72.1	30.7	43.4	12	2.040	0	0.0	...	0.23	
1848	54.1	+ 2.5	78.0	31.3	46.7	13	2.520	0	0.0	40 W	1.31	
1849	48.0	+ 3.6	72.2	27.9	44.3	16	5.115	1	0.0	61 E	1.97	
1850	47.5	+ 4.0	77.8	27.6	50.3	7	0.545	1	0.0	64 W	2.45	
1851	51.3	+ 0.3	73.3	28.0	45.3	12	2.950	1	0.5	32 W	1.60	
1852	61.4	+ 0.2	73.3	32.0	41.3	7	1.125	1	0.5	82 W	1.39	
1853	50.9	+ 0.7	78.4	22.2	49.2	17	4.450	1	0.0	2 W	0.85	
1854	52.2	+ 0.6	71.4	25.2	46.2	11	4.030	0	0.0	1 W	1.40	
1855	53.1	+ 1.5	77.5	33.0	44.5	6	2.665	2	0.9	1 W	2.76	
1856	60.5	+ 2.7	82.2	31.2	51.0	14	4.680	1	0.0	4 E	5.89	
1857	48.0	+ 2.7	74.8	26.0	48.8	17	3.145	0	0.0	23 W	1.14	
1858	49.9	+ 2.7	69.8	31.0	33.8	17	6.367	0	0.0	42 E	1.33	
1859	55.2	+ 3.6	79.5	30.5	40.1	11	3.410	0	0.0	72 E	1.69	
1860	55.5	+ 3.9	74.6	32.5	42.0	16	1.815	0	0.0	25 E	2.64	
1861	50.8	+ 4.1	73.0	28.0	45.0	12	3.580	1	0.5	17 W	1.60	
1862	41.6	+ 0.6	78.5	32.4	46.1	8	1.427	0	0.0	62 W	2.86	
1863	52.2	+ 2.7	79.0	36.4	42.6	14	3.365	1	0.1	56 W	1.41	
1864	54.3	+ 3.2	79.0	32.2	46.8	18	4.670	0	0.0	7 W	1.86	
1865	54.8	+ 0.7	79.0	39.0	49.0	11	4.065	0	0.0	3 W	1.57	
1866	52.3	+ 3.3	75.4	33.4	49.0	13	1.820	0	0.0	46 W	1.49	
1867	48.3	+ 6.1	82.0	24.6	40.4	18	3.220	1	0.0	51 W	3.65	
1868	46.5	+ 0.2	73.0	33.2	39.8	16	7.670	0	0.0	38 E	1.11	
1869	51.8	+ 0.8	74.2	31.4	42.8	16	2.805	1	0.0	20 W	2.38	
1870	56.3	+ 4.7	81.2	38.8	42.4	10	1.150	0	0.0	23 W	1.08	
1871	54.2	+ 2.5	85.0	32.4	52.0	7	2.302	0	0.0	25 W	2.53	
Resultant	51.55	.....	75.32	30.83	45.10	12.03	3.285	0.39	0.67	11 W	1.64
Excess for 1871	+ 2.60	.....	+ 9.07	+ 1.67	+ 7.50	5.03	9.953	0.39	0.67	...	+ 1.00

METEOROLOGICAL REGISTER.

cxixiii

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO,--JUNE, 1871
 Latitude--43° 39' North. Longitude--5h. 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day	Barom. at temp. of 32°.			Temp. of the Air.			Excess of Mean above Normal			Humidity of Air.			Direction of Wind.			Barometer	Rain in inches	Snow in inches
	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	Mean.	6 A.M.	10 P.M.	Mean.			
1	29.680	29.754	29.672	65.4	78.9	81.9	0.09	0.06	0.12	83	62	86	75	NE	E b N	S 67 E	S 67 E	...
2	657	624	6185	64.5	81.0	83.4	0.23	0.11	0.20	83	61	83	75	Cal.	E N E	S 47 E	S 47 E	...
3	630	634	6682	67.0	77.8	69.5	-0.23	-0.35	-0.17	88	71	90	81	S W	S W S	S 35 W	S 35 W	...
4	658	668	6137	67.7	71.7	63.4	-0.37	-0.53	-0.45	48	32	55	49	N W	S W S	N 74 E	N 74 E	...
5	613	674	291	68.6	71.7	69.9	0.47	0.38	0.43	69	74	60	86	W b S	W b S	N 43 E	N 43 E	...
6	603	651	340	67.0	78.2	61.6	-0.02	-0.10	-0.06	83	95	37	66	W b S	W b S	8 43 W	8 43 W	...
7	603	651	664	67.0	65.0	49.3	-0.05	-0.05	0.00	75	47	65	62	W S W	W S W	N 73 W	N 73 W	...
8	618	705	755	69.3	62.2	53.3	-0.55	-0.62	-0.42	70	62	70	70	N W	S W S	S 47 W	S 47 W	...
9	663	675	443	68.7	61.1	68.7	0.10	0.10	0.10	84	64	95	81	N W	S W S	S 28 W	S 28 W	...
10	663	675	443	68.7	61.1	68.7	0.10	0.10	0.10	84	64	95	81	N W	S W S	S 28 W	S 28 W	...
11	622	636	284	63.0	62.1	50.8	-0.56	-0.12	-0.44	69	48	84	69	W b S	W b S	S 86 W	S 86 W	...
12	642	617	430	64.0	65.0	47.0	-0.33	-0.83	-0.56	88	58	81	75	S W	W b S	N 81 W	N 81 W	...
13	623	650	523	68.0	65.9	62.0	0.66	0.87	0.76	85	45	79	67	W	W b N	N 80 W	N 80 W	...
14	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
15	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
16	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
17	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
18	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
19	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
20	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
21	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
22	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
23	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
24	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
25	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
26	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
27	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
28	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
29	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...
30	678	671	660	60.8	62.1	49.0	-0.34	-0.31	-0.32	78	58	65	68	W b N	W b N	N 77 W	N 77 W	...

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR JUNE, 1871

NOTE.—The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations daily, namely at 6 A.M., 8 A.M., 2 P.M., 4 P.M., 10 P.M., and midnight. The means and resultants for the wind are from hourly observations.

Highest Barometer.....29.786 at 8 a.m. and 2 p.m. on 9th. } Monthly range—
 Lowest Barometer.....29.039 at 8 a.m. on 13th. } 0.760
 { Maximum temperature.....83° on 2nd & 4th. } Monthly range—
 { Minimum temperature.....41.5 on 30th. } 41°5
 { Mean maximum temperature.....71.47 } Mean daily range—
 { Mean minimum temperature.....59.17 } 19.30
 { Greatest daily range.....29°6 from a.m. to p.m. of 10th.
 { Least daily range.....8°2 from a.m. to p.m. of 29th.
 Warmest day.....3rd; mean temperature 72°35 } Difference—19°35
 Coldest day.....29th; mean temperature 53°00 } 69°8
 Maximum { Solar.....100°6 on 4th. } Monthly range—
 Radiation { Terrestrial.....31°8 on 9th & 16th. } 69°8
 Aurora observed on 6 nights, viz.: 7th, 10th, 17th, 18th and 20th.
 Possible to see aurora on 24 nights; impossible on 6 nights.
 Raining on 13 days; depth, 3.340 inches; duration of fall, 42.3 hours.
 Mean of cloudiness=0.46.

WIND.

Resultant direction, N. 50° W.; resultant velocity, 2.04.
 Mean velocity, 5.57 miles per hour.
 Maximum velocity, 31.5 miles, from 9 to 10 a.m. of 13th.
 Most windy day, 13th; mean velocity, 13.57 miles per hour.
 Least windy day, 2nd; mean velocity, 2.40 miles per hour.
 Most windy hour, 2 p.m.; mean velocity, 11.73 miles per hour.
 Least windy hour, 11 p.m.; mean velocity, 3.39 miles per hour.

Solar haloes on 17th, 19th and 23rd
 Lunar coronas on 2nd.
 Thunder heard 3rd, 4th, 10th, 15th and 27th.
 Rainbows on 4th and 14th.
 Hoar Frost on the mornings of the 10th and 17th.

COMPARATIVE TABLE FOR JUNE.

YEAR	TEMPERATURE.				RAIN.		SNOW.		WIND.	
	Excess above Average	Max. num.	Min. num.	Mean num.	No. of inches	No. of days	Inches	Direction	Resultant Velocity	Mean Velocity.
1843	+ 3.2	83.3	26.2	55.1	12	4.596	...	...	...	0.27 lbs
1844	— 1.7	83.3	33.2	50.1	9	3.535	...	...	...	0.19
1845	+ 0.6	84.6	36.5	46.1	11	3.715	...	...	...	0.27
1846	+ 3.2	84.2	39.1	45.1	10	1.920	...	...	...	0.32
1847	+ 3.2	77.8	36.7	41.1	13	2.625	...	...	...	0.30
1848	+ 1.3	92.0	37.4	64.8	8	1.810	...	...	...	1.90
1849	+ 1.6	84.4	33.2	49.2	7	2.040	...	...	...	1.49
1850	+ 2.7	85.6	34.2	61.4	10	3.346	...	...	...	1.35
1851	— 2.4	78.2	37.0	42.2	11	2.680	...	...	...	1.26
1852	+ 0.8	86.1	37.2	48.9	10	3.160	...	...	...	1.49
1853	+ 3.9	89.5	39.2	50.3	9	1.550	...	...	...	1.10
1854	+ 2.5	92.5	33.2	57.3	9	1.460	...	...	...	1.71
1855	+ 1.7	91.5	36.2	55.3	17	4.070	...	...	...	1.53
1856	+ 4.5	89.2	42.0	47.2	13	3.200	...	...	...	1.90
1857	+ 4.7	76.0	35.0	41.0	21	5.060	...	...	...	1.16
1858	+ 4.6	90.2	42.5	47.7	12	2.943	...	...	...	1.25
1859	+ 3.3	86.4	32.2	64.2	16	4.068	...	...	...	1.19
1860	+ 1.6	81.0	49.2	32.4	14	2.136	...	...	...	1.13
1861	+ 3.3	87.8	41.6	46.2	13	2.329	...	...	...	1.29
1862	+ 1.1	85.4	39.4	48.0	10	1.607	...	...	...	1.77
1863	+ 1.5	84.8	37.4	47.4	13	1.682	...	...	...	1.59
1864	+ 1.4	93.4	34.8	58.6	6	0.570	...	...	...	1.72
1865	+ 2.9	90.2	43.0	47.2	7	2.405	...	...	...	1.60
1866	+ 2.4	90.5	40.0	50.5	15	2.720	...	...	...	1.71
1867	+ 2.7	88.6	44.0	44.6	8	0.865	...	...	...	1.48
1868	+ 0.4	84.2	38.0	46.2	11	2.217	...	...	...	1.85
1869	+ 3.2	81.4	36.4	45.0	22	4.573	...	...	...	1.77
1870	+ 5.7	88.4	36.0	38.4	16	8.090	...	...	...	1.40
1871	+ 0.2	83.0	41.5	41.2	13	3.340	...	...	...	2.04
Results to 1870	.....	86.14	38.31	47.53	11.57	2.906	.....	.....	.....	0.78
Per 71.	.....	+ 3.14	+ 3.49	+ 6.63	1.13	0.374	.....	.....	.....	+ 1.42

IMPORTANT VOLUMES RECENTLY PUBLISHED.

- DIALOGUES OF PLATO.** Translated into English, With Analysis and Introduction. By B. Jowett, M.A.: 4 Vols.; \$16 50.
- THE DOMESTIC LIFE OF THOMAS JEFFERSON.** Compiled from family letters and reminiscences. By Sarah N. Randolph; \$2 50.
- HOURS OF EXERCISE IN THE ALPS.** By John Tyndall, LL.D., F.R.S., \$1 75.
- THE DESCENT OF MAN, AND SELECTION IN RELATION TO SEX.** By Charles Darwin, M.A., F.R.S.: 2 Vols.; \$3 50.
- LIGHT SCIENCE FOR LEISURE HOURS.** A Series of Familiar Essays on Scientific Subjects. Natural phenomena. By R. A. Proctor; \$2 75.
- A TREATISE OF DISEASES ON THE NERVOUS SYSTEM.** By William A. Hammond, M.D.; \$4 25.
- FRAGMENTS OF SCIENCE.** By John Tyndall, LL.D., F.R.S.; \$1 75.
- LIFE OF MAJOR JOHN ANDRE.** By Winthrop Sargent; \$2 25.
- METAPHYSICS; OR THE PHILOSOPHY OF CONSCIOUSNESS, PHENOMENAL AND REAL.** By Henry L. Mansel, B.D.; \$1 50.
- REMINISCENCES OF FIFTY YEARS.** By Mark Boyd; \$1 35.
- THE COLONIAL QUESTION.** Essays on Imperial Federalism. By the Author of "Ginx's Baby;" 30c.
- PRIMITIVE MAN.** By Louis Figuiet; \$3 00.

FOR SALE BY

COPP, CLARK & CO.

PUBLISHERS, BOOKSELLERS AND STATIONERS,

17 & 19 KING STREET EAST, TORONTO.

CONTENTS.

	PAGE.
I THE HURON RACE AND ITS HEAD-FORM. By DANIEL WILSON, LL.D., Professor of History and English Literature, University College, Toronto. Read before the Canadian Institute, 8th April, 1871.....	113
II. ON THE STABILITY OF FLOATING BODIES. By JAMES LOUDEN, M.A., Mathematical Tutor and Dean, University College, Toronto.....	123
III. IDENTIFIED STATIONS ON THE SOUTHERN ROMAN BARRIER IN BRITAIN. By the Rev. JOHN McCARDL, LL. D., President of University College, Toronto.....	136
IV THE BIRTHPLACE OF ANCIENT RELIGIONS AND CIVILIZATION, By the Rev. J. CAMPBELL, M.A.	152
V CANADIAN LOCAL HISTORY By the Rev. DR. SCADDING.	179
METEOROLOGY:	
January Meteorological Table for Toronto.....	cxlii
Remarks on " " " ".....	cxix
February Meteorological Table for Toronto.....	cxv
Remarks on " " " ".....	cxvi
March Meteorological Table for Toronto.....	cxvii
Remarks on " " " ".....	cxviii
April Meteorological Table for Toronto.....	cxix
Remarks on " " " ".....	cxv
May Meteorological Table for Toronto.....	cxvii
Remarks on " " " ".....	cxviii
June Meteorological Table for Toronto.....	cxvii
Remarks on " " " ".....	cxvix

* * * The Annual Subscription, due in January, Country Members, \$3;
in Toronto, \$4.