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THE CANADIAN JOURNAL.

NEW SERIES.

No. LXXVII.—DECEMBER, 1872.

THE IMPERFECTION OF THE PALÆONTOLOGICAL RECORD.

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As I have pointed out shortly in a former communication, the series of the stratified formations is an incomplete one, and is likely ever to remain so. The causes of this "imperfection of the geological record," as it has been termed by Darwin, are various; but they are chiefly to be ascribed to our as yet limited knowledge of the geology of vast areas of the earth's surface, to denudation, and to the fact that many of the missing groups are buried beneath other deposits, whilst more than half of the superficies of the globe is hidden from us by the waters of the sea. The imperfection of the geological record necessarily implies an equal imperfection in the "palæontological record;" but, in truth, the record of life is far more imperfect than the mere physical series of deposits. The object, then, of this communication is briefly to consider some of the main causes of the numerous breaks and gaps in the palæontological record.

I. *Causes of the Absence of certain Animals in Fossiliferous deposits*.—In the first place, even if the series of stratified deposits had been preserved to us in its entirety, and we could point to sedimentary accumulations belonging to every period in the earth's history, there would still have been enormous gaps in the palæontological record, owing to the different facilities with which different

animals may be preserved as fossils. This subject is of such importance that we may shortly consider each of the primary sub-divisions of the animal kingdom separately from this point of view.

a. Protozoa:—As regards the sub-kingdom of the *Protozoa*, the entire classes of the *Infusorian Animalcules* and the parasitic *Gregarines*, from their absence of hard parts, must ever be unrepresented in a fossil condition. The same may be said of the *Monera* and *Amœbea*, though one or two of the latter are provided with structures which it is just possible might be preserved. The other three *Rhizopodous* orders, *viz.*, the *Foraminifera*, the *Radiolaria*, and the *Spongida* are composed of organisms in which hard structures of lime or flint are generally developed, and all these orders, therefore, have left traces of their existence in past time.

b. Cœlenterata:—Amongst the *Cœlenterate Animals*, the Fresh-water Polypes (*Hydra*), the Oceanic *Hydrozoa*, the Jelly-fishes (*Medusidæ*), the Sea-blubbers (*Lucernarida*), the Sea-anemones (*Actinidæ*), and the *Ctenophora* are all destitute of hard parts which could be preserved as fossils. The Sea-blubbers, however, supply us with an instance of how even a completely soft-bodied creature may leave traces of its former existence; for there is no doubt that impressions left by the stranded carcasses of these animals have been detected in certain fine-grained rocks (*e. g.* the Solenhofen slates of Bavaria). On the other hand the Coralligenous Zoophytes, or "corals," (*Zoantharia sclerodermata* and *sclerobasica* and most of the *Alcyonaria*) possess hard parts capable of preservation; and the same is the case with most of the Hydroid Zoophytes. Accordingly there are few more abundant fossils than corals, whilst the large extinct group of the *Graptolites* is generally placed in the neighborhood of the Sea-firs (*Sertularians*).

c. Annuloida:—In this sub-kingdom the great class of the *Echinodermata* may be said to be represented more or less completely by all its orders. In the Sea-cucumbers (*Holothuroidea*), however, the calcareous structures so characteristic of the integument of the other Echinoderms are reduced to their minimum or are wholly wanting; and accordingly the evidence of the past existence of these creatures is of the most scanty description. The other great class of the *Annuloida*, (*viz.*, that of the *Scolecida*) comprises animals which are without exception destitute of hard parts, and which in many cases live parasitically in the interior of other animals (*e. g.*, the Tape-

worms, Suctorial-worms, Round-worms, &c). We are, therefore, without any geological evidence of the former existence of *Scolecids*; though no doubt can be reasonably entertained but that the group dates back to times long anterior to the present fauna.

d. Annulosa:—Many of the lower Annulose animals, such as Leeches, Earthworms, and Errant Annelides, possess no structure by which we could expect to get direct evidence of their past existence. The last of these, however, have left ample traces of their former presence in the form of burrows or tracks upon the mud or sea-sand; and the so-called "Tubicular" Annelides are well represented by their investing tubes. In the case of the higher *Annulosa* another law steps in to regulate their comparative abundance as fossils. Most of the fossiliferous formations have been deposited in water, and of necessity, therefore, most fossils are the remains of animals naturally inhabiting water. As most deposits, also, are not only aqueous but are further marine, most fossils are those referable to sea-animals. It follows, therefore, that the remains of air-breathing animals, whether these be terrestrial or aerial, can only be preserved in an accidental manner, so to speak, as by falling or being blown into the water; except in the rare instances in which old land-surfaces have been buried up by sediment and thus partially kept for our inspection. In accordance with this law, the most abundant and important fossil Annulose Animals are *Crustaceans*; for these are not only generally aquatic in their habits, but are provided with a resisting shell or "exoskeleton." The air-breathing classes of the *Myriapods* (Centipedes and Millipedes), the *Arachnida* (Spiders and Scorpions) and the *Insecta* or true Insects, on the other hand, have been much less commonly and completely preserved; though many of them are perfectly capable of being fossilised. Almost all such remains as we have, however, of these three great classes are the remains of isolated individuals which may have been accidentally drowned; or else they occur in hollow trees, or in fragments of ancient soils, or in vegetable accumulations such as coal and peat. There are, however, some aquatic insects, and there are many insects the larvæ of which inhabit water; and we have not infrequent instances of their occurring as fossils.

e. Mollusca:—This sub-kingdom requires little notice, since the greater number of its members possess hard structures capable of being readily preserved in a fossil condition. Thus, the 'horny or

calcareous polypidoms of the *Polyzoa*, the shells of the Brachiopods, the true Bivalves and most of the Gasteropods, the hyaline shells of the Pteropods, the internal supports of the cuttle-fishes, and the chambered shells of the Tetrabranchiate Cephalopods, all occur commonly as fossils. The entire class of the Tunicaries, however, with one or two exceptions, presents no hard structures, and is hence unknown to the palaeontologist. Amongst the *Gasteropoda*, again, the sea-slugs and their allies (*Nudibranchiata*) possess no shell and do not occur as fossils; whilst the shell of the land-slugs is extremely minute and is hardly known to have been preserved in sedimentary deposits. Lastly, the air-breathing Molluscs, from their habits, rarely occur as fossils; whilst those which inhabit rivers, ponds, and lakes are less largely represented than the marine forms, owing to the preponderance of salt-water deposits over those of fresh water.

f. Vertebrata.—The majority of Vertebrate animals possess a bony skeleton, so that their preservation as fossils—so far as this is concerned—is attended with no difficulty. Some of the Fishes, however, (such as the Lancelet, the Lampreys, and the Hag-fishes) have no scales, and either possess no skeleton or have one which is almost wholly cartilaginous. The only evidence, therefore, which could be obtained of the past existence of such fishes, would be afforded by their teeth; but these are wanting in the Lancelet and are very small in the Lampreys; so that we need not wonder that these fishes are unknown as fossils. The higher groups of Fishes, however, taking everything into consideration, may be said to be abundantly represented in a fossil condition by their scales, bones, teeth, and defensive spines.

The *Amphibians* are tolerably well represented by their bones and teeth, as well as by integumentary plates, and more especially by foot-prints. Most living Amphibians, however, spend their time mainly upon the land, or frequent fresh waters; and hence their remains would not be apt to be preserved in marine deposits.

The abundance of *Reptiles* as fossils naturally varies much, according to the habits of the different orders. Of the living orders, the *Chelonians* (Turtles and Tortoises) are by no means rare, since many of them are habitual denizens of the sea or of fresh waters, while they are provided with a hard integumentary skeleton. The snakes (*Ophidia*) are chiefly represented by marine forms, which frequented water. The Lizards (*Lacertilia*) live mainly upon land, and do not,

therefore, abound as fossils; but an extinct group (the *Mosasauroids*) was marine in its habits, and has consequently been pretty fully preserved. The *Crocodylia*, again, are so essentially aquatic in their habits, that their comparative frequency in aqueous deposits is no matter of wonder, especially if we recollect that many of the extinct members of the order seem to have frequented the sea itself. Of the extinct orders of Reptiles the great *Ichthyosauri*, and the *Plesiosauri* and their allies, were marine in their habits, and their remains occur in what may fairly be called profusion. The flying Reptiles or *Pterodactyles* would not seem to have any better chance of being preserved than birds, if as good; yet their remains occur by no means very rarely in certain formations. The terrestrial *Deinosaurs*, again, come very much under the laws which regulate the preservation of Mammals as fossils; and their remains are chiefly, but not exclusively, to be found in fluviatile deposits.

As regards *Birds*, their powers of flight, as pointed out by Sir Charles Lyell, would save them from many destructive agencies, and the lightness of their bones would favour the long floating of the body in water and thus increase the chances of its being devoured by predaceous animals. In accordance with these considerations, the most abundant remains of birds are referable to large wingless forms, to which the power of saving themselves from their enemies by flight was denied, whilst most of the bones were filled with marrow instead of air. Next after these come the remains of birds which frequent the sea-shore, lakes, estuaries, or rivers, or which delight in marshy situations.

As regards *Mammals*, the record is far from being a full one, and from obvious causes. The great majority of Mammals live on land, and, therefore, are not likely to be buried in aqueous and especially marine accumulations. That this cause is the chief one which has operated against the frequent preservation of Mammalian remains is shown by the fact that when we exhume an old land-surface amongst the later rocks, the remains of Mammals may be found in tolerable plenty. The strictly aquatic Mammals—Whales, Dolphins, and the like—are, of course, much more likely to have been preserved as fossils than the terrestrial forms; but their want of integumentary hard structures places them at a disadvantage in this respect, as compared with fishes. In a general way, we may conclude that the preservation of the terrestrial Mammals as fossils is due to the com-

paratively rare occurrence of a stray individual being killed whilst swimming a river or being mired in a bog; but there are other cases, for which other explanations must be sought.

II. *Unrepresented Time*:—In the second place, I have had occasion to point out before that the *geological* record, or the series of the stratified deposits, is itself very imperfect; and this of necessity causes vast gaps in our palæontological knowledge. In this connection I may briefly review the evidence which we possess as to the immensity of the "unrepresented time" between some of our great formations; and I cannot do better than take the case of the Cretaceous and Eocene Rocks, though any other would do as well. In examining such a case, the evidence may be divided into two heads, the one palæontological, the other purely physical, and each may be considered separately.

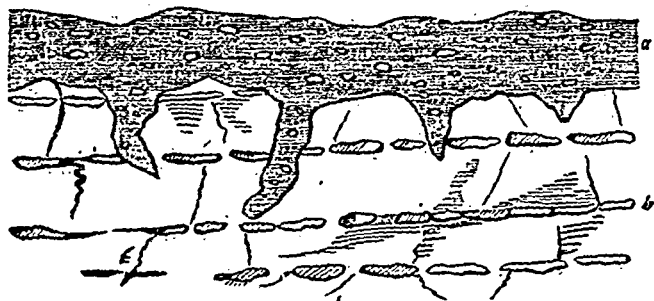
The Chalk, as is well known, constitutes the highest member of the Cretaceous formation, and is the highest deposit known in Britain as appertaining to the great Secondary or Mesozoic Series. It is directly overlaid in various places by strata of Eocene age, which form the base of the great Tertiary or Kainozoic Series of rocks. The question, then, before us is this—What evidence have we as to the lapse of time represented merely by the dividing-line between the highest beds of the Chalk and the lowest beds of the Eocene?

Taking the palæontological evidence first, it is found that out of five hundred species of fossils known to occur in the Upper Cretaceous beds in England, only one *Brachiopod* and a few of the *Foraminifera* have hitherto been detected in the immediately overlying Eocene beds. These, on the contrary, are replete with fossils wholly distinct from the Cretaceous species. It may be said, therefore, that the entire and very extensive assemblage of animals which lived in the later Cretaceous seas of Britain had passed away and become extinct before a single grain of the Eocene Rocks had been deposited. Now, it is, of course, open to us to believe that the animals of the Chalk sea were suddenly extinguished by some natural agencies unknown to us, and that the animals of the Eocene sea had been as suddenly and in as obscure a manner introduced *en masse* into the same waters. This theory, however, calls upon the stage forces of which we know nothing, and is contradicted by the whole tenor of the operations which we see going on around us at

the present day. It is preferable, therefore, to believe that no such violent processes of destruction and re-peopling took place, but that the great and marked break in the life of the two periods indicates an enormous lapse of time. The Cretaceous animals, in consequence of the elevation of the British area at the close of the Cretaceous period, must have mostly migrated, some doubtless perishing, and others probably becoming modified in the process. When the British area became once more submerged beneath the sea and became again a fitting home for marine life, an immigration into it would set in from neighboring seas. By this time, however, the Cretaceous animals must have mainly died out or must have been greatly altered in characters; and the new immigrants would be forms characteristic of the Lower Eocene. How long the processes here described may have taken, it is utterly impossible to say, even approximately. Judging, however, from what we can observe at the present day, the palæontological break between the Chalk and the Eocene indicates a perfectly incalculable lapse of time; for all species change slowly, marine species especially so, and we have here the disappearance of a whole and entire fauna, and its replacement by another wholly distinct.

In the second place, to come to the physical evidence, the Eocene strata are seen to rest upon a denuded and eroded surface of Chalk, and to fill up "pipes" and winding hollows which descend far below its general surface. Not only so, but the base of the Eocene Rocks is commonly composed of a bed of rolled and rounded flints, derived from the Chalk, and affording unquestionable proof that the Chalk had been subjected to great denudation before the Eocene beds were deposited upon its surface. In short, the Eocene strata rest "unconformably" upon the Chalk; and this, as is well known, indicates the following sequence of phenomena:—Firstly, the beds of Chalk were deposited in a horizontal position at the bottom of the sea. Secondly, at some wholly indefinite time after its deposition, after it had become more or less consolidated, the Chalk must have been raised by a gradual process of elevation above the level of the sea, during which it must inevitably have suffered vast denudation. Thirdly, after another wholly indefinite interval, the Chalk was again submerged beneath the sea, in which process it would be subjected to still further denudation, and an approximately level surface would be formed upon it. Fourthly, strata of Eocene age were deposited

upon the denuded surface of the Chalk, filling up all the inequalities of its eroded surface.



Section, showing strata of Tertiary age (a) resting upon a worn and denuded surface of White Chalk, (b) the stratification of which is marked by lines of flints.

In the unconformability, then, between the Chalk and Eocene Rocks, we have unequivocal evidence—irrespective of anything that we learn from Palæontology—that the break between the two formations was one of enormous length. In Britain, the interval of time thus indicated is not represented by any deposits, and in Europe generally, there are but a few fragments of such. We may be quite sure, however, that during the time represented in Britain by the mere line of unconformability between the Chalk and the Eocene, there were somewhere deposited very considerable accumulations of sediment. Whether we shall ever succeed in discovering these, or any part of these, is, of course, uncertain. We may be certain, however, that such deposits, if ever discovered, will prove to be charged with the remains of animals intermediate in character between those of the Cretaceous and the Eocene period, and the large gap now existing between these formations will thus be more or less completely bridged over.

Amongst other well known instances of more or less general unconformity in the stratified series, may be mentioned that between the Lower and Upper Silurian (not always present), that between the Lower and Upper Old Red Sandstone (also not universal), that between the Carboniferous and Permian Rocks, that between the Permian and Triassic Rocks (not universal), and that between the Lower and Upper Cretaceous Rocks. All these physical breaks are accompanied by more or less extensive palæontological breaks as well. Other breaks which the absence of fossils renders less important, or

which are not thoroughly established, are those between the Lower and Upper Laurentian, the Upper Laurentian and Huronian, and the Upper Cambrian and Lower Silurian.

It may be well to point out that the unconformabilities here indicated must in no way be confounded with the common cases in which beds of one age rest unconformably upon beds far older than themselves. When, for example, we find beds of Carboniferous age resting unconformably upon Silurian Rocks, this merely indicates that in the particular locality under examination the Devonian or Old Red Sandstone is missing. This absence of a whole formation in any given region merely shows that the area was dry land during the period of that formation, or that, if any rocks of this age were ever deposited in this locality, they were removed by subsequent denudation. Here, however, we know what formation is wanting, and we can intercalate it from areas elsewhere, and thus complete the series. The case is very different in the instances above spoken of, as where the Permian Rocks rest unconformably upon the Carboniferous. Here, we have two successive formations in unconformable junction, and we are not acquainted with any intermediate group of strata which could be intercalated from any other locality.

From the above facts, then, we learn that one of the chief causes of the imperfection of the palæontological record is to be found in the vast spaces of time intervening between most of the great formations, not represented, so far as we yet know, by any formation of rock. In process of time we shall doubtless succeed in finding deposits for some of this unrepresented time; but much will ever remain for which we cannot hope to find the representative sediments. It only remains to add that we have ample evidence, within the limits of each formation, and wholly irrespective of any want of conformity, of such lengthened pauses in the work of deposition as to have allowed of great zoological changes in the interim, and to have thus caused irremediable blanks in the palæontological record. Thus, there are hundreds of instances in which the fauna of a given bed, perhaps but a few inches thick, differs altogether from that of the beds immediately above or below, and is characterized by species peculiar to itself. In such cases, we can only suppose that, though no physical break can be detected, the deposition of sediment was interrupted by pauses of incalculable length, during which no sediment was laid down, whilst time was allowed for the dying out of

old species, and the coming in of new ones. The incessant repetition of such intervals of unrepresented time throughout the whole stratified series is convincing proof that the palæontological record is, and ever will be, a most fragmentary collection of the remains of the animal life of the globe.

III. *Thinning out of Beds*:—Another cause by which the continuity of the palæontological record is affected is what is technically called the “thinning out” of beds. Owing to the mode in which sedimentary beds are produced, it is certain that there must be for every bed a point whence the largest amount of the sediment was derived, and in the neighborhood of which the bed will, therefore, be thickest. Thus if we take a series of beds such as sandstones and conglomerates, which are the products of littoral action, and are deposited in shallow water near a coast-line, it will be found that these gradually decrease in thickness or “thin out,” as we pass away from the coast in the direction of deep water. On approaching deep water, however, we might find that though the sandstones were rapidly dying out, the thickness of the entire series might still be preserved, owing to the commencement now of some deep-water deposit, such as limestone. The beds of limestone would at first be



Diagram to show the “thinning out” of beds. a. Sandstones and Conglomerates. b. Limestones.

very thin, but in proceeding still in the direction of deeper and deeper water, we should find that they would gradually expand, till they reached a point of maximum thickness, on the other side of which they would again gradually thin out. Each individual bed, therefore, in any group of stratified rocks may be regarded as an unequal mass, thickest in the centre and gradually tapering off or “thinning out” in all directions towards the circumference.

In a general way, this holds good not only for any particular bed, but for any particular aggregation or group of beds which we may choose to take. In the case, namely, of every group of beds there must have been a particular point whither sediment was most abundantly brought, or where the other conditions of accumulation were especially favourable. At this point, therefore, the beds are thickest, and from

this they thin off in all directions. It need scarcely be pointed out, indeed, that some such state of things is absolutely unavoidable in the case of every bed or group of beds; since no sea is boundless, and the sedimentary deposits of every ocean must come to an end somewhere.

An excellent illustration of the phenomena above described may be derived from the Lower Carboniferous Rocks of Britain. Here we may start in the south of Wales and in Central England with the Carboniferous Limestone as a great calcareous mass over 1,000 feet thick, without almost a single intercalated layer of shale. Passing northwards, some of the strata of limestone begin to thin out, and their place is taken by beds of a different mineral nature, such as sandstone, grit or shale. The result of this is that by the time we have followed the Carboniferous Limestone into Yorkshire and Westmoreland, in place of a single great mass of limestone we have now an equivalent mass composed of alternating strata of limestone, sandstone, grit and shale, with two or three thin seams of coal, the limestones, however, still bearing a considerable proportion to the whole. The limestones, however, continue to thin out as we pass northwards, till in Central Scotland, in place of the dense calcareous accumulations of Derbyshire, the Lower Carboniferous series consists of a great group of sandstones, grits, and shales, with thick workable beds of coal, and with but few and comparatively insignificant beds of limestone.

The state of things indicated by these phenomena is as follows:—The sea in which the Lower Carboniferous Rocks of Britain were deposited, must have gradually deepened from North to South. The land and coast-line, whence the coarser mechanical sediments were derived, must have been placed somewhere to the north of Scotland, and the deepest part of the ocean must have been somewhere in the latitude of Derbyshire and South Wales. Here the conditions for lime-making were most favourable, and here, consequently, we find the greatest thickness of calcareous strata and the smallest intermixture of mechanical deposits.

The palæontological results of this are readily deducible. The entire Lower Carboniferous series of Britain was deposited in a single ocean, apparently destitute of land-barriers, and consequently, taken as a whole, the fauna of this series may be regarded as one and indivisible. The conditions, nevertheless, which obtained in different

parts of this area were very different, and, as a necessary result, certain groups of animals flourished in certain localities, and were absent or but scantily represented in other places. In the deeper parts of the area, we have an abundance of corals, with Crinoids, and at times *Foraminifera*. In the shallower parts of the area there is, on the other hand, a predominance of forms which affect shallow water. Still, there is no difference in point of time between the deposits of different parts of the area, and in order to obtain a true notion of the Lower Carboniferous fauna, we must add the fossils derived from one portion of the area to those obtained from another.

In many cases, however, we are acquainted with but one class of deposits belonging to a given period. We may only have the deep-sea deposits of the period, or we may know nothing but its littoral accumulations. In either case it is clear that there is an imperfection of the palaeontological record; for we can not have even a moderately complete record of the marine animals alone of a particular period, unless we have access to a complete series of the deposits laid down in that period.

IV. *Sudden extinction of Animals*:—While there can be little doubt but that the changes in animal life indicated by geology were gradually effected, there still remain cases in which individuals seem to have been suddenly destroyed, and others of a more obscure nature in which allied species succeed one another with an inexplicable rapidity. As an example of the first class of cases we may take the great marine Reptiles of the Lias, which often exhibit indications of having met a sudden death, while they show no marks of mechanical injury. It has been suggested by Sir Charles Lyell, with great probability, that the sudden death of marine animals, as in these and similar cases, might be due to the sudden "periodical discharge of large bodies of turbid fresh water into the sea."

As an example of the second class of cases, we may take the existence in the Lias of zones characterized by particular species of Ammonites. These zones are usually of small thickness, and the Ammonite characterising each is usually confined to that particular horizon; whilst several of the zones have been found to be persistent over very large areas. As we know of no reason why one species of Ammonite should flourish where another allied species would not, we can not at present account for this sudden disappearance of one species and its seeming immediate replacement by another.

V. *Disappearance of Fossils*:—The last subject which need be mentioned in connection with the imperfection of the palæontological record, is the subject of the disappearance of fossils from rocks originally fossiliferous. This, as a rule, is due to "metamorphism;" that is to say, the subjection of the rock to an amount of heat sufficient to cause a re-arrangement of its particles. When of at all a pronounced character, the result of metamorphism is invariably the obliteration of any fossils which might have formerly existed in the rock. To this cause must be set down many great gaps in the palæontological record and the loss of much valuable fossil evidence. The most striking example which can be given of this is to be found in the great Laurentian Series, which comprises some 30,000 feet of highly-metamorphosed sediments, but which, with one not absolutely certain exception, has as yet yielded no remains of life, though there is strong evidence of the former existence in it of fossils.

Another not uncommon cause of the disappearance of fossils from originally fossiliferous deposits is the percolation through them of water holding Carbonic Acid in solution. By this means, fossils of a calcareous nature are dissolved out of the rock, and may leave no traces behind. This cause, however, can only operate in loose and porous arenaceous deposits.

Lastly, cleavage may be mentioned as a cause of the disappearance of fossils. The cleavage, however, must be very intense, if it actually prevents the recognition of the fossiliferous nature of deposit; though cases are not uncommon in which this occurs through thousands of feet of strata. As a more general rule, however, it is not very difficult to determine whether a cleaved rock has ever contained fossils or not, though it may be quite impossible to make out the exact nature and character of the organic remains.

THE AUTHENTICITY OF THE POEMS OF OSSIAN.

BY THE REV. NEIL MACNISH, M.A., B.D.,
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When in the eighteenth century the poems of Ossian were published by James MacPherson, great surprise was felt that poems purporting to belong to a very remote age, could have been transmitted mainly by oral tradition. Many wondered that poems, ostensibly the production of a very rude and early age, could contain ideas so grand and sentiments so refined and elegant as the poems of Ossian undoubtedly possess. It was in literary circles deemed necessary to subject these writings to a very rigid examination. That poems of acknowledged beauty could remain so long in obscurity; that they could have floated in comparative safety across many centuries; that in a country greatly removed from the influence of classical learning, sentiments similar to those which pervade the writings of Ossian could be cherished; that suddenly from a comparatively unknown portion of Scotland there issued poems which speedily made a great impression in the literary world,—was sufficient to draw the critical attention of many. There were not wanting those who maintained that it was impossible for poems to be handed down during many centuries mainly by oral tradition. The beauties pervading the poems of Ossian soon made a marked impression in learned circles; and hence arose the eagerness wherewith men like Johnson, Hume and Laing, endeavoured to prove that the poetical writings in question were the composition of MacPherson himself. Occupying, as these men did, a very distinguished place among the learned of that age, it is not wonderful that their efforts to overthrow the authenticity of Ossian, induced others to regard the entire poems as a forgery and as the production of MacPherson himself. It was to be expected that the opinions of writers who in all likelihood bestowed some attention on the vexed question of the genuineness of the poems ascribed to

Ossian, would continue to influence others who did not choose to investigate the matter for themselves. Whatever opinion may finally prevail regarding the poems of Ossian, it must be confessed that great injustice has been done to them, because all the facts connected with their history have not been carefully examined. It seems almost superfluous, at this distance of time, to refer to a subject in which, it may be supposed, few now feel any interest. It will not, however, be without some avail to examine concisely the entire controversy respecting the poems of Ossian. It will be found that sufficient evidence remains for overthrowing the objections of Johnson and Laing, and for gaining some measure at least of reputation for the Bard of Selma. It will be seen that the hoar of centuries lends additional weight to the poems of Ossian. There are strong arguments to show that the heroes whose names appear in these poems were well known long before MacPherson's translation appeared. Throughout the Highlands of Scotland, there is abundant testimony in favour of the general opinion which is held in reference to the Fingalians. In the names of places, in popular traditions, in the corroboration which archæological researches furnish, in the veneration which still attaches to the poems of Ossian and to the affecting incidents which they describe, there is enough to justify the inference that at some remote time such heroes must have lived and flourished.

Long before MacPherson undertook the publication of the poems of Ossian, the attention of Home, Jefferson, Blair and others was directed to the fact that throughout the Highlands of Scotland poems of very great antiquity were in circulation. It was likewise asserted that unless some means were used to put these poems into a permanent form, they would soon be lost to the literary world. In the early part of the eighteenth century, political agencies were at work which greatly changed the social life of the Highlands, and threatened to overthrow those means whereby poems were handed down from one generation to another. With the view, therefore, of preserving poems which, to say the least of it, were interesting on account of the language they represented, and the very remote origin to which they lay claim, Home, Jefferson, Robertson and Blair induced James MacPherson, a native of Badenoch, to undertake a journey through the Highlands, in order to recover as many as possible of the poems of Ossian. It was in 1760 that MacPherson, thus aided, undertook to collect poems which had been handed down by oral tradition or in

manuscript from a very early age. He was successful in collecting many poems which were perpetuated by oral tradition. He came in contact with many who, though unable to read, could recite with ease poems of great length. He published from time to time translations of those poems which he was successful in procuring. The admiring attention of very many readers was drawn to the beauties contained in his translations. Blair warmly espoused MacPherson's cause. In his well known Dissertation on the Poems of Ossian, Blair pointed out the peculiar beauties of these writings, drew a very favourable comparison between Homer and Ossian, and sought to prove by internal evidence that the Bard of Selma lived in the early part of the third century. Every unprejudiced reader of the evidence which has come down to us must concede that MacPherson did injury to his own cause by his unguarded language and the stubborn opposition which he manifested. In writing to Blair, Hume remarks, with reference to MacPherson: "But you must not mind so strange and heteroclitic a mortal, than whom I have scarce ever known a man more perverse and unamiable." All who are disposed to think kindly and favourably of MacPherson must regret that he did not choose to show more deference to the inquiries of those who wished to obtain stronger confirmation of the genuineness of the poems of Ossian.

There are many witnesses who attest, that the names of Fingal and his heroes were known beyond the Highlands of Scotland long before MacPherson published his Translation of Ossian.

Barbour in his Bruce thus clearly refers to Fingal: (1489)

"He said, methink Marthoky's son,
Right as Gol MakMorn was won,
To haiff fra Fingal his menyie,
Rycht swa all'hys fra us has he."

In Kirk's Edition of the Psalms of David, published in 1684, this very distinct allusion is made to Fingal in the author's address to his book:

"Hail the generous land of Fingal's heroes,
The Highland tracts and isles of Hebrides."

In a book published by Bishop Carswell of Argyle, in 1567, he thus speaks in his preface: "Though we have some accounts of the Gaelic of Scotland and Ireland contained in manuscripts, and in the genealogies of bards and historiographers, * * they are more desirous

to compose * * histories concerning warriors and champions and Fingal the son of Cumhall with his heroes."

¹⁶Dunbar likewise makes reference to Fyn Makowll and Goro Mac-Morn.

The Dean of Lismore's Book contains a strong refutation of the objections which have been raised against Ossian. The contents of this book were published in 1861. The poems contained in it were gathered by James MacGregor, Dean of Lismore, who died about the year 1551. This book is, therefore, more than three hundred years old; and a great portion of it may be assigned to as early a date as 1512. It contains twenty-eight Ossianic poems, extending to two thousand five hundred lines. It is now in the Advocate's Library, Edinburgh. It was deciphered by the Rev. Dr. Mac-Lauchlin. In the interesting preface which he prepared, Mr. Skene remarks: "The Dean's MS. has a double value, philological and literary, and is calculated to throw light both on the language and the literature of the Highlands of Scotland. It has a philological value, because its peculiar orthography presents the language at the time in its aspect and character as a spoken language, and enables us to ascertain whether many of the peculiarities which now distinguish it were in existence three hundred years ago; and it has a literary value, because it contains poems attributed to Ossian, and to other poets prior to the sixteenth century, which are not to be found elsewhere; and thus presents to us specimens of the traditional poetry current in the Highlands prior to that period, which are above suspicion, having been collected upwards of three hundred years ago, and before any controversy on the subject had arisen."* It thus appears, that apart from the evidence furnished by MacPherson, other writers place the existence of poems belonging to the age of Ossian beyond a doubt.

It is perhaps difficult now to form an estimate of the retentiveness which, under particular cultivation, the memory is capable of acquiring. Classical writers relate how, in a manner which to us seems almost incredible, the memory has been known to possess an amazing power. We learn from Cæsar that the Druids of Britain obtained marvellous success in this respect. Owing to causes which to themselves were of great consequence, they preferred this very diligent exercise of the memory. The language of Cæsar not only indicates

* Dean of Lismore's book, p. 11:

that oral tradition was largely cultivated in Britain: it also enables us to see in what manner poems of considerable length could be transmitted with tolerable accuracy. "Disciplina in Britannia reperta: atque inde in Galliam translata esse, existimatur; et nunc, qui diligentius eam rem cognoscere volunt, plerumque illo, discendi causa, profiscuntur. * * Tantis excitati præmiis, et sua sponte multi in disciplinam conveniant, et a parentibus propinquisque mittuntur. Magnum ibi numerum versuum ediscere dicuntur. Itaque annos nonnulli videnos in disciplina permanent. * * Id mihi duabus de causis instituisse videntur: quod neque in vulgum disciplinam efferri velint, neque eos, qui discant, literis confisos, minus memoriæ studere: quod fere plerisque accidit, ut præsidio literarum, diligentiam in perdiscendo, ac memoriæ remittant."*

In his Greek Classical Literature (p. 60), Brown thus remarks: "Accustomed as we are to all that assistance to literary composition which the art of writing supplies, and, what is still more important, to the substitute for memory itself, which the power of committing our thoughts to paper furnishes, it is scarcely possible to form any idea of the natural powers of the memory when obliged to depend on its own resources. * * It is not, therefore, so impossible a thing as it may at first sight appear, to conceive a poem of many thousand lines composed and arranged as a perfect whole, by an effort of memory, and then so perfectly retained in the mind as to be capable of recitation. Instances are not unknown of the wonderful power of memory when it is compelled to exert itself. Plutarch mentions the astonishing memories which the Greeks possessed." In the preface to MacCallum's *Ossian* (p. 17), the following very judicious remarks are made regarding the poems of Ossian: "With regard to the manner in which the originals of these poems have been preserved and transmitted, which has been represented as mysterious and inexplicable, we have the following plain but satisfactory account: that until the present century, almost every great family in the Highlands had its bard, to whose office it belonged to be master of all the poems of reputation in the country; that among these poems, the works of Ossian are easily distinguished from those of later bards, by several peculiarities in the style and manner; that Ossian has always been reputed the Homer of the Highlands, and all his compositions held in singular esteem and veneration; that it

* De Bello Gallico: Lib. 6; 13, 14.

was wont to be the great entertainment of the Highlanders, to pass the winter evenings in discoursing of the times of Fingal, and rehearsing these old poems of which they have all along been enthusiastically fond; that when assembled at their festivals, or any public occasions, wagers were often laid who could repeat most of them; and to have store of them in their memory, was both an honourable and a profitable acquisition, as it procured them access to the families of great men; that with regard to their antiquity, they are beyond all memory or tradition, in so much that there is a phrase commonly used in the Highlands to this day, when they would express any thing which is of the most remote or unknown antiquity, importing that "it belongs to the age of Fingal." I have the pleasure of knowing a gentleman in Argyleshire, Scotland, who can recite Gaelic or Ossianic poems of great length, which, so far as I know, have not yet been published. He has repeatedly mentioned to me that it was customary in his early days for Highland families to spend the long winter evenings in listening to those who could recite poems having reference to the times of Ossian. He has often expressed a regret that, through inattention, he has allowed many of the poems he heard in his youth to pass into forgetfulness. In addition to the evidence we possess in favour of the great attention which was paid to the recital of poems among the ancient Highlanders, it should be remembered that, while intellectual darkness prevailed in many countries, there was a large measure of enlightenment in the Highlands of Scotland. It is well known that from Iona men went forth who carried rays of light into distant countries and sowed there the seeds of moral and spiritual knowledge. May it not with safety be supposed, that the industrious monks of Iona turned their attention to the poems of Ossian and committed them to writing? Certain it is that MSS. existed, containing Ossianic poems. Some of these were recovered after MacPherson published his Translation of Ossian. It was clearly proved that many MSS. were lost or destroyed during the political troubles which swept over the Highlands in the early part of the last century. Many trustworthy men affirmed that, if an effort had been made at an earlier date to procure MSS., many could be found throughout the Highlands. Had sufficient attention been given to the power which oral tradition had among the Highland bards, and to the Gaelic MSS. which existed, less bitterness would have been manifested towards MacPherson and

greater justice would have been done to the venerable bard of Selma.

It was in 1773 that Johnson paid his well-known visit to the Hebrides. Any candid reader of his "Tour in the Hebrides" will admit, that he spoke very disparagingly of the civilization of the Highlands. His narrative indicates that he was prejudiced, and therefore unfitted for acting the part of an impartial critic. At any rate, his stay was of very short duration, and the knowledge which he could gather must have been very inaccurate. "Of the Gaelic language," he says, "as I understood nothing, I cannot say more than I have been told: it is the rude speech of a barbarous people, who had few thoughts to express, and were content, as they conceived grossly, to be grossly understood. Five hundred lines cannot be recovered in the whole Erse language of which there is any evidence that they are a hundred years old. They, i.e., the inhabitants of the Highlands, have enquired and considered little, and do not always feel their ignorance. They are not much accustomed to be interrogated by others, and seem never to have thought upon interrogating themselves; so that if they do not know what they tell to be true, they likely do not perceive it to be false." For the hospitality with which he was treated by the Highland lairds and ministers, Johnson made a very sorry requital. The Dean of Lismore's Book, to which reference has been already made, clearly refutes the objection that no poem existed which was a hundred years old. The disparaging remarks of Johnson respecting the ignorance and untruthfulness of the Highlanders could proceed only from strong dislike and preconceived opinions. I have heard a gentleman recite a Gaelic poem in which Johnson is ridiculed in very severe terms. Though this satire is couched in very elegant language, I have never been able to see it in print. Owing, however, to the lofty position occupied by Johnson in the literary world, his very unfavourable deliverance could not fail to have an injurious effect on the poems of Ossian.

Laing, the historian, was also a determined opponent of the poems of Ossian. He accused MacPherson of plagiarism, and had recourse to very ingenious arguments to make this accusation valid. He took unwarrantable advantage of certain concessions made by MacPherson. "MacPherson," he says, "has acknowledged from the beginning the deceit. 'It would be a very uncommon example of self-denial in me to disown them, were they really of my composition.'" The plau-

sible manner in which Laing proceeded to account for the origin of the various poems ascribed to Ossian, was calculated to do immense injury to MacPherson. The reader has reason to suppose that the poems bearing the name of Ossian are forgeries, and that Laing was by some means acquainted with the manner in which MacPherson prepared them. Laing's reading must have been very extensive; and hence it is that with wonderful assurance he sought to account for the origin of the several poems which bear the name of Ossian. So unqualified are his opinions and so confident is his judgment, that the reader may be pardoned for imagining that Laing himself acted a prominent part in the fabrication of those poems which he ascribes to MacPherson. According to him, Milton, Virgil, Pope, and the Holy Scriptures furnished MacPherson with his most pleasing ideas and comparisons. He must have forgotten that no poems are truer to nature than the poems of Ossian. The ideas of the poet were very circumscribed indeed. Nature in her manifold phases: sun, moon and stars; the roaring streams and loud blasts of winter; the towering trees and solitary moss-covered rocks—furnished the grandest ideas which are found in the poems of Ossian. There is in them an absence of everything that would betray any great advancement in enlightenment and civilization, or any acquaintance with the literature and customs of other countries. It is surely not too much to expect that the many observers of nature's beauties can, irrespective of mutual aid, discover her most pleasing as well as her most melancholy features. May it not be asked, Why could not Ossian and MacPherson discover for themselves those beautiful comparisons which nature offers to every attentive observer? Laing further affirms that, because MacPherson knew nothing about the religion which prevailed in Scotland in the era he assigns to Ossian, he studiously avoided every reference to the religious opinions of that time. Led away by the English version of certain Gaelic words, Laing sought to detect anachronisms in the writings of Ossian. Tura's wall, to which allusion is made in Fingal, was in his opinion open to the objection, that towers or castles were not erected in Ireland for nine centuries subsequent to the date assigned by MacPherson to Ossian. Laing could not have known that in Gaelic no word is commoner or more ancient than *tùr*, the equivalent of tower. It means a heap of stones, however rudely and irregularly they may be arranged. With regard to the objection that no pointed

reference is made to the religious belief of the age in which Ossian is supposed to have lived, it is enough to mention that the Gaëlic bards formed a distinct class from the Druids to whom the concerns of religion were committed. "Illi rebus divinis intersunt, sacrificia publica ac privata procurant, religiones interpretantur."* The poems of Ossian, it is true, present a very rude belief. The heroes in their airy halls are supposed to follow those avocations which were dear to them on earth. "They pursue boars of mist along the edge of the clouds."

There are still stronger grounds for overthrowing the opinions advanced by Johnson, Laing, and perhaps by Hume, respecting the poems of Ossian. In deference to the many objections which were raised against the genuineness of these poems, the Highland Society submitted a series of questions to clergymen and others, who resided in the Highlands of Scotland. The object of these questions was, to ascertain whether poems similar to those collected and published by MacPherson existed in the Highlands and were available. Minute inquiry was made as to whether the poems published by MacPherson could be identified with the poems which were still in circulation. The report of the Highland Society was published in 1806. By unassailable evidence it was shown that the history of Fingal and his followers, of Ossian and his poems, was commonly known; that poems similar to those which were published by MacPherson existed in many parts of the country, and could be recited by men who had never heard of MacPherson. Regarding the prevalence of Ossianic poetry in the Highlands, the report terminates with this decided language: "The committee can with confidence state its opinion, that such poetry did exist; that it was common, general, and in great abundance; that it was of a most impressive and striking sort, in a high degree eloquent, tender and sublime." † The following citations from the letters addressed to the committee are very explicit: "Before MacPherson could know his right hand from his left, I have heard fragments of them repeated, and many of those fragments I recognized in Mr. MacPherson's translation." ‡ "There are many poems ascribed to Ossian more than Mr. MacPherson has translated; many of which, I dare say, he never heard, and of these not a few, in my humble opinion, of as

* De Bello Gallico. Lib. 6. 13.

† Highland Society's Report on Ossian, p. 151; and *ibid.*, p. 39.

‡ Highland Society's Report on Ossian, p. 151; and *ibid.*, p. 39.

much poetical merit as any he has inserted. MacPherson took too little time in the Highlands and Western Isles, to be able to have collected the whole of them; for as the works of Ossian are dispersed all over the Highlands, there is not a clan through whose land you travel, but you will find some one of these poems among them, which is not to be met with any where else." *

The report of the Highland Society has forever rescued Ossian's poems from the imputation of being a forgery. MacPherson took down some of the poems which he published from the recitation of men with whom he came in contact in his tour through the Highlands. He was also indebted to MSS. for some of the poems. "From this man the declarant got for MacPherson a book of the size of the New Testament, and of the nature of a commonplace book, which contained some accounts of the families of the Macdonalds, and the exploits of the great Montrose, together with some of the poems of Ossian." * In writing to a friend, MacPherson remarks: "I have met with a number of old MSS. in my travels; the poetical parts of them I have endeavoured to secure." †

It is perhaps impossible to determine how far MacPherson was led to arrange the poems which he collected. In all likelihood he used his own discretion in selecting such portions as he might deem most suitable and authentic. Apart from the overwhelming evidence gathered by the committee of the Highland Society, there are very cogent reasons for believing that MacPherson was incapable of writing Gaelic so pure and elegant. I have never observed that proper attention has been paid by any one to the language of the poems of Ossian. It is undoubtedly the classical Gaelic of the Highlands. For purity and beauty, for richness and expressiveness, it stands alone in the whole range of Gaelic literature. There is no poet of the eighteenth century, whose Gaelic at all approaches the rich, terse and elegant diction of Ossian. In his poems there is no reference whatever made to agriculture: the chase afforded to the heroes of Fingal their most pleasing employment. The sails are held together by thongs. Battles are often determined by single combat. It is very much to be questioned whether any one who wished to forge poems to which a very remote origin was to be assigned, could so divest himself of modern ideas and habits as not to make an occasional

* Report, p. 23, Appendix.

† *Ibid.*, Appendix, p. 96; and *ibid.* p. 154.

betrayal of his dishonesty. Dr. Blair, who knew MacPherson well, thus speaks of him: "Of all the men I ever knew, MacPherson was the most unlikely and unfit to contrive and carry on such an imposture as some people in England ascribed to him. He had none of the versatility, the art and dissimulation, which such a character and such an undertaking would have required."* One of MacPherson's coadjutors in the arranging of Ossian's poems remarks: "He could as well compose the prophecies of Isaiah, or create the Island of Skye, as compose a poem like one of Ossian's." There is a well authenticated story, which in itself goes far to show that MacPherson was unable to compose the poems which he translated. Having landed on one of the Hebrides, he submitted this very ambiguous question to one who chanced to be a poet of no common excellence: "*Am bheil dad agad air an Fheinn?*" MacPherson intended to ask the question as to whether his friend had any information respecting the Fingalians. This inquiry, when strictly interpreted, means, whether the Fingalians were in any way pecuniarily indebted to him of whom the question was asked. It may be stated that no one possessing an accurate knowledge of Gaelic would ever use so ambiguous an interrogation. No further evidence is needed to show that MacPherson did not and could not forge the poems which he translated. It cannot be maintained that his rendering is always accurate. He frequently misunderstood the meaning of the original. Still, in spite of every shortcoming, his translation is so elegant and attractive as to merit the commendation of Dr. Blair: "I confess I cannot avoid considering the discovery of the works of Ossian as an important era in the annals of taste and literature; and the share which I have had in contributing towards it, as a part of my life, by which I have deserved well both of this age and posterity."

* Report, Appendix, p. 60; and *ibid*, p. 177.

THE COPTIC ELEMENT.

IN LANGUAGES OF THE INDO-EUROPEAN FAMILY.

BY THE REV. JOHN CAMPBELL, M.A., TORONTO.

Read before the Canadian, Institute, February 10th, 1872.

(Continued from page 303.)

While the title of this paper is "The Coptic element in Languages of the *Indo-European* Family," I may be permitted to indicate the presence of the same element in other families of language. Allusion has already been made to the claims of the African and Polynesian languages to relationship with the Aryan and Semitic tongues. After a survey of vocabularies of over two hundred different languages spoken in all parts of the world, it is only among these two groups and, to a very slight extent, among the monosyllabic tongues of eastern Asia, that I have so far been able to discover the presence of that initial *p* sound which I have identified with the Coptic article. One of the simplest examples is to be found among certain of the numerals of ten African languages, most of which belong to the West Coast.⁴²

LANGUAGE.	TWO.	FOUR.	FIVE.
<i>Buntakoos of Guinca</i>	<i>noo</i>	<i>nah</i>	<i>taw</i> .
<i>Igberra on Niger River</i>	<i>ebba</i>	<i>euna</i>	<i>jokki</i> .
<i>Ratongga on Bagoon River</i>	<i>beba</i>	<i>binni</i> ..	<i>betta</i> .
<i>Bight of Benin</i>	<i>bi</i>	<i>nin</i>	<i>tang</i> .
<i>Efik of Calabar</i>	<i>iba</i>	<i>inang</i>	<i>itiun</i> .
<i>Otam on Cross River</i>	<i>beba</i>	<i>bini</i>	<i>bittan</i> .
<i>Mandinga</i>	<i>fula</i>	<i>nani</i>	<i>lulu</i> .
<i>Mozambique</i>	<i>pili</i>	<i>ssesse</i>	<i>thana</i> .
<i>Lagoa Bay</i>	<i>see-berry</i> ..	<i>nau</i>	<i>thanou</i> .
<i>Bongo on Gaboon River</i>	<i>baba</i>	<i>banai</i>	<i>batan</i> .

In the *Ratongga*, the *Otam* and the *Bongo* languages we find the African representatives of the *Æolic*, *Sabino* and *High German* of Europe. Among Asiatic tongues, in what is generally called the *Monosyllabic* area, the *Japanese* holds most strongly to the *Coptic*

⁴² Bowring, *Decimal System*. London, 1854; p. 165-168.

An *Account of Timbuctoo and Housa*, &c., by El Hago Abd. Salam Shabeeny, with notes by J. G. Jackson, London, 1820: p. 373.

Twenty-nine years in the West Indies, &c., by Waddell. Appendix vi.

The words in italics in this and subsequent lists are abnormal forms that do not form part of the comparison.

form. This may be seen by a comparison of certain words in that language with corresponding ones in that of Loo-Choo.⁴³

ENGLISH:	<i>bridge</i>	<i>quick</i>	<i>pencil</i>	<i>nose</i>	<i>ship</i>	<i>umbrella</i>	<i>navel</i> .	
LOO-CHOO:	hashee	hayee	hoodee	honna	hoonee	shassee	whoosoo.	
JAPANESE:	fas,	bas	faijo	fuda	fanna	fune	fisasi	fosso, feso.

It is not to be supposed that the difference between these two languages' arises from the inability of the people of Loo-Choo to pronounce the letters *p*, *b* and *f*. Both in Japan and Loo-Choo the word for fire is *fe*, for flower, *fanna*, and for star, *fosi* or *fooshee*. In the word denoting *sail* the languages seem to change places, for in Loo-Choo it is *foo* and in Japanese *hoo*. Still more striking is the fact that the Japanese *yak*, meaning *hundred*, is replaced in the dialects of Canton and other parts of the Chinese Empire by *pak*.

The Polynesian languages might afford us many examples of the use of the prefix now under consideration, like the word for *hair*, which, among the Friendly or Tonga Islanders, has the two forms *ooloo* and *fooloo*. I shall confine myself, however, as in the case of the African languages, to an illustration from the Malay numerals. These numerals present many interesting points of connection with those of the Indo-European languages. Thus, *three* is *toru*; *two* is *duo*, and when *one* has not the form of *isa*, *sye*, *essa*, approaching the Greek *heis*, it assumes that of *satoo*, *aida*, *ida*, *taha*, which is not unlike either the Syriac and Chaldee HHAD, the Hebrew ECHAD, the Arabic AHAD or WAHAD, or the Slavonic *Odin*, *Ieden*. The following are the numerals *seven* and *eight* in fifteen different languages of Polynesia.

LANGUAGE.	SEVEN.	EIGHT.	LANGUAGE.	SEVEN.	EIGHT.
<i>Raratonga</i> ..	itu	vara.	<i>Tonga</i>	fitoo	valoo.
<i>Otaheite</i>	heitoo ...	warroo.	<i>Tuham</i>	fiti	gualu.
<i>Ecster I.</i>	hiddoo ...	varoo.	<i>Phillippine</i> ..	pito.....	valo.
<i>N. Zealand</i> ..	weddoo ..	warroo.	<i>Java</i>	petu	wolo.
<i>Buges</i>	pitu.....	aruwa.	<i>N. Guinea</i> ..	fitu.	wala.
<i>Madagascar</i> ..	heitoo ...	balloo.	<i>Samoa</i>	fitu	valu.
<i>Batta</i>	paitoo	oaloo.	<i>Fiji</i>	pitu	walu.
<i>Mangavai</i> ...	pitu.....	alo.			

To these may be added five more irregular forms.

<i>Language.</i>	<i>Paumotu.</i>	<i>Sava.</i>	<i>Rotti.</i>	<i>Marquesas.</i>	<i>Sandwich.</i>
Seven:	hito	hetu	petu	hitu	hiku.
Eight:	hawa	panu	tolu	vau	valu.

⁴³ Account of a Voyage of Discovery to the West Coast of Corea, and the Great Loo-Choo Island, by Captain Basil Hall, F.R.S., &c Vocabulary by Lieutenant Clifford. London, 1818.

A mere glance at the nature of the differences between the words given above will suffice to show that physical conformation has nothing, or at least little, to do with them, inasmuch as peoples who reject the *b*, *p*, *f* or *v* in one case, keep it in the other. A survey of the whole vocabulary of numerals tends to confirm this view. The forms of the numeral *ten* may illustrate. In these, as in the forms of eight, and as in the Coptic language to a very great extent, we find the letters *l* and *r* interchanged.

<i>Karatonga</i>	<i>nauru</i> .	<i>Tonga</i>	<i>ooloo or ongofooloo</i> .
<i>Otaheite</i>	<i>a-hooro</i> .	<i>Tuham</i>	<i>manud</i> .
<i>Easter Island</i>	<i>ana-hooroo</i> .	<i>Sava</i>	<i>bo</i> .
<i>New Zealand</i>	<i>anga-horro</i> .	<i>Sandwich</i>	<i>umi</i> .
<i>Buges</i>	<i>sopuloh</i> .	<i>Philippine</i>	<i>apalo</i> .
<i>Paomotua</i>	<i>hori-hori</i> .	<i>Java</i>	<i>sapoulo</i> .
<i>Marquesas</i>	<i>ono-huu</i> .	<i>New Guinea</i>	<i>sanga-foula</i> .
<i>Madagascar</i>	<i>fooloo</i> .	<i>Samoa</i>	<i>tini</i> .
<i>Batta</i>	<i>sa-pooloo</i> .	<i>Fiji</i>	<i>nafulu</i> .
<i>Mangavai</i>	<i>puluh</i> .	<i>Rotti</i>	<i>hulu</i> . ⁴⁴

In this place I may also be permitted to allude to other forms of the article, which have been so bound up with the substantive before which they stand, or with the root to which their prefix gives a substantive power, that they have been mistaken for part of the root itself; and thus the etymology of the words of which they form part has been lost. The feminine form of the Coptic article in *T* or *Th*, which is supposed to have converted APE, *the head*, into TAPE or THEBE, has, doubtless, some connection with the Hebrew feminine termination, consisting of the same letter, or ך. Disregarding, however, its feminine character, it would be the same as the Hebrew ך (*t* or *th*) abbreviated from ךן, the mark of the accusative and a kind of article, which, prefixed to a verbal root, converts it into a noun, e.g. LAMAD, learn; TALMID, a learner. The language of Lybia, or of the Shelluhs, differs from that of the Canary Islanders in many words by the possession of this prefix. Thus, temples in Canarese are *almogaren*, and in Shelluh, *talmogaren*; a coarse article of dress, called the *hàik*, is, in the former, *ahico*, and in the latter, *tahayk*.⁴⁵ I do not imagine that every *T* or *Th* which can be shown to be a prefix to the root, is a relic of an old article. In Hebrew,

⁴⁴ Mariner's Tonga Islands, by Dr. Martin. Edinburgh, 1827. Vocabulary. Labillardière's Account of a Voyage in Search of La Perouse. Translated. London, 1800. Vocabulary. Bowring's Decimal System, 160—163.

⁴⁵ Shabeeny's Timbuctoc, by Jackson; Languages of Africa, 355—381.

we have it as a distinguishing mark of certain persons of the future of the verb. What it stands for in our English *drop*, as compared with the Hebrew ARAPH, and RAAPH both meaning the same, I cannot tell. Still, in a very large number of cases, I believe that we shall find initial *t* performing the same office as initial *p*. There, is however, this difference between them. While *p*, as a form of the article, is banished from civilized languages, *t* remains. The Hebrew ETH represents the Dutch *het*, our English *the*, the German *die*, the Greek *to*, the Sanskrit *tat* and *etat*. The Hebrew demonstrative EL, and the Arabic article AL or EL, furnish the Latin *ille*, and the articles of the Romance languages. The true Hebrew article HA may not only be intimately related to the Greek *ho*, *he*, but also to the Sanskrit *sah*, the Hindustani *yih*, the Welsh *y*, and the Malay *he*.⁴⁶ Still another form of the article is the Cushite *ka* or *kai*, which is connected with the Sanskrit numeral *eka*, one, the Hindustani *ek*, *koi*, and the Malay *coe*, which, on account of its association with *he*, must, I think, have arisen from an aspirated pronunciation of the latter. The old Persian names Kai Kous, Kai Kobad, Kai Khosrou, although the *kai* is generally supposed to mean king, when compared with the Greek words *Kakos*, *Aiguptos*, *Kaisar*, seem to afford nothing more in the prefix than a form of the article. The same is seen in the two Arabic words for heart, the one being LEB, identical with the Hebrew, and the other KULB, both of which are adopted into the Persian language. It also appears in the Maori *Kapura*, as compared with the Tahitian *pura*, fire; and in the Easter Island *ko-tahai*, one, as compared with the Maori *tahai*. A connection of the Semitic and European languages being allowed, a very common substantive prefix in Hebrew, that of the letter **N** or **M**, must not be lost sight of, although it has nothing to do with the article; MAGEN, a *shield*, from the verb GANAN, *guard*, *protect*, MERKHAB, a carriage or chariot, from the verbal root RAKHAB, *ride*, and MAGHREB or MAARAB, the *west*, from ARAB, (*Arab. GHEREB*,) *become dark*, are illustrative examples.

Among the various forms of the article mentioned above, that which occupies the place in comparative philology next in importance to the Coptic in P is the Arabic in AL or L. Every student is familiar with this part of speech from its frequent occurrence in the vocabularies of all civilized languages, testifying to the influence

⁴⁶ Vide Benfey, Die Agyptische Sprache, § 2.

exerted in Europe by Arabian culture during the palmy days of Mahomedanism. Few, however, have recognized the fact that the AL of Alexander is as truly Arab as the AL of Alkoran, or known that the oriental form of this name is SECANDER or ISCANDER. The province of Hejer or Bahrein in Eastern Arabia on the Persian Gulf is also called LAHSA, a word consisting of the common geographical name AHSA and the article EL, and from which Ptolemy called its inhabitants *Iolisitae*.⁴⁷ A precisely similar case is that of the old Pelasgian word *Larissa*, which is found in Syria, Assyria, and the south of Palestine. In every case the initial L is a remnant of the Arabic article, as appears most plainly in the Larissa that marks the boundary between Palestine and Egypt, which is a Greek form of EL ARISH.⁴⁸ The ancient Issa in the Adriatic becomes the modern Lissa by an inversion of the process. Hitzig connects the Philistine town Jamnia, partly on the authority of Stephanus of Byzantium, with the Greek *ciamenē*, and the latter word with *leimōn*, *limnē*.⁴⁹ That he is right in his last connection none can doubt, the difference between the words connected being simply the Arabic article. I am also prepared to say that he is right in his first connection, and that, pushing it a little farther, he might have arrived at an ancient abode of the Minyans and a prototype of Lemnos as well. Similar pairs of words are Academus and Lacedaemon, Esbus and Lesbos, the Russian province of Astrachan on the Caspian, the Indian Satrugna, brother of Rama, and the Laestrygones of the Homeric story. As a confirmation of the connection between Esbus and Lesbos it is worthy of note that the town Madmannah or Madmen of Moab, which lay near to the former, gave its name to Methymna, one of the chief towns of the latter. Antiphates, king of the Laestrygones, refers us not only to Amphiarus, grandson of an Antiphates, with whom the Arab Moaser connects, but also to an Alcmaeon line reproducing the Lokmans of the East, he himself deriving his name from the oriental Netophath. The brother of Satrugna is Lakshman. Plutarch in his Hellenica informs us that Labradeus a name of Jupiter in Caria, also applied as Labranda to a town of that region, was derived from *labrus* or *labra* signifying a battle axe in the Lydian language.⁵⁰ Now it is to be remembered that Lydia has very decided Arabian connections.

⁴⁷ Genesis Elucidated, by John Jervis-White Jervis, A.B., Trm. Coll., Dublin. London, 1852. p. 388.

⁴⁸ Hitzig, Urgeschichte und Mythologie der Philistæer. Leipzig, 1845. p. 116.

⁴⁹ Id. 128. ⁵⁰ Plutarch. Hellenica ii., 301.

Besides that Ludim as a whole are derived from Amalek, the name of the king Sadyattes points to an old SADID or SHEDAD, while Alyattes and Alcimus, as compared with Attes and Aciamus, reveal plainly the presence of the Arabic article AL.⁵¹ Can the initial *l* of *labrus* and *Labradeus* be of the same character as that of Alyattes? The Sanskrit and Persian languages will answer this question. In the former the word for such an axe, that, namely, with which the later Rama swept the Kshetriyas from the earth, is *parasu*, and in the latter it is *beret*, these being the equivalents of Al-brus and Al-brad. The whole word with the article in a purer form is found in the Irish *albard*, the Spanish *alabarda*, the German *Hellebard*, and the English *halberd*, which the Romaic, in profound ignorance of the original, has naturalized as *alamparda*. A word not unlike Labradeus is Labyrinth, the origin of which seems to be completely hidden: Yet ancient Persian history informs us that Menoutchehr dedicated to the moon a temple in Balkh called AL-BAHAR-NAU.⁵² It is long since I first connected Menoutchehr of the old Persian story with MENCHERES of Egypt, who should rather

⁵¹ Vide Rawlinson's Herodotus, Appendix, Book 1., Essay 1., On Chronology and Early History of Lydia.

⁵² "In libro Sadder cap. 43 nemoatur Pyreum dictum Adurchura, i.e., ignis illuminationis rationis, q. d. mentis et rationis illuminatione aliquem inspirans. Estque juxta Kirman illud Pyreum, illeque Ignis illuc traductus ex Chorasan, seu Bactria, ut vult Shahrstani. Haec hodie (ut alibi fusius dicitur) est Metropolitica Ecclesia Magorum omnium ad quam semel in vita sua tenentur veteres Persae omnes peregrinationem suscipere, sacrae visitationis ergo, ut olim faciebant ad antiquam Ecclesiam Cathedralem Azur-Gushtasp in Balch, seu Bactris et prout antea fecerant ad multo antiquiorem ibidem Cathedralem Nau-Bahar. Fuit enim in urbe Balch (ut mox dicitur) aliud antiquissimum Pyreum dictum Nau-Bahar, seu Novum Ver, propter vernantem ejusdem ornatum et picturas floridas." *Historia Religionis Veterum Persarum, &c.*, Autor Thomas Hyde, Oxon, 1760. p. 102.

A short distance further on the author quotes Shahrstani who, speaking of sacred edifices dedicated to the heavenly bodies, says: "Ex his etiam fuit Al-Nau-Bahar quam extruxit Rex Manushahr in Balch dedicata Lunae." I cannot agree with the interpretation of Nau-Bahar given by the learned author as *Novum Ver*, nor believe that the words are the same as those which now designate the *new year*, or the month answering to our April. "The word Behar," says Sadik Isfahani, "in the Hindi language signifies a school or college." *The Geographical Works of Sadik Isfahani translated. Oriental Translation Fund. London, 1832.* Tahkik al Irab, Bihar. The common word for college in Hindustani is *madrassa*, but this word Behar doubtless represents an older name for a building in which religion and education may have gone hand in hand. I cannot but view the form given by Shahrstani in which Nau precedes Behar as an attempt to explain a term inexplicable save by the knowledge of an earlier stage of language and history. The final *nau* or the *fnth* of *labyrinth* may easily have been the name of the goddess NERRU which is the same as MORTU the first part of the name of MENCHERES, without the initial M.

A recent writer in the *Edinburgh Review*, speaking of the Buddhist temple which took the place of the Pyreum at Balkh, says, "It is especially worthy of remark that through all subsequent history the building retained the same Sanskrit name of Nava Vihara (corrupted into Now-Behar, and signifying 'the new monastery.')

—Edin. Review, No. cclxxv., Art. 1., "The Book of Ser Marco Polo, the Venetian."

be called MENTCHERES or MONTH-RA. He is MENDES, to whom Diodorus⁵³ and Strabo⁵⁴ attribute the Labyrinth, all the connections of which were decidedly lunar. As for Balkh, it appears in BOULAK near Cairo and in other parts of Lower Egypt. Various writers admit that; in *Menoutchehr* we have the Mandaucæ of Ctesias. He is followed among the Median kings by Sosarmus, and the latter monarch in the Assyrian list not only connects with Lampares and Lamprides his predecessors, reminding one of the Egyptian LABARES or LAMARES, but also with Mithreus and Teutamus his successors, who are most unmistakably the Egyptian MESTRES and TOTHMOSIS.⁵⁵ I do not doubt that AL BAHAR NAU is the original form of the Labyrinth.

Perhaps the most striking instance of the use of the Arabic article is afforded by a comparison of two Celtic words with their equivalents in other languages. The first of these is the Gaelic and Erse *ban*, meaning *white*. In Hebrew it is LABAN, in Greek *alpos*, and in Latin *albus*, the *la* and *al* representing the article. The second instance is the Gaelic *beann*, the Irish *ben* and the Welsh *pen*, meaning a *hill*. These are the same as the Greek *bounos*, and with the Arabic article, give the Celtic and classical forms *Albain*, *alpeina*, *Alpes*, together with a certain Phœnician *Alpin*. The roots of *ban* and *ben* or *beann* or *pen* are not distinct, for the idea of mountains with white snow-clad summits connects with that of whiteness, just as LEBANON rises out of LABAN, white, it being pre-eminently the White Mountain range of northern Palestine. It is not a little singular, however, to find in the Celtic again, as in the case of the Welsh *ty*, a root form older than that of the Hebrew. Many things lead me to the belief that in the Hebrew LEB, meaning the heart, a similar case presents itself. With this word the affections of the heart are bound up, so that the German *liebe* and our English *love* are both derived from it. But it would almost seem that the root of the Hebrew word is found in AHAB, the verb *to love* in the same language. This AHAB, (the Arabic HEB,) assumes the aspirate form in AGAB, meaning the same, and gives the original of the Greek *agapō*; but it also has an unaspirated and contracted form in ABAH. The latter form by a common phonetic change becomes AMAH, furnishing the original of the Latin *amo*, and,

⁵³ Diod. Sic. lib. i., 61, 66.

⁵⁴ Strab. lib. xvii., 1, 42.

⁵⁵ Vide Du Pin, *Bibliothèque Universelle des Historiens*. Amsterdam, 1708. Livre Premier, 211, &c.

rejecting the initial vowel, claims kindred with the Coptic ME. The Welsh *haffi* may represent the Hebrew ABAH.

In conclusion, returning again to the Coptic article, let me present two more extensive illustrations than any hitherto given of the great importance of its recognition in questions of comparative philology. Bopp in his Comparative Grammar sets forth the following three pairs of words, signifying wolf in six different languages.⁵⁶

<i>Sanskrit.</i>	<i>Zend.</i>	<i>Greek.</i>	<i>Lithuanian.</i>	<i>Latin.</i>	<i>Gothic.</i>
vrlkas,	vehrko,	lukos,	wilkus,	lupus,	vulfs.

The Lithuanian is the Greek with the prefix of the Coptic article, and the same relation subsists between the Gothic and the Latin. The Danish form *ulv* is a softer form than the Gothic and nearer to the Semitic root, but the Latin *vulpes*, though denoting a fox, is the same as the Gothic *vulfs*. The Persian form for wolf, as we might expect, is not *vêlab* but *kelub*, the Cushite article replacing the Coptic. But this word in Persian as in Arabic means *heart*, which in Persian, Arabic and Hebrew is also LEB. The root LEB or LEV, which the Danish almost appropriates to the wolf in *ulv*, by the simplest kind of conversion in meaning from heart becomes the Sanskrit *lubh*, the German *lieben* and our English *love*. This introduces another wild animal, the lion, which in Coptic is LABOI, in Hebrew LEBI, and in German *Löwe*. But the words LEBI, *lion*, and LABAN, *white*, are connected in Hebrew, while in Latin *lupus* and *albus* take their place, and in Greek *lukos* and *leukos*. That the connection of the Greek with the Hebrew is a sound one will appear from the fact that even LIBNEH, *the white poplar*, answers to the Greek *leukê*. Lebana, Albunea, Leucothoe are one and the same goddess answering to the Celtic Blanche fleur. A trace of the Greek form for the *wolf* remains in the Scandinavian mythology, in which *Loki* is the father of the wolf Fenrir. Guigniaut points out the relation of the wolf to the ideas of light and whiteness.⁵⁷ But how are we to connect our first pair with the two others, *vrlkas* with *lukos*? We may say that in Coptic *l* and *r* are interchangeable, and, having an agreement in *k*, the second consonant of the root, we may be satisfied. This is not enough however. The Lithuanian furnishes us with an important link. In that language *lokis*, which is simply the Greek *lukos*, and its own *wilkus* without the article, means not a *wolf* nor a *lion* but a *bear*. Now the bear and wolf connect in many parts of the

⁵⁶ Bopp's Comparative Grammar, vol. i., 163.

⁵⁷ Guigniaut, Religions de l'Antiquité, Tom., ii., 109.

Greek mythology, and notably in that relating to Arcadia, where is Mount Lycaeus, where Lycaon's daughter Callisto, the she-bear, becomes the mother of Arcas, and where, while Leon, one of her brothers, takes his name from the king of beasts, another, Helix, reflects Helice, a name of the constellation Ursa Major. "The same changes," says Mr. Cox, "which converted the Seven Shiners into the Seven Sages, or the Seven Sleepers of Ephesus, or the Seven Champions of Christendom or the Seven Bears, transformed the sun into a wolf, a bear, a lion, a swan."⁵⁸ So far the Lithuanian *lokis* is the only word we have found, related to our six names for the wolf, which denotes the bear. The Sanskrit for wolf is *vrikas*, and the Zend *vehrko*. The *v* which begins these words, it must be remembered, is the Coptic article. *Vrikas* then, *wolf* though it mean, is simply *Arcas*, the bear, or, keeping to the Sanskrit, it is *riksha*, the bear, the bright one, standing in exactly the same relation to *vrikas* that *lokis* holds to *wilkus*. Professor Max Müller remarks upon the position which Sanskrit mythology gives to the bear as the bright animal, a position which we have already seen occupied by a Semitic lion and a Classical wolf, "We do not see why of all other animals the bear should have been called the bright animal. It is true that the reason of many a name is beyond our reach, and that we must frequently rest satisfied with the fact that such a name is derived from such a root, and therefore had originally such a meaning. The bear was the king of beasts with many northern nations who did not know the lion."⁵⁹ Going still further back into the Coptic we find the bright animal is the RUKH or jackal, the name for which designates a *live coal*, and which, as a member of the animal kingdom, is not unlike the wolf. There can be no doubt that *Arcas*, *riksha* and *rukh* are forms of the Hebrew YAREACH, the Chaldee YERACH, which like LEBANAH means the moon, and that the Chaldean URUKH or URHAMMU with his son ILGI⁶⁰ are other forms of *Arcas* and *Lycus*; URUKH himself being

"pater Orchamus; isque
Septimus a prisca numeratur origine Beli:"⁶¹

⁵⁸ Cox's *Mythology of the Aryan Nations*. London, 1870. Vol. I., p. 165, note 3. Vide et. 230, 414.

⁵⁹ *Science of Language*. Series II. Lecture VIII.

⁶⁰ Rawlinson's *Herodotus*, App., Bk. I., Essay VI., *The Early History of Babylonia*. Lenormant and Chevalier's *Manual of the Ancient History of the East*. London, 1869. Vol. I. p. 353.

⁶¹ *Ovidii Metam.*, I. IV., 212.

and the father of

"Leucothoo,
Gentis odoriferæ quam formosissima partu
Edidit Eurynome,"⁶²

Leucothoe is TILBIN or LEBANA, the famous goddess of Assyria, and the Albunea of Latin story. HURKI is the Babylonian name of SIN, the moon-god, whose principal temple was built in Hur by URUKH, and whose connection with bricks, according to Sir Henry Rawlinson, explains why the Hebrew LABAN *make bricks*, LEBENAH, *brick*, is almost the same as LEBANAH, *the moon*.⁶³ HURKI, URUKH, URHAMMU, Orchamus and even Arcas and Orcus are different forms of the Arab YERAKH or JORHAM, who was the ancestor of the great ARKAM family.⁶⁴ I need not say that the root of all these words is YERAH, the moon. The very frankincense shrub, that, by the command of Apollo, sprang out of the grave of the dishonoured daughter of this YERAKH or Orchamus, retains in Greek equally as in Hebrew her original name; for frankincense in these languages is Hebrew, LEBONAH; Greek, *libanos*.

The following table of twelve columns shows striking and interesting relations among languages belonging to at least two different families; and the variations of the words will be found to accord with much that has been said in regard to prefixes, while they set at nought many existing theories of comparative philology.⁶⁵ Of the twelve columns, five are occupied by the names of animals, the lion, bear, wolf, fox, jackal and dog; another five is taken up with words denoting light, brightness, whiteness, as bleach, white, bright, light, shine, milk, moon, silver; and the other two include heart, love and like.

⁶² Id., l. iv., 209.

⁶³ Rawlinson's Herodotus, App. Book i. Essay x, Religion of the Babylonians, &c.

⁶⁴ Lenormant and Chevallier's Manual, Vol. II., 239. Jervis' Genesis, 191, 195.

⁶⁵ In this table, as throughout the essay, I have been compelled, owing to the absence of suitable founts of type, to print all the words in the ordinary character. The Coptic, Babylonian and Assyrian, Hebrew, Chaldee, Syriac and Arabic, Persian, Hindustani and Sanskrit words generally follow, in regard to form, the rules of Peyron; Norris, in his Assyrian Dictionary; Gesenius; Eichhorn; Sir W. Jones and Richardson; Forbes; Müller and Benfey. The Irish Dictionary employed is that of O'Reilly, and the Welsh, of Thomas Edwards. For *rompu*, a plural Egyptian form of the word denoting wolf, I am indebted to Champollion's *Dictionnaire Egyptien*, p. 83.

ENGLISH	heart	love	lion	bleach	bright	moon	bear	whelp	wolf	jackal	silver
	sefolpu	luko	labol	white	light			dog		fox	
COPTIC			alhu	shine	to milk						
BABYLONIAN, &c.	labbu		roch	art	to milk						
HEBREW, &c.	leb	labsh	laban	art	to milk						
	kerab	labsh	labsh	roch	to milk						
		labsh	labsh	labsh	to milk						
ARABIC	labef	labsh	labsh	labsh	to milk						
	kulb	labsh	labsh	labsh	to milk						
PERSIAN	kelb	labsh	labsh	labsh	to milk						
HINDUSTANI	ruh?	labsh	labsh	labsh	to milk						
SANSKRIT	avid	labsh	labsh	labsh	to milk						
		labsh	labsh	labsh	to milk						
GREEK	kardia		alpos	leche	light						
			lechos	leche	light						
ROMAIC	kardia		lechos	leche	light						
			lechos	leche	light						
LATIN	cordis	lubet	lechos	leche	light						
		caritas	lechos	leche	light						
ITALIAN	cuore		lechos	leche	light						
			lechos	leche	light						
FRENCH	cœur		lechos	leche	light						
			lechos	leche	light						
SPANISH	corazon		lechos	leche	light						
			lechos	leche	light						
PORTUGUESE	coração		lechos	leche	light						
			lechos	leche	light						
SCLAVONIC AND LITHUANIAN	sirdis	lubic	lechos	leche	light						
			lechos	leche	light						
WELSH	craidd	cariaid	lechos	leche	light						
			lechos	leche	light						
GALICIAN	cridae	colbia	lechos	leche	light						
		cridia	lechos	leche	light						
DANISH	herte	elso	lechos	leche	light						
			lechos	leche	light						
DEUTCH	hart	herte	lechos	leche	light						
			lechos	leche	light						
GERMAN	hertz	herten	lechos	leche	light						
			lechos	leche	light						

The forms presented in the above table, excepting those in italics, which, like *sur* and *shir*, *dob* and *tab*, exhibit interesting relations, although unconnected with the roots under consideration, may be reduced to four. In the first the initial *l* combines with *b*, *bh*, *v*, *p*, *ph*, *f*, *w*, *m*, *n*, and even a mere vowel, as in *leo*, while in the second it unites to form the root with *c*, *ch*, *k*, *x*, *g*, *gh*, *j*, *z*, *s*, *sh*, and even *h* or a vowel. In the third and fourth an initial *r* takes the place of the *l* of the first and second. The prefixes vary from a simple vowel or breathing to well developed representatives of the Coptic and Cushite articles. The most common affix is that in *d* or *t* as in *light*, *licht*, *lacd*, *llaeth*, *galaktos*, *lebut*, *lahat*, *art*, *lleuad*, *airgiod*, *argentum*, *arktos*, *rajatam*, which sometimes acquires such power as to extinguish the second consonant of the root.⁶⁶

I. First Form in L

	1-p.		1-b.	
loyp,	Fr. wolf.	labah,	Heb. light.	ssakalib, Pers. dog.
lupo,	It. wolf.	labbu,	Bab. heart.	cllabac, Erse wolf or fox.
lupus,	Lat. wolf.	laboi,	Copt. lion.	1-bh.
lopaca,	Sans. fox or jackal.	laban,	Copt. bear.	luhb, Sans. to like.
alepou,	Rom. fox.	leb,	Heb. white.	colbba, Erse love.
alopex,	Gr. fox.	leb,	Heb. heart.	1-v.
selepiu,	Copt. heart.	lebi,	Arab. heart.	love, Eng. love.
huap,	Dan. whelp.	leben,	Heb. lion.	love, Dan. lion.
whelp,	Eng. whelp.	leben,	Arab. milk.	alvo, Port. white.
volpe,	Ital. fox.	lebut,	Pers. milk.	ulv, Dan. wolf.
vulpes,	Lat. fox.	leben,	Arab. lion.	edlv, Dan. silver.
	1-ph, f.	lobo,	Ger. to love.	silver, Eng. silver.
alphos,	Gr. white.	lobo,	Span. wolf.	1-w.
wolf,	Eng. wolf.	lobsh,	Port. wolf.	lew, Scl. lion.
wolf,	Ger. wolf.	lubet,	Copt. light.	llew, Welsh lion.
wolf,	Dutch wolf.	iubic,	Lat. to like.	lowe, Ger. lion.
	1-m.	albo,	Scl. to like.	1-vowel.
lamma,	Bab. lion.	albo,	Ital. white.	leao, Port. lion.
laomhan,	Erse lion.	albus,	Span. white.	leo, Lat. lion.
leim,	Erse milk.	silber,	Lat. white.	goleu, Welsh light.
loma,	Sans. dog.	chalab,	Ger. silver.	1-vowel+n.
lomri,	Hind. fox.	gilbu,	Heb. milk.	leon, Gr. lion.
lume,	Ital. light.	kaleb,	Bab. dog.	leon, Span. lion.
lumen,	Lat. light.	keleb,	Heb. dog.	leon, Erse lion.
lumiere,	Fr. light.	kelub,	Pers. heart.	leontara, Rom. lion.
chlomia,	Rom. white.	kilb,	Pers. wolf.	lion, Eng. lion.
		kulb,	Arab. dog.	lion, Fr. lion.
			Arab. heart.	lione, Ital. lion.

Intermediate forms l—aspirate, or vowel followed by b, d, &c.

labab,	Heb. light.	alhu,	Copt. white.	lalt,	Fr. milk.	llaeth,	Welsh milk.
lehub,	Arab. light.	luire,	Fr. to shine.	lath,	Chald. lion.	blith,	Welsh milk.
lahat,	Heb. light.	lahaj,	Arab. to like.	leite,	Port. milk.	blath,	Erse white.
gesaladh,	Erse light.	lleuad,	Welsh moon.	latte,	Ital. milk.	skull,	Rom. dog.

⁶⁶ The following analysis of the table is suggestive.

II. Second Form in l.

l--c, k.			
lao-tis,	Lat. milk.	milk,	Eng. milk.
laci,	Erse milk.	mleko,	Sci. milk.
luc,	Sci. light.		l--ch.
lucere,	Ital. shine.	lecho,	Span. milk.
leukos,	Gr. white.	licht,	Ger. light.
like,	Eng. to like.	loiche,	Erse light.
Loki,	Dan. father of Fenrir.	loch,	Sans. light.
lokis,	Sci. bear.	luch,	Arab. shine.
lukos,	Gr. wolf.	bleach,	Eng. make white.
Lukaon,	Gr. father of Arcas.	bleachd,	Erse milk.
elkse,	Dan. to love.	bleiche,	Ger. white.
bleek,	Dutch white.	gealach,	Erse moon.
blanc,	Fr. white.	milch,	Ger. milk.
blanco,	Span. white.	lux,	Lat. light.
blank,	Ger. shining.	skulax,	Ger. dog.
blank,	Dan. shining.		l--g.
wilkus,	Sci. wolf.	Ilgi,	Bab. son of Uruk.
gal-ktos,	Gr. milk.	iosg,	Copt. light.
giaukos,	Gr. shining.	bleeg,	Dut. white.
melk,	Dan. milk.	galgo,	Span. dog.
melk,	Dutch milk.		
			galgo, Port. dog.
			mulgere, Lat. to milk.
			amelgein, Gr. to milk.
			l--gh.
			light, Eng. light.
			leoghan, Erse lion.
			l--s.
			las, Sans. light.
			lels, Arab. lion.
			lis, Gr. lion.
			lis, Sci. fox.
			loist, Erse fox.
			luisant, Fr. shining.
			lys, Dan. light.
			bläss, Ger. white.
			l--sh.
			lash, Sans. like.
			laish, Heb. lion.
			lish, Pers. lion.
			l--z.
			laz, Span. light.
			luz, Port. light.
			milzte, Sci. milk.

III. First Form in r.

r--p.		r--b.	
raposo,	Span. fox.	rupi,	Per. silver.
raposo,	Port. fox.	rupiam,	Sans. silver.
rupe,	Hind. silver.	rompu,	Copt. wolves.
		hirpus,	Lat. wolf.
			rubah, Pers. fox.
			kereb, Heb. heart.
			serebr, Sci. silver.

Intermediate forms r--aspirate, or (vowel followed by) t, &c.

yerah,	Arab. moon.	erote,	Copt. milk.	art,	Erse bear.
arian	Welsh silver.	crt,	Copt. milk.	arth,	Welsh bear.

IV. Second Form in r.

r--k, kh.			
riksha,	Sans. bear.	arch,	Sans. shiac.
ruk,	Copt. shine.	brach,	Erse bear.
ruk,	Copt. jackal.	breach,	Erse wolf.
Arkas,	Gr. son of Lukanon.	yarach,	Heb. moon.
arkouda,	Rom. bear.	yerach,	Chald. moon.
arktos,	Gr. bear.	Orchamus,	Lat. father of Leucothoe.
Urakh,	Bab. father of Ilgi.	arz,	r--z.
hurki,	Bab. moon.		Copt. bear.
vikas,	Sans. wolf.		r--g.
branco,	Port. white.	argos,	Gr. shining.
		alrgod,	Erse silver.
		bright,	Eng. shining.
roch,	Copt. white.	argentum,	Lat. silver.
ruch,	Sans. light.		
			arguros, Gr. silver.
			warg, O. Ger. wolf.
			Romaic, Italian, French, Spanish, same as Greek and Latin of silver.
			r--j.
			rajatam, Sans. silver.
			naarj, Sans. milk.
			r--s.
			ursus, Lat. bear.
			French, Italian, Spanish, Portuguese same.
			r--sh.
			roshn, Hind. shine.
			rushen, Pers. shine.
			kroshtu, Sans. jackal.

The prefixes found in the above are the vowels a, e, i, o, u, and the diphthong ai, neutrals; b, v, vu, whe, wi, we, ni, ma, me, nai, mu and ame, b sounds; and k, ka, ke, ki, ku, sku, c, ch, cha, co, g, ga, gca, gi, go, se, si, so, ya, ye, hi, hu and hua, c sounds. The affixes, an element of far less importance, are the five vowels and the diphthongs ia, io, oi and ou; among the liquids iam, amus, an, non, co, han, r, er, ri, uros, urion; of c sounds ex, ac, aca, ic, as, es, is, os, oso, us, sh, sha, ah, oh; and of d sounds d, ad, adh, lod, ouda, t, th, at, atam, ath, et, entum, ote, ut, to, tis, tos, tu. The consonants which have usurped the place of simple vowels between the letters of the root are m as in rompu, n as in blanco, branco, and s as in elske, losg.

The table might easily be extended by introducing other words, such for example as yellow, the German gelb, the Hebrew yarak, the Welsh heb-liw. It is however sufficiently large for the purpose for which it is intended.

My last example exhibits unmistakeably the presence of the Coptic article in the transmission of the root through different languages. The book of Exodus makes us acquainted with a town in Lower Egypt called ΠΙΤΗΟΜ, which the captive Israelites helped to build for their oppressors.⁶⁷ This town appears to have been situated upon the eastern bank of the Pelusiac branch of the Nile, to be the Patumos of Herodotus and the ΤΗΥΜ of the Itinerarium Antonini. There is not the least doubt that the initial Pi or Pa is the Coptic article. Sir J. G. Wilkinson connects ΤΗΥΜ with the Egyptian ΤΗΜΕΙ, the Hebrew THUMMIM, the Greek *Themis*, and, in a secondary degree, is correct in his etymology.⁶⁸ In the book of Numbers, however, we are informed that the whole of the desert region near which this town lay, extending from it to the Red Sea, was called ΕΤΗΑΜ, a name applied also to an extensive tract on the opposite shore of Arabia Petraea.⁶⁹ Many writers agree that ΕΤΗΑΜ and ΠΙΤΗΟΜ or Patumos are variations of the same root, the latter, denoting a town, being a definite form of the former. The word, ΕΤΗΑΜ, however, at once associates itself in the mind of the student of Egyptian history with the name of the solar god ΑΤΥΜ or ΑΤΜΟΥ, "who is called ΑΤΗΟΜ, and gives his name to the city of Thoum."⁷⁰ The figure of a plough, which forms part of this god's name spelt hieroglyphically, sends us to the old Coptic and Hebrew root, ΕΤΗ, a ploughshare,⁷¹ while many circumstances prove that *m* is no part of the root.⁷² Thus, Jacob Bryant says, "It is said that the Israelites came into the region of ΕΤΗΑΜ, which is still called Etti, the inhabitants of which were the Autaei of Pliny."⁷² Another writer, although guilty of the error of confounding Gatam

⁶⁷ Exodus i. 11.

⁶⁸ Rawlinson's Herodotus Book ii. 158.; note 5.

A popular account of the Ancient Egyptians, ii. 250, &c.

⁶⁹ Exodus xiii. 20. Numbers xxxiii. 6 S. The Septuagint form of this name is *Othom*. Jablonsky views it as the Coptic ΑΤΤΟΜ, *the boundary of the sea*.

⁷⁰ The History of Egypt, from the earliest times till the conquest by the Arabs, by Samuel Sharpe. London, 1870. Vol. I., 113.

⁷¹ Osborn, Monumental History of Egypt, Vol. i., 340.

⁷² Theophilus calls the Egyptian city Peitho. "Οι μὲν Ἑβραῖοι κατ' ἐκείνω καιροῦ παροικήσαντες ἐν τῇ Αἴγυπτῳ, καὶ καταδουλωθέντες, ὑπὸ βασιλείῳ, ὡς προείρηται, Τειμῶσις, ὠκοδόμησαν αὐτῷ πόλιν ὀχυράς, τὴν τε Πίθη καὶ Ῥαμειῶν."—A Autolyceum iii. 20.

⁷³ Observations upon the plagues inflicted upon the Egyptians, &c., by Jacob Bryant. London, 1794, (e libris Ben). Workman, Esq., M.D.) p. 404.

son of Esau with the god ATUM, yet correctly adds, "the name occurs as well in the Autei of Pliny, and the modern BENI ATIYEH of Burckhardt and the Desert of TIH."⁷² Pliny mentions the fact of these same Autei dwelling within the borders of Egypt.⁷³ BOUTAN a later name of Thoum or Pithom, BATHAM, the land of the Arabian Autei, and the PHATHMETIC mouth of the Nile, shewing different forms of the same word, testify to an original connection.⁷⁴ The word Autei is not unlike Aetos, the ancient name of the Nile, with which Diodorus connects the myth of Prometheus.⁷⁵ I am not aware that we have any more definite confirmation of the application of this name to the great river than the existence of the term Phathmetic as applied to a branch of it. Aetos, however, is a word meaning eagle in Greek, and is the Hebrew AIT or GAIT, a bird of prey,⁷⁶ whence, doubtless, came by the prefix of *m* the Coptic MAUT, the vulture. But just as ETH, the plough, gives ETHAM, so we have a geographical name in the tribe of Simeon, derived from AIT, namely, ETAM, also called ETHER.⁷⁷ A link, which connects the god ATHOM with water, and the Nile in particular, is found in his association with the lotus, a plant sacred to that river. The name of the lotus among the Egyptians was NOFRE, the modern Nuphar, now applied to a genus of water-lilies closely allied to the Nymphaea and Nelumbo genera, between which the lotus is to be found.⁷⁸ NOFRE, however, was a name of ATHOM, who bore the lotus upon his head.⁷⁹ The word NOFRE, which, among other meanings, has that of good, is found in NEPHERCHERES, the name of an Egyptian king; nebris, the Bacchic fawn skin often pictured on Egyptian monuments in intimate connection with NOFRE-ATHOM; and NIPUR or NIFFER, a famous place among the ancient Babylonians, with which may be joined KHARRIS NIPRA, the celebrated temple, the name of which inverts the Egyptian NEPHERCHERES.⁸⁰ Turning now from Egyptian to Hindoo

⁷² Jervis's Genesis, 469.

⁷³ Plin's Hist. Nat. Lib. vi., 33.

⁷⁴ Galloway, Egypt's Record, 511, 512, 515. Hengstenberg, Egypt and the Books of Moses trans. Edin., 1845, p. 42.

⁷⁵ Diod. Sic. l. 19.

⁷⁶ Vide Gesenii Lexicon in loc.

⁷⁷ Joshua, xix. 7. 1 Chron. iv. 3.

⁷⁸ Lindley's Vegetable Kingdom. Lond., 1833, pp. 410, 414.

⁷⁹ Wilkinson's Popular Account of the Ancient Egyptians, Vol. i., 256. Vide et. 285.

Kenrick's Ancient Egypt under the Pharaohs, i., 331.

⁸⁰ Rawlinson's Herodotus, App., Bk. i., Essay, x., 2. (iii.)

mythology, we find the lotus, a sacred plant, dedicated to Lakshmi or Sri, the Indian Ceres, who is called Padma-Devi, or the goddess of the lotus, Padma being one of the names of this plant.⁸² Another name for it is Tamara. I have no hesitation in identifying Padam with PITHOM or P-ATHOM, and Tamara with THAOM-RA, names of the Egyptian solar god. Not only does the plough of ATHOM suit a connection with Ceres or Sri, but we also find in Arabian tradition that the brother of the YODHAM or ETHAM, who gave his name to a portion of the stony peninsula, is LAKHM, a form holding the same relation to Lakshmi that Lokman does to Lakshman.⁸³ One of the most interesting geographical connections of the word under consideration is furnished by the geography of Palestine, to which, in its southern region, I have attributed the beginnings of civilization. Near BETHLEHEM, which is the *House* of LACHM or *bread*, are found, according to Josephus, the springs of ETHAM, whence flows the TAAMIREH river.⁸⁴ It is not at all improbable that Tamara may be the same word as the Hebrew TAMAR; a palm tree, the connection being found in the Rhamnus Lotus of the ancients, the *Zizyphus lotus* of botanists.⁸⁵ The fruit of these trees and the seeds of the *Nymphaea* and *Nelumbo* were very early important articles of food, and might well be classed among the chief gifts of Ceres. The lotus, again, is the favourite plant of Isis, who is the same as Lakshmi or Padma, since she stands to Osiris in the same relation as the latter bears to Iswara. The child of Isis is HARPOCRATES or SEMPHUCRATES, who is generally represented sitting upon the lotus leaf.⁸⁶ This SEMPHU-CRATES is identical with the Indian Swayambhuva, and Swayambhuva is Adima, Yotma, or

⁸² Researches concerning the laws, theology, learning, commerce, &c. of Ancient and Modern India, by Q. Crawford, Esq. Lond. 1817. Vol. i., 145, &c.

⁸³ Sale's Koran. Genealogical Table of the Descendants of Kahtan. The name Lakhm or Lakshmi is the Hebrew LACHAM, *eat*, LEHEM, *bread*, *fruit of a tree*, *Arabic food*; and is thus a fitting name to connect with Ceres.

⁸⁴ The Birthplace of Ancient Religions and Civilization. Canadian Journal, Aug. 1871, p. 171, seq.

Joseph. Antiq. viii., 7, 3. Ritter's Comparative Geography of Palestine. Translat., Edin. 1866, iii. 81, 93-4, 233-40.

Vide Psalm lxxiv, 15, where the same name in the Septuagint is rendered in our English version by the word *mighty*.

⁸⁵ Lindley's Vegetable Kingdom, 582.

⁸⁶ Guigniaut, Religions de l'Antiquité. Tom. i., 161.

⁸⁷ Id., iv., 46.

Banier, La Mythologie et les Fables expliquées par l'histoire. Tom. i., 493.

Atma.⁸⁷ The creation of the first Menu is that of *the lotus*, but the first Menu is Swayambhuva.⁸⁸ The names Semphucrates, and Harpocrates, taken in connection with the forms ATHOM and Thamara, which is just ATHOM, or, as he is often called, THAOM-RA, the RA denoting his solar character, at once suggest Melcartus the son of Demarous, Gordys, the son of Demophoon, and Meli-certa, son of Athamas. To these might be added the Persian Tahmouras, another solar personage, with his pre-eminently solar successor, Djemschid, often identified with Melcartus. The solar character of THAOM-RA and Tahmouras combines with the Ceres relationships of Gordys in the Tamara leaf of India, which surrounds the sacred fire in certain representations.⁸⁹ The Indian Atma is the soul, and as such connects not only with the Greek *thumos*, meaning the same, but with the old Homeric *aütme*, *breath*, in which we see the German *Athem*.⁹⁰ It is interesting to observe the different forms of the name ETHAM, as THOUM, AITAM and ATHOM, reproduced in these three related words. The Greek *atmē*, *vapour*, undoubtedly belongs to the same root. As we have already connected MAUT, the Egyptian name of the vulture and symbol of maternity with the Greek *aetos*, and the Hebrew AIT, and thus, with ETAM, derived from the latter, so, in Indian mythology we find Adima, under the two forms Atma and Yotma, producing Mout and Mahat.⁹¹ There can be no doubt that the Sanskrit Adima, Atma, Yotma, Tamara and Pedma represent the Egyptian ATHOM, TAOM-RA and Pithom, the Arabian YODHAM, and the Hebrew ETHAM and ETAM. We have seen that in Egypt this name connected itself with the Nile and with water generally. The same is true in regard to its Indian connections. Swayambhuva or Adima is the god of the flood as well as a near relation of the lotus. Greek names, that point to a marine or aquatic connection more clearly than *aetos* or *atmos* are Athamas, whose story is bound up with the sea, who gave his name to an extensive plain, and whose son Ptous is immortalized by a place in Boeotia, called Ptoum; great Thaumias son of Pontus; and Thamyris the Thracian bard, whose name

⁸⁷ Guignaut, Tom. i., 254, 270, 647, &c.

Sataroupa (Sterope) or Prakriti (Procris) forms a bond of union between these names.

⁸⁸ Crawford's Indian Researches, 33, 92.

⁸⁹ Maurice's Indian Antiquities, Vol. i., Pt. I., 396.

⁹⁰ Guignaut, Tom. I., 647.

⁹¹ Id., i., 270, 647.

survives, like that of Adonis, in a river of Phœnicia, the Tamyras. Hitzig insists on the connection of the Sanscrit Tamara and *tama* with water;⁹² and both of them we find as names of rivers, or as forming the base of such names, in India, Palestine, Spain, Britain, and indeed throughout the whole of the Indo European and Semitic areas.⁹³ Herodotus informs us that Thamimasadas is the Scythian name for Neptune, and all are agreed that while *masadas* stands for ruler or god, *thami* is water or the sea.⁹⁴ Strabo quotes Polybius as his authority that the people at the head of the Adriatic called the river Timavos the "mother of the sea;"⁹⁵ and from Pliny we learn that the Scythians named the Maeotis Tamarunda, which meant the same.⁹⁶ In the language of the ancient Irish, who claimed Scythian ancestry, *tamh* signified the ocean, and in an old Assyrian dialect it is TANTU. . . We have thus presented to us a word of Egyptian origin, designating a god, applied to a water plant, and conveying the idea of water, especially as found in rivers, in many different forms, the principal of which are ΤΗΟΜ, ΑΤΗΟΜ, ΠΙΤΗΟΜ. The loss of the initial vowel need be no more a subject of surprise than the prefix of the Coptic article. Strabo tells us that the Thessalian Ithome was originally called Thome but acquired in some way another syllable.⁹⁷ This is possible, but it is more than likely that the two forms came from Egypt, where ΤΗΟΜ and ΑΤΗΟΜ were interchangeable from a very early period. Without entering more into detail, or pushing our researches for the present beyond the bounds of the Greek language, this paper may fittingly come to a close with a fourfold illustration or proof of the transference of Coptic words, article included, into languages of the European family. The word Patumos, which Herodotus gives as a Greek form of ΠΙΤΗΟΜ, is the same as *potamos*, a river, for which such far-fetched derivations as *potimon ludor* have been proposed; and thus the ancient name of the Nile, which, in the forms of the English Thames and Tamar, gives brotherhood to many

⁹² Hitzig, die Philistæer, 230.

⁹³ Such are the Tomerus of Arrian or Tonberos of Pliney; the Wady Taamirah that runs to the west of the Dead Sea; the Tamaris of Spain; the Tamarus and Thamesis of Britain. Vide Arriani Indica xxiv.; Plinei Hist. Nat., Lib. vi., 25; Ritter's Comparative Geography of Palestine, vol. iii. 135; Pomponii Melae De Situ Orbis, Lib. iii. 1, 81; Six Old English Chronicles—Richard of Cirencester on the Ancient State of Britain, and Appendix, Bohm.

⁹⁴ Rawlinson's Herodotus, Appendix, Book iv., Essay ii. 7.

⁹⁵ Strab. vi., 1, 8.

⁹⁶ Plinei Hist. Nat., Lib. vi. 7.

⁹⁷ Strab. ix., 5, 17.

streams in the three continents of the Eastern Hemisphere, and even designates the sea itself in certain tongues, becomes, with the prefix of the article, by virtue of a strange forgetfulness on the part of the Greek, not more definite or particular, but a general term for every river that flows. That the word is not confined to rivers is, however, evident in Potamia, a district of Paphlagonia,⁹⁸ and Potamus an Attic deme of the tribe Leontis,⁹⁹ which reproduce BATHAM and PITHOM of Arabia and Egypt. The *nuphar* of ATHON and the *padma* of Lakshmi appear indeed in the Greek lotus of many ancient memories; but the very Sanskrit *padma* lives again in the *butomus*, a name originally denoting a water plant, and now applied to an order of aquatics presenting certain evident points of analogy with the water lilies, among which the lotus is found.¹⁰⁰ Besides the *Potamoi* of Homer, various Greek heroes and demi-gods have been mentioned who represent in the language and mythology of their country the Egyptian ATHOM or THAOM-RA, the Arabian YODHAM and the Indian Yotma or Adima. Did space permit I might show that in this ancient word the oldest traditions of India and Greece, of German and Celtic nations unite, so that on Egyptian ground Buddha and Cadmus, Odin and Hu may be brought to unity. Finally the name Potamon is not unknown to Greek mythology. In him we may expect to find the hero real or imaginary after whom the Paphlagonian district, the Attic deme and the whole tribe of rivers were called. Apollodorus had a true tradition of the origin of the name, and makes assurance doubly sure by calling him Potamon, the son of Ægyptus.¹⁰¹

⁹⁸ Id. xii., 3, 41.

⁹⁹ Id. ix., 1, 22.

¹⁰⁰ Lindley's Vegetable Kingdom, 208.

¹⁰¹ Apollodori Bibliotheca, ii., 1, 5.

LUNAR INFLUENCES.

FROM 41 YEARS' OBSERVATIONS IN AND NEAR TORONTO.

BY THE (LATE) REV. CHARLES DADE, GEORGETOWN, ESQUESING.

(Read before the Canadian Institute, Feb. 3rd, 1872.)

There is scarcely an article of belief more deeply rooted in the mind of man, and more universally diffused than that of the moon's influence upon all things both animate and inanimate upon this our globe. It is not only the subject of the most refined speculations which have ever exercised the human intellect, extending to the most stupendous operations of nature, but is made to interfere in the most commonplace concerns of every-day life. To pursue the matter through all its bearings would be a tedious and unprofitable task, and a mere record of childish and absurd superstitions. Many of these chimeras, though sanctioned by high-sounding names and venerable antiquity, have vanished. But one dogma has survived. Traced back to the remotest ages, it still exists in the present generation, and, we might almost say, among all nations and kindred and people. Job could talk of the "mild influences of the Pleiades," and David uttered a prayer that the "sun may not hurt thee by day, neither the moon by night." Thus, the idea that our satellite exercises dominion over the aerial as well as the ocean wave is one of almost universal acceptance. From the pilot or fisherman, who looks upon the Saturday moon with dread as the harbinger of a storm, to old Betty in the kitchen, who looks upon her as materially affecting her culinary operations, farmer, gardener, loungee, lover, all have their several aphorisms bearing upon this branch of planetary affection, without, perhaps, being able distinctly to enunciate in what their opinion consists. The popular argument is of the "Pourquoi non?" description. If it is proved beyond all controversy that the tides of ocean are subject to lunar control, why not those also of that aerial ocean which encompasses our earth? Thus, in a review of "Murphy's Anatomy of the Seasons," published in 1835, the writer remarks: "In this present work Mr. Murphy has undertaken to reduce the weather to method by insisting on its intimate connection with astronomy. To part of this we readily subscribe. That the

moon, which acts so powerfully as a perturbing force on the tides, should not also agitate the atmosphere with a corresponding reciprocation it is unreasonable to question." Sir W. Herschel, on the contrary, remarks as follows: "The moon is often appealed to as a great indicator of the weather, and especially its changes as taken in conjunction with some existing state of wind or sky. As an attracting body causing an aerial tide, it has, of course, an effect; but one utterly insignificant as a meteorological cause, and the only effect distinctly connected with its position with regard to the sun which can be reckoned upon with any degree of certainty is its tendency to clear the sky of cloud, and to produce not only a serene, but a calm night, when so near the full as to appear round to the eye, a tendency of which we have assured ourselves by long continued and registered observation. The effect in question, so far as the clearance of the sky is concerned, is traceable to a distinct physical cause: the warmth radiated from its highly heated surface; though why the effect should not continue several nights after the full, remains problematic."

Dr. Lardner, in his "Lectures on Science and Art," New York, 1846, has entered largely upon the subject. "Two ways," says he, "of enquiring, theory and fact, are the only methods of legitimate enquiry. Present state of physical science not equal to the first, and the latter defective from the want of reliable and long continued observations." The great advance which is now taking place in most civilized countries in the diffusion of meteorological enquiry will no doubt do much for the solution of this and other problems. In Canada, for instance, we may specify effect produced by clearing on temperature and agriculture generally, cause of January thaw, Indian summer, subject of cycles, with many other interesting topics of enquiry, which nothing less than sedulous and long continued observations, carried on through the length and breadth of the land can determine. We, of the present generation, must content ourselves with carrying the hod, hewing the stone, and providing materials for the temple of Science, without which the genius of the designer and architect will be of no avail. Had meteorology, like astronomy, been blessed with the labours of an Hipparchus or Ptolemy, we should not now be subject to those errors and delusions, especially as to the climate of this our country, which have produced so evil an effect upon its onward progress. But when we reflect that it is only a few years since the ordinary meteoro-

logical quantities have been accurately determined, and that only in a few localities, we must be fully sensible that the noble efforts now being made must be extended and amplified indefinitely to meet the wants of coming generations.

The following paper is intended simply to show the connection (if any) between lunar phases and positions and the various phenomena of the weather in this locality during the space of forty-one years, deducting trifling exceptions noted in their places. This period, though a considerable item in the life of man, is but a comparative trifle in that of a science, but still is worthy of record, especially since no attempt is made to ground any theory upon it, or to draw general conclusions from isolated and perhaps exceptional cases. A careful record of the conditions of the weather has been kept, and it is divided into two distinct classes, termed (*f*) and (*s*), fine and stormy, which may be liable to some misunderstanding; but all things considered, seems the best that can be adopted. *F*, then, denotes a day entirely free from all atmospheric disturbances; *e. g.*, rain, snow, hail, thunder and lightning, gales, &c. *S*, all others. So that *f* does not represent necessarily what in common parlance is called fine, nor would *s* be strictly speaking "stormy," but may be somewhat interchanged. This is done to avoid the ambiguity of the term and the bias every one is under to support a favourite theory. The only objection is, that by this method we scarcely give the moon her due, for many days would be called *s*, which in common acceptance might be called *f*, which would lead to a further element (*v*), or variable; thus rendering the matter too complicated.

The days noted are those

Before	}	New	}	Moon.	Before	}	Perigee.
On		Full		On	Apogee.		
After				After			

Thus forming combinations, taken three and three together, of *f, f, f*;
s, s, s.

Thus, *f, f, f*, would represent a period of the three days before mentioned, entirely consisting of fine weather; and *s, s, s*, entirely of storm, or variable. To get the number of days in their several classes for the entire period, those are reckoned according to the initial letter, and the sum taken, and thus a comparison is made of the number of fine and stormy days at the several epochs of the new and full moons, and Perigee and Apogee.

From these tables the following results arise :

$$s : f \left\{ \begin{array}{l} :: 142 : 340 \text{ for the New Moon.} \\ :: 144 : 344 \text{ for the Full Moon.} \end{array} \right.$$

Which indicates, as might have been anticipated, a very trifling difference, and it is to be borne in mind, as was before observed, that *s* is used in a far more extended sense than usual.

We may extend the subject further, by comparing *s* and *f* on the days preceding.

The next subject of enquiry is, how far the conditions of the weather are affected by the moon's position in her orbit.

After making the deductions for absence, as in the case of the \mathcal{D} and \oplus .

Five days before Moon's entering Perigee, 331 to 182.

“ “ Apogee, 323 to 188.

Next, considering the actual days of Apogee and Perigee.

Perigee, fine, ditto stormy or variable :: 320 : 191.

Apogee, fine, ditto stormy or variable :: 325 : 178.

And making the same calculation for the number of fine and stormy days immediately following Perigee and Apogee.

f : *s* :: 311 : 200, reckoning from the days respectively following Perigee and Apogee, *f* : *s* :: 332 : 200.

Those who imagine that they can trace an analogy between lunar influence as affecting the aerial and ocean wave, would expect that fair weather should prevail at \mathcal{D} and \oplus , and stormy at the quarters. Arago estimates the effect of lunar attraction on the barometer not to exceed $\frac{1}{16}$ of an inch.

Dr. Lardner concludes summarily :

That the popular opinion of lunar influence on the weather has no foundation in theory, or rather that modern science is incompetent to frame a theory on the subject ; or no correspondence with facts. Or rather (might he not have said), meteorology in its present defective state, is not furnished with an adequate apparatus of data.

Ages ago, Aristotle admirably observed, that the ancient philosophers, instead of building their theories upon careful examinations of nature, pursued the opposite and erroneous one of endeavoring to warp the phenomena of nature so as to suit their own favorite dogmas and theories. A fatal error, subversive of all true philosophy, and which has infected every branch of science and meteorology in no small degree.

CLASSICAL NOTES.

BY W. D. PEARMAN, M.A.,
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In the course of my last year's reading I met with several passages, in various classical authors, the received explanation of which seemed to me unsatisfactory. In the following instances I have ventured to propose a different explanation.

During a recent visit to Cambridge I communicated with several classical scholars, among others Messrs. Shilleto, Munro, and J. E. B. Mayor, and in most instances they expressed themselves satisfied that the explanation proposed was correct.

In the *Gorgias* of Plato (505 E), *ἀναγκαιότατον* is taken to signify "necessity," and the interpreters have exercised their ingenuity to disguise the awkward phrase "most necessary." An examination of the context led me to suppose that *ἀναγκ* had here its not unusual sense of "barely sufficient," e. g., *Plat. Rep.*, *ἀναγκαιοτάτη πόλις*, "the least one could call a city," "a city composed of the fewest possible elements."

In the case before us, Socrates observes, that if one man did the work of two (*i. e.* if he carried on the dialogue himself) it would be *ἀναγκαιότατον*.

Homer. *Odyss.*, xii. 82. *Πρὸς ζόφον* is here taken to signify "towards the northwest," but may be also translated "towards sunset," or "at sunset:" cf. *πρὸς ἡῶ*. We should then have "a cave dreary and dark at sunset turned into blackest night," or the idea of Shelly's *Cenci*, in the description of a mountain pass,—

"At noon-day here 'tis twilight,
And at sunset blackest night."

Sophocles *Antigone*, 263. The MSS. give *ἀλλ' ἔφουγε τὸ μὴ εἰδέναι*. Hermann in (*metri causa*) *ἔφουγε*. It occurred to me that the difficulty of supplying *πᾶς τις* out of the previous *οὐδεὶς* and giving *φεύγω* the meaning of *ἀποφεύγω* might be avoided by making *τὸ μὴ εἰδέναι* the subject of *ἔφουγε*, *μὴ εἰδέναι* being a quotation from the answer of the person accused, *i. e.*, "Don't know" was the defendant."

Demosthenes Phil., I. § 15: *μη κωλύων εἴ τις ἄλλος κ. τ. λ.* The speaker is here generally supposed to say that *he* offers no opposition, &c., but this creates a difficulty; as we should expect *οὐ κωλύων* in this case and not *μη*, may we not take it as a nominative absolute? "unless whoever else has any grand proposition, forbids one to speak;" *εἴ τις ἄλλος κ. τ. λ.*, standing in the place of (*verbi causa*) *Ἀισχίνης*.

Euripides, Phœnissæ, 583: *δύο κακῶ σπεύδεις τέκνον Κείνων στέρεσθαι, τῶνδ' ἑ τ' ἐν μέσῳ πεσεῖν*. Paley says that the sense is much the same as our "between two stools," but does not explain or illustrate this somewhat unusual and difficult construction. It seems best to explain it as the editors do the passages, Aristoph: *Aves*, 187: *ἐν μέσῳ ἀήκουθεν ἀήρ ἐστι γῆς*, and *Acharn*: 433, *καὶ ἐξείνων* being omitted as one of the points between which a thing is described as lying.

Cicero I., *Catil. c. vi.* MSS. give *multo post*. Editors have altered into *nulla post*, &c. The MSS. reading *multo post* seems to point to an original *multis*. The change from *multis* to *multo*, by a copyist who did not see that *multis* depended upon *commissa*, is very natural. This reading suits the context much better, if we take *commissa* in sense "entrusted as secrets."

Lucretius v. 753: *A terris altum caput obstruere ei*. Munro takes *altum caput* to be the sun's head, but finds a difficulty in *obstruere*, to which he is obliged to give an unusual sense. If, however, we take *a terris* "on the side of the earth," "from the quarter of the earth," "cf. 'ab occasu' 'a tergo,' &c., we shall get rid of this difficulty: *altum caput* will then refer to the moon: "and on the earthward side to raise her head on high in front of him (the sun), opposing an opaque orb," &c.

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From the Author—

Influence of the Blue Color of the Sky in developing Animal and Vegetable Life, by General A. J. Pleasonton 1

From the Author—

Discorso del Comm. Cristoforo Nigri, &c. &c. &c. 1

From Dawson Bros., Montreal—

The Colonial Question, by the author of "Ginx's Baby," Montreal, 1871... 1

By Mail—

Report of Inquiry. The Colorado Potato Beetle, by W. Saunders and E. B. Reed 1

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From Major-General Lefroy, R.A.—

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Catalogue of the Quebec Gallery of Paintings, Engravings, &c., the property of Joseph Légaré 1

From the Institution—

List of Members of the Institution of Civil Engineers, August 8th, 1871 .. 1

RECEIVED IN EXCHANGE FOR "JOURNAL."

Journal of Education, Upper Canada.

Journal of Franklin Institute, Philadelphia.

Journal, Silliman's, New Haven.

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Nature.

Proceedings of the Antiquaries' Society, Worcester.

Historical Recollections of the Essex Institute.

Proceedings of the Boston Natural History Society.

Anthropological Review.

Canadian Naturalist.

Transactions of the Nova Scotia Institute of Natural Sciences.

Transactions of the Royal Scottish Society of Arts.

Transactions of the Literary and Historical Society of Quebec.

Transactions of the Royal Irish Academy. Vol. 24, Polite Literature, Part IV.; Antiquities, Part VIII.; Science, Parts IX, X, XI, XII, XIII, XIV, XV.

Proceedings of the Philosophical Society of Glasgow, 1867-8, vol. vi, No. 4; 1868-9, vol. vii, No. 1; 1869-70, vol. 7, No. 2.

Proceedings of the Royal Society of Edinburgh, Session 1869-70.

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Proceedings of the Academy of Sciences of Philadelphia.

Journal of the Society of Arts, London.

BOOKS AND PERIODICALS BOUGHT.

Aliboné's Dictionary of Authors, vol. iii.
 Medical Times and Gazette.
 Boston Medical and Surgical Journal.
 Fortnightly Review.
 Quarterly Journal of Microscopical Science.
 Quarterly Journal of the Chemical Society.
 The Edinburgh Medical Journal.
 The British and Foreign Medical Chirurgical Review.
 Quarterly American Journal of Medical Sciences.
 Blackwood.
 Westminster Review.
 Edinburgh Review.
 London Quarterly Review.
 British Quarterly Review.

DONATIONS FOR THE MUSEUM.

From W. Canniff, Esq., M.D.—
 Indian Remains—Pottery..... 15 pieces.
 Stone Arrow Heads..... 5 "
 Stone Chisels (parts of)..... 5 "
 From R. A. Reeve, Esq., M.D.—
 Rocks from Mount Washington..... 2 "

CANADIAN LOCAL HISTORY.

TORONTO OF OLD :

A SERIES OF COLLECTIONS AND RECOLLECTIONS.

BY THE REV. DR. SCADDING.

XLVIII.—(Continued.)—YONGE STREET—FROM THE SECOND CONCESSION (DEER PARK) TO THE THIRD CONCESSION ROAD.

Fifty years ago, in Canada, English families, whose habits and ideas were more in harmony with Bond Street than with the backwoods, had, in becoming morally acclimatised to the country, a tremendous ordeal to pass through: how they contrived to endure the pains and perils of the process, is now matter of wonder. One of Mr. Jackson's sons, Clifton, is locally remembered as an early example in these parts of the exquisite of the period—the era of the Prince Regent and Lord Byron. By extra-sacrificing to the Graces, at a time when *articles de cosmetique et de luxe* generally were scarce and costly in Canada, he got himself into trouble. Of some of the mishaps that befell him, there is mention made elsewhere in these papers. To distinguish Mr. Mills Jackson from another proprietor on Yonge Street, also called Jackson, the alliterative epithet, "Jacobin," was sometimes applied to him, in jocosse allusion to his political principles, held by the official party to be revolutionary. In regard to the other Jackson, some such epithet as "Jacobin" would not have been inapplicable. On the invasion of Canada in 1812 by the United States, he openly avowed his sympathy with the invaders, and was obliged to fly the country. He was known and distinguished as "Hatter Jackson," from the business which he once followed. After the war he returned, and endeavoured, but in vain, to recover possession of the land on Yonge Street which he had temporarily occupied. In the *Gazette* of Nov. 11, 1807, we have Mr. Jackson's advertisement. Almost anticipating the modern "Hats that are Hats," it is headed "Warranted Hats," and then proceeds thus: "The subscriber, having established a hat manufactory in the vicinity of York on a respectable scale, solicits the patronage and support of the public. All orders will be punctually attended to, and a general assortment of warranted hats be continually kept at the store of Mr. Thomas Hamilton in York. Samuel Jackson. Yonge Street, Nov. 10, 1807." An earlier owner of the lot, at which we are now pausing, was Stillwell Wilson. In 1799, at the annual York Township meeting, held on the 4th March in that year at York, we find Stillwell Wilson elected one of the Overseers of Highways and Fenceviewers for the portion of Yonge Street, from lot 26 to lot 40, in Markham and Vaughan. At the same meeting, Paul Wilcot is elected to the same office, "from Big Creek to No. 25, inclusive, and half Big Creek Bridge; and Daniel Dehart, from Big Creek to No. 1, inclusive, and half Big Creek Bridge." The "Big Creek" referred to was, as we suppose, the Don at Hogg's Hollow. In 1821, Stillwell Wilson is landlord of the Waterloo House, in York, and is offering to let that stand; also to let or sell other valuable properties. In the *Gazette* of March 25, 1820, we have his advertisement:—"For sale or to let, four improved farms on Yonge Street, composed of lots Nos. 20 and 30 on the west side, and 15 and 20 on the east side of the street, in the townships of York and Vaughan. These lands are so well known, that they require no further encomiums than the virtues they possess. For title of which please apply to the subscriber at Waterloo House, York, the proprietor of said lands. P. S.—The noted stand known by the name of the Waterloo House, which the subscriber at present possesses, is also offered to be let on easy terms; as also an excellent Sawmill in the third concession of the township of York, east of Yonge Street, only ten miles from town, on the west branch of the river Don. Stillwell Wilson."—In 1828, for moneys due

apparently to Jairus Ashley, some of Stillwell's property has been seized. Under the editorial head of the *Loyalist* of December 27th of that year, we find the following item: "Sheriff's Sale.—At the Court House, in the Town of York, on Saturday, 31st January next, will be sold, Lot No. 30, in the first Concession of the Township of Vaughan, taken in execution as belonging to Stillwell Wilson, at the suit of Jairus Ashley. Sale to commence at 12 o'clock noon." In our paper on the early marine of York, we shall meet with Stillwell Wilson again. We shall then find him in command of a slip-keel schooner plying on the Lake between York and Niagara. The present owner of his lot, which, as we have seen, was also once Mr. Jackson's—Mr. Jacobin Jackson's—is Mr. Cawthra. (Note the tendency to distinguish between individuals bearing the name of Jackson by an epithet prefixed. A professional pugilist patronized by Lord Byron was commonly spoken of as "Gentleman Jackson.")

As we reached again the higher land, after crossing the dam of Whitmore's mill, and returning into the more direct line of the street, some rude pottery works met the eye. Here in the midst of woods, the passer-by usually saw, on one side of the road, a one-horse clay-grinding machine, laboriously in operation; and on the other, displayed in the open air on boards supported by wooden pins driven into the great logs composing the walls of a low windowless building, numerous articles of coarse brown ware, partially glazed,—pans, crocks, jars, jugs demijohns, and so forth; all which primitive products of the plastic art were ever pleasant to contemplate. These works were carried on by Mr. John Walmsley.

A tract of rough country^d was now reached, difficult to clear and difficult to traverse with a vehicle. Here a genuine corduroy causeway was encountered, a long series of small saw-logs laid side by side, over which wheels jolted deliberately. In the wet season portions of it, being afloat, would undulate under the weight of a passing load; and occasionally a horse's leg would be entrapped, and possibly snapped short by the sudden yielding or revolution of one of the cylinders below. We happen to have a very vivid recollection of the scene presented along this particular section of Yonge Street, when the woods, heavy pine chiefly, after having been felled in a most confused manner, were being consumed by fire, or rather while the effort was being made to consume them. The whole space from near Mr. Walmsley's potteries to the rise beyond which Eglinton is situated, was, and continued long, a chaos of blackened timber, most dismaying to behold. To the right of this tract was one of the Church glebes so curiously reserved in every township in the original laying-out of Upper Canada—ono lot of two hundred acres in every seven of the same area—in accordance with a public policy which at the present time seems sufficiently Utopian. Of the arrangement alluded to, now broken up, but expected when the Quebec Act passed in 1780 to be permanent, a relic remained down to a late date in the shape of a wayside inn, on the right near here, styled on its sign the "Glebe Inn"—a title and sign reminding one of the "Church Stiles" and "Church Gates" not uncommon as village ale-house designations in some parts of England.

Hitherto the general direction of Yonge street has been north, sixteen degrees west. At the point where it passes the road marking the northern limit of the third concession from the bay, it swerves seven degrees to the eastward. In the first survey of this region there occurred here a jog or fault in the lines. The portion of the street proposed to be opened north failed, by a few rods, to connect in a continuous right line with the portion of it that led southward into York. The irregularity was afterwards corrected by slicing off a long narrow angular piece from three lots on the east side, and adding the like quantity of land to the opposite lot—it happening just here that the lots on the east side lie east and west, while those on the west side lie north and south. After the third concession, the lots along the street lie uniformly east and west.

XLIX.—YONGE STREET FROM THE THIRD CONCESSION ROAD TO HOGG'S HOLLOW.

With young persons in general perhaps, at York in the olden time, who ever gave the cardinal points a thought, the notion prevailed that Yonge Street was "north." We well remember our own slight perplexity when we first distinctly took notice that the polar star, the dipper, and the focus usually of the northern lights all seemed to be east of Yonge Street. That an impression existed in the popular mind at a late period to the effect that Yonge Street was north, was shown when the pointers indicating east, west, north and south came to be affixed to the apex

of a spire on Gould Street. On that occasion several compasses had to be successively taken up and tried before the workmen could be convinced that "north" was so far "east" as the needle of each instrument would persist in asserting.

The first possessor of the lot on the west side, slightly augmented in the manner just spoken of, was the Baron de Hoen, an officer in one of the German regiments disbanded after the United States Revolutionary war. His name is also inscribed in the early maps on the adjacent lot to the north, known as No. 1 in the township of York, west side. At the time of the capture of York in 1813, Baron de Hoen's house, on Lot No. 1, proved a temporary refuge to some ladies and others, as we learn from a manuscript narrative taken down from the lips of the late venerable Mrs. Breakenridge by her daughter, Mrs. Murney. That record well recalls the period and the scene. "The ladies settled to go out to Baron de Hoen's farm," the narrative says. "He was a great friend," it then explains, "of the Baldwin family, whose real name was Von Hoen; and he had come out about the same time as Mr. St. George, and had been in the British army. He had at this time a farm about four miles up Yonge street, and on a lot called No. 1. Yonge street was then a corduroy road immediately after leaving King Street, and passing through a dense forest. Miss Russell, (sister of the late President Russell) loaded her phaeton with all sorts of necessaries, so that the whole party had to walk. My poor old grandfather (Mr. Baldwin, the father of Mrs. Breakenridge) by long persuasion at length consented to give up fighting, and accompany the ladies. Aunt Baldwin (Mrs. Dr. Baldwin) and her four sons, Major Fuller, who was an invalid under Dr. Baldwin's care, Miss Russell, Miss Willcox, and the whole cavalcade sallied forth: the youngest boy St. George, a mere baby, my mother (Mrs. Breakenridge) carried on her back nearly the whole way. When they had reached about half way out," the narrative proceeds, "they heard a most frightful concussion, and all sat down on logs and stumps, frightened terribly. They learned afterwards that this terrific sound was occasioned by the blowing up of the magazine of York garrison, when five hundred Americans were killed, and at which time my uncle, Dr. Baldwin, was dressing a soldier's wounds; he was conscious of a strange sensation: it was too great to be called a sound, and he found a shower of stones falling all round him, but he was quite unhurt. The family at length reached Baron de Hoen's log house, consisting of two rooms, one above and one below. After three days Miss Russell and my mother walked into town, just in time to prevent Miss Russell's house from being ransacked by the soldiers. All now returned to their homes and occupations," the narrative goes on to say, "except Dr. Baldwin, who continued dressing wounds and acting as surgeon, until the arrival of Dr. Hackett, the surgeon of the 8th Regiment. Dr. Baldwin said it was most touching to see the joy of the poor wounded fellows when told that their own doctor was coming back to them." It is then added: "My mother (Mrs. Breakenridge) saw the poor 8th Grenadiers come into town on the Saturday, and in church on Sunday, with the handsome Captain McNeil at their head, and the next day they were cut to pieces to a man. My father (Mr. Breakenridge) was a student at law with Dr. Baldwin, who had been practising law after giving up medicine as a profession, and had been in his office about three months, when he went off like all the rest to the battle of York." The narrative then gives the further particulars: "The Baldwin family all lived with Miss Russell after this, as she did not like being left alone. When the Americans made their second attack about a month after the first, the gentlemen all concealed themselves, fearing to be taken prisoners like those at Niagara. The ladies received the American officers: some of these were very agreeable men, and were entertained hospitably; two of them were at Miss Russell's; one of whom was a Mr. Brookes, brother-in-law of Archdeacon Stuart, then of York, afterwards of Kingston. General Sheaffe had gone off long before, taking every surgeon with him. On this account Dr. Baldwin was forced, out of humanity, to work at his old profession again, and take care of the wounded."

Lot No. 1 was afterwards the property of an English gentleman, Mr. Harvey Price, a member of our Provincial Government, as Commissioner of Crown Lands, whose conspicuous residence, castellated in character, and approached by a broad avenue of trees, was a little further on. In 1820, No. 1 was being offered for sale in the following terms, in the *Gazette* of March 25th: "That well known farm No. 1, west side of Yonge street, belonging to Captain de Hoen, about four or five miles from York, 210 acres. The land is of excellent quality, well-wooded, with about forty acres cleared, a never failing spring of excellent water, barn and farm house. Application to be made to the subscriber at York.—W. W. BALDWIN." Baron de Hoen was second to Mr. Attorney-General White, killed in the duel with Mr. Small in 1800 (January 3rd). In the

contemporary account of that incident in the *Niagara Constellation*, the name is phonetically spelt *De Hayne*, (and in this form we copied it in our section xxvii.) In the above quoted MS. the name appears as *de Haine*.

In our progress northward we now traverse ground which, as having been the scene of a skirmish and some bloodshed during the troubles of 1837, has become locally historic. The events alluded to have been described from different points of view at sufficient length in books within reach of every one. We throw over them here the mantle of charity, simply glancing at them and passing on. Upper Canada, in miniature and in the space of half a century, curiously passed through conditions and processes, physical and social, which old countries on a large scale and in the course of long ages, passed through. Upper Canada had, in little, its primæval and barbaric but heroic era, its mediæval and high-prerogative era, and then, after a revolutionary period of a few weeks, its modern, defederalized, democratic era. Without doubt the introduction here in 1792 of an "exact transcript" of the contemporary constitution of the mother country, as was the boast at the time, involved the introduction here also of some of the spirit which animated the official administrators of that constitution in the mother country itself at the period—the time of the Third George. We certainly find from an early date, as we have already heard, a succession of intelligent, observant men, either casual visitors to the country, or else intending settlers and actual settlers, openly expressing dissatisfaction at some of the things which they noted, experienced or learned, in respect of the management of Canadian public affairs. These persons for the most part were themselves perhaps only recently become alive to the changes which were inevitable in the governmental principles of the mother country; and so were peculiarly sensitive, and even, it may be, petulant in regard to such matters. But, however well-meaning and advanced in political wisdom they may have been, they nevertheless, as we have before intimated, exhibited narrowness of view themselves, and some ignorance of mankind, in expecting to find in a remote colonial out-station of the empire a state of things better than that which at the moment existed at the heart of the empire; and in imagining that strictures on their part, especially when acrimonious, would, under the circumstances, be amiably and submissively received by the local authorities. The early rulers of Canada, Upper and Lower, along with the members of their little courts, were not to be lightly censured. They were but copying the example of their royal Chief and his circle at Kew, Windsor, or St. James'. Of the Third George Thackeray says: "He did his best; he worked according to his lights; what virtue he knew he tried to practice; what knowledge he could master he strove to acquire." And so did they. The same fixity of idea in regard to the inherent dignity and power of the Crown that characterized him characterized them, together with a like sterling uprightness which commanded respect even when a line of action was adopted that seemed to tend, and did in reality tend, to popular discontent. All men, however, now acquiesce in the final issue. The social turmoil which for a series of years agitated Canada, from whatever cause arising; the explosion which at length took place, by whatever instrumentality brought on, cleared the political atmosphere of the country, and hastened the good time of general content and prosperity which Canadians of the present day are enjoying. After all, the explosion was not a very tremendous one. Both sides, after the event, have been tempted to exaggerate the circumstances of it a little, for effect.

The recollections which come back to us as we proceed on our way, are for the most part of a date anterior to those associated with 1837; although some of the latter date will of course occasionally recur.

The great conspicuous way-side inn, usually called Montgomery's, was, at the time of its destruction by the Government forces in 1837, in the occupation of a landlord named Lingfoot. The house of Montgomery, from whom the inn took its name, he having been a former occupant, was on a farm owned by himself, beautifully situated on rising ground to the left, subsequently the property and place of abode of Mr. James Leslie, of whom already (in section xvi). Mr. Montgomery had once had a hotel in York, named "The Bird in Hand," on Yonge Street, a little to the north of Elliott's. We have this inn named in an advertisement to be seen in the *Canadian Freeman* of April 17, 1828, having reference to the "Farmer's Store Company." "A general meeting of the Farmer's Storehouse Company," says the advertisement, "will be held on the 22nd of March next, at 10 o'clock a.m., at John Montgomery's tavern, on Yonge Street, 'The Bird in Hand.' The farmers are hereby also informed that the Storehouse is properly repaired for the accommodation of storage, and that every possible attention shall be paid to

those who shall store produce therein. John Goessman, clerk." The Farmer's Store was at the foot of Nelson Street. Mr. Goessman was a well-known Deputy Provincial Surveyor, of Hanoverian origin. In an address published in the *Weekly Register* of July 15, 1824, on the occasion of his retiring from a contest for a seat in the House as representative for the counties of York and Simcoe, Mr. Goessman alluded as follows to his nationality: "I may properly say," he observed, "that I was a born British subject before a great number of you did even draw breath; and have certainly borne more oppressions during the late French war than any child of this country, that never peeped beyond the boundary even of this continent, where only a small twig of that all-crushing war struck. Our sovereign has not always been powerful enough to defend all his dominions. We, the Hanoverians, have been left the greater part during that contest, to our own fate; we have been crushed to yield our privileges to the subjection of Bonaparte, his greatest antagonist," &c.

Eglinton, through which, at the present day, Yonge Street passes hereabout, is a curious stray memorial of the Tournament in Ayrshire, which made a noise in 1839. The passages of arms on the farther side of the Atlantic that occasionally suggest names for Canadian villages, are not always of so peaceful a character as that in the Earl of Eglinton's grounds in 1839; although it is a matter of some interest now to remember that even in that a Louis Napoleon figured, who at a later period was engaged in fousts of a rather serious kind, promoted by himself.

About Eglinton the name of Snider is notable as that of a United Empire Loyalist family seated here, of German descent. Mr. Martin Snider, father of Jacob and Elias Snider and other brothers and sisters, emigrated hither at an early period from Nova Scotia, where he first took up his abode for a time after the revolution. Among the names of those who volunteered to accompany General Brock to Detroit in 1815 we observe that of Mr. Jacob Snider. In later years, a member of the same family is sheriff for the County of Grey, and repeatedly a representative in Parliament of the same County.

The Anglicised form of the German name Schneider, like the Anglicised form of a number of other non-English names occurring among us, illustrates and represents the working of our Canadian social system; the practical effect of our institutions, educational and municipal. Our mingled population, when permitted to develop itself fairly; when not crushed, or sought to be crushed into narrow alien moulds invented by non-Teutonic men in the pre-printing-press, feudal era, becomes gradually—if not English—at all events Anglo-Canadian, a people of a distinct type on this continent, acknowledged by the grand old mother of nations, *Alma Britannia* herself, as eminently of kin. We have specially in mind a group from the neighbourhood of Eglinton, genuine sons of our composito Canadian people, Sniders, Mitchells, Jackeses, who, now some years ago, were to be seen twice every day at all seasons, traversing the distance between Eglinton and Toronto, rising early and late taking rest, in order to be punctually present at, and carefully ready for, class-room or lecture-room in town; and this process persevered in for the lengthened period required for a succession of curriculums; with results finally, in a conspicuous degree illustrative of the blending, Anglicising power of our institutions when cordially and loyally used. Similar happy effects springing from similar causes, have we seen in numerous other instances and batches of instances, among the youth of our Western Canada, drawn from widely severed portions of the country.

Beyond Eglinton, in the descent to a rough irregular ravine, the home of Mr. Jonathan Hale was passed on the east side of the street; one of the Hales, who, as we have seen, were forward to undertake works of public utility at a time when appliances for the execution of such works were few. Mr. Hale's lot became afterwards a part of the estate of Jesse Ketchum of whom we have spoken. We add here, that we observe in the *Gazette* of June 11, 1803, an obituary notice of Mr. Ketchum's father. It runs thus: "On Wednesday last, 8th June, departed this life, Mr. Joseph Ketchum, aged 55. His remains were interred the following day."

In 1803, the *Gazette* (October 22) informs us, the sheriff, Miles Macdonell, is about to sell "at Barrett's Inn, in the town of York," the goods and chattels of Henry Hale, at the suit of Elijah Ketchum. Likewise, at the same time, the goods and chattels of Stillwell Wilson, at the suit of James McCormack and others.

On the west side, opposite Mr. Ketchum's land, was a farm that had been modernized and beautified by two families in succession, who migrated hither from the West Indies, the Murrays and the Nantons. In particular, a long avenue of evergreen trees, planted by them and leading

up to the house, was noticeable. While these families were the owners and occupants of this property, it was named by them Pilgrims' Farm. Subsequently Pilgrims' Farm passed into the hands of Mr. Jarvis Beatty, one of the representatives of Toronto in the House of Commons in Canada, who made it an occasional summer-retreat, and called it Glen Grove. It had been at one period known as the MacDougal farm, Mr. John MacDougal, of York, having been its owner from 1801 to 1820. Mr. MacDougal was the proprietor of the principal hotel of York. Among the names of those elected to various local offices at the annual Town-meeting held in 1799 at "the city of York," as the report in the *Gazette and Oracle* ambitiously speaks, that of Mr. MacDougal appears under the head of "Overseers of Highways and Roads and Fence-viewers." He and Mr. Clark were elected to act in this capacity for "the district of the city of York." That they did good service we learn from the applause which attended their labours. The leading editorial of the *Gazette and Oracle* of June 29, 1799, thus opens: "The public are much indebted to Mr. John MacDougal, who was appointed one of the pathmasters at the last Town-meeting, for his great assiduity and care in getting the streets cleared of the many and dangerous (especially at night) obstructions thereon; and we hope," the writer says, "by the same good conduct in his successors in the like office, to see the streets of this infant town vie with those of a maturer age, in cleanliness and safety." In the number of the same paper for July 20, (1799), Mr. MacDougal's colleague is eulogized, and thanked in the following terms: "The inhabitants of the west end of this Town return their most cordial thanks to Mr. Clark, pathmaster, for his uncommon exertions and assiduity in removing out of their street its many obstacles, so highly dangerous to the weary traveller." Mr. MacDougal was the first grantee of the farm immediately to the south of Glen Grove (lot number three).

On high land to the right, some way off the road, an English-looking mansion of brick with circular ends, was another early innovation. A young plantation of trees so placed as to shelter it from the north-east winds, added to its English aspect. This was Kingsland, the home of Mr. Huson, likewise an immigrant from the West Indies. It was afterwards the abode of Mr. Vance, an Alderman of Toronto. One or two old farm houses of an antique New Jersey style, of two storeys, with steepish roofs and small windows, were then passed on the left. Some way further on, but still in the low land of the irregular ravine, another primitive rustic manufactory of that article of prime necessity, leather, was reached. This was "Lawrence's Tannery." A bridge over the stream here, which is a feeder to the Don, was sometimes spoken of as Hawke's bridge, from the name of its builder. In the hollow on the left, close to the Tannery, and overlooked from the road, was a cream-coloured respectable frame-house, the domicile of Mr. Lawrence himself. In his yard or garden, some hives of bees, when such things were rarities, used always to be looked at with curiosity in passing.

The original patentees of lots six, seven, eight and nine, on the west side of the street just here, were four brothers, Joseph, Duke, Hiram and John Kendrick, respectively. They all had nautical proclivities; or, as one who knew them said, they were, all of them, "water-dogs;" and we shall hear of them again in our chapter on the early marine of York harbour. In 1799, Duke Kendrick was about to establish a potashery on number seven. His advertisement appears in the *Gazette*, of December 21, 1799. It is headed "Ashes! Ashes! Ashes!" The announcement then follows: "The subscriber begs leave to inform the public that he is about to erect a Pot-ash upon lot No. 7, west side of Yongo Street, where he will give a generous price for ashes; for house-ashes, ninepence per bushel; for field-ashes, sixpence, delivered at the Pot-ash." It is then added: "He conceives it his duty to inform those who may have ashes to dispose of, that it will not be in his power to pay cash, but merchandize at cash price. Duke W. Kendrick. York, Dec. 7, 1799." In the year following, Mr. Allan advertises for ashes to be delivered at pot-ash works in York. In the *Gazette* for November 29, 1800, we have: "Ashes wanted. Sevenpence Halifax currency per bushel for house-ashes will be given, delivered at the Pot-ash works, opposite the Gaol; and fivepence same currency, if taken from the houses; also, eightpence New York currency for field-ashes delivered at the works. W. Allan. York, 21st November (1800)."

We now speedily arrived at the commencement of the difficult descent into the valley of the great west branch of the Don. Yongo Street here made a grand detour to the east, and failed to regain the direct northerly course for some time. As usual, wherever long inclined planes were cut in the steep sides of lofty clay banks, the condition of the roadway hereabout was, after rain, indescribably bad. After reaching the stream and crossing it on a rough timber

bridge, known anciently sometimes as Big Creek bridge and sometimes as Heron's bridge, the track ascended the further bank, at first by means of a narrow hogback, which conveniently sloped down to the vale; afterwards it made a sweep to the northward along the brow of some broken hills, and then finally turned westward until the direct northern route of the street was again touched. The banks of the Don are here on every side very bold, divided in some places into two stages by an intervening plateau. On a secondary flat thus formed, in the midst of a grass-grown clearing to the left, as the traveller journeyed from York, there was erected at an early date the shell of a place of worship appertaining to the old Scottish Kirk, put up here through the zeal of Mr. James Hogg, a member of that communion, and the owner, for a time at least, of the flour mills in the valley, near the bridge. From him this locality was popularly known as Hogg's Hollow, despite the postal name of the place, York Mills. Mr. Hogg was of Scottish descent and a man of spirit. He sent a cartel in due form in 1832 to Mr. Gurnett, editor of the *Courier*. An article in that paper had spoken in offensive terms of supposed attempts on the part of a committee in York to swell the bulk of a local public meeting, by inviting into town persons from the rural parts. "Every wheel of their well-organized political machine was set in motion," the *Courier* asserted, "to transmute country farmers into citizens of York. Accordingly about nine in the morning, groups of tall, broad-shouldered, hulking fellows were seen arriving from Whitby, Pickering and Scarborough, some crowded in waggons, and others on horseback; and Hogg, the miller, headed a herd of the swine of Yonge Street, who made just as good votes at the meeting as the best shopkeepers in York." No hostile encounter, however, took place, although a burlesque account of an "affair of honour" was published, in which it was pretended that Mr. Hogg was saved from a mortal wound by a fortunate accumulation, under the lapel of his coat, of flour, in which his antagonist's bullet buried itself. Mr. Hogg died in 1839. Here is an extract from the sermon preached by the Rev. Mr. Leach on the occasion of his funeral: "He was faithful to his word and promise," the preacher said, "and when surrounded with danger and strongly investigated, and tempted to a departure from public faith by the enemies of his country, his determination expressed in his own words, was, 'I will die a Briton.' Few men had all the veins of nature more clearly and strongly developed; and few men had a better sense of what is due to God."

The circuit of the hills overhanging the mills below was always tedious; but several good bits of scenery were caught sight of. On the upland, after escaping the chief difficulties, on the left hand a long low wooden building was seen, with gable and door towards the road. This was an early place of worship of the Church of England, an out-post of the mission at York. The long line of its roof was slightly curved downwards by the weight of a short chimney built at its middle point for the accommodation of an iron stove within. Just before arriving at the gate of the burying-ground attached to this building, there were interesting gumpes to the left down into deep woody glens, all of them converging southward on the Don. In some of them were little patches of pleasant grass land. But along here, for the most part, the forest long remained undisturbed. The church or chapel referred to was often served by divinity students sent out from town; and frequently, doubtless, had its walls echoed with prentice-attempts at pulpit oratory. Gourlay says that this chapel and the Friends' Meeting House near Newmarket were the only two places of public worship on Yonge Street in 1817, "a distance of nearly forty miles." A notice of it is inserted in "A Visit to the Province of Upper Canada in 1819, by James Strachan," (the Bishop's brother)—a work published at Aberdeen in 1820. "My brother," Mr. Strachan says, p. 141, "had, by his exertions and encouragement, among the people, caused a chapel to be built about eight miles from York, where he officiates once a month, one of the young students under his care reading the service and a sermon on the intermediate Sundays. On his day of doing duty," Mr. S. continues, "I went with him and was highly gratified. The chapel is built in a thick wood. . . . The dimensions are 60 by 30 feet; the pews are very decent, and what was much better, they were filled with an attentive congregation. As you see very few inhabitants on your way out, I could not conceive where all the people came from." A public baptism of five adults is then described. Some six and twenty years later (in 1843), the foundation stone of a durable brick church was laid near the site of the old frame chapel. On that occasion Dr. Strachan, now Bishop Strachan, named as especial promoters of the original place of worship, Mr. Seneca Ketchum and Mr. Joseph Sheppard, "the former devoting much time and money in the furtherance of the work, and the latter giving three acres of land as a site, together with a handsome donation in cash."

A silver medal which had been deposited under the old building was now transferred to a cavity in the foundation stone of its proposed successor. It bore on the obverse, "Francis Gore, Esq., Lieutenant-Governor, 1816," and on the reverse "Fifty-sixth of George Third." To it were now added a couple of other medals of silver: one bore on the obverse, "John Strachan, D.D., Bishop of Toronto; Alexander Sanson, Minister, 1843;" on the reverse, "Sixth of Victoria." The other had inscribed on it the name of the architect, Mr. J. G. Howard, with a list of other churches erected in Upper Canada under his direction. Among the persons present during the ceremony were Chief Justice Robinson, Vice-Chancellor Jameson, the Hon. and Rev. A. Cavendish, and the Rev. G. Mortimer, of Thornhill. Prior to the out-door proceedings a remarkable scene had been witnessed within the walls of the old building. Four gentlemen received the rite of Confirmation at the hands of the Bishop, all of them up to a recent date, non-conformists; three of them non-conformist ministers of mark, Mr. Townley, Mr. Leach (whom we heard just now pronouncing a eulogy on Mr. Hogg,) and Mr. Ritchie; the fourth, Mr. Sanson, not previously a minister, but now in Holy Orders of the Church of England, and the minister appointed to officiate in the new church.

At the present day Yonge Street crosses Hogg's Hollow in a direct line on a raised embankment which the ancient Roman roadmakers would have deemed respectable—a work accomplished about the year 1835, before the aid of steam power was procurable in these parts for such purposes. Mr. Lynn was the engineer in charge here, at that time. The picturesque character of the valley has been considerably interfered with. Nevertheless a winding road over the hills to the right leading up to the church (St. John's) has still some sylvan surroundings. In truth, were a building or two of the chalet type visible, the passer-by might fancy himself for a moment in an upland of the High Alps, so Swiss-like is the general aspect. It may be added that the destruction of the beautiful hereabout has to some extent a set-off in the fine geological studies displayed to the eye in the sides of the deep cuts at both ends of the great causeway. Lake Ontario's ancient floor here lifted up high and dry in the air, exhibits, stratum super stratum, the deposits of successive periods long ago. (The action of the weather, however, has at the present time greatly blurred the interesting pictures of the past formerly displayed on the surface of the artificial escarpments at Hogg's Hollow.)

L.—YONGE STREET, FROM HOGG'S HOLLOW TO THORNHILL.

Beyond the Hollow, Mr. Humberstone's was passed on the west side, another manufacturer of useful pottery ware. A curious incident used to be narrated as having occurred in this house. The barrel of an old Indian fowling piece turned up by the plough in one of the fields, and made to do duty in the management of unwieldy back logs in the great fire-place, suddenly proved itself to have been charged all the while, by exploding one day in the hands of Mr. Humberstone's daughter while being put to its customary use, and killing her on the spot. (Somewhat similarly, at Fort Erie, we have been told, in the fire which destroyed the wharf at the landing, a condemned cannon which had long been planted in the pier as a post, went off, happily straight upwards, without doing any damage.) Mr. Humberstone saw active service as a lieutenant in the incorporated militia in 1812. He was put in charge of some of the prisoners captured by Col. Fitzgibbon, at the Beaver Dams, and when now nearing his destination, Kingston, with his prisoners in a large batteau, he, like the famous Dragoon who caught the Tartar, was made a prisoner of himself by the men whom he had in custody, and was adroitly rowed over by them to the United States shore, where being landed he was swiftly locked up in jail, and thence only delivered when peace was restored.

The next memorable object, also on the left, was Shephard's inn, a noted resting place for wayfarers and their animals, flanked on the north by large driving sheds, on the south by stables and barns: over the porch, at an early period, was the effigy of a lion gardant, attempted in wood on the premises. Constructiveness was one of the predominant faculties in the first landlord of the Golden Lion. He was noted also for skilful execution on several instruments of music: on the bassoon for one. In the rear of the hotel, a little to the south, on a fine eminence, he put up for himself after the lapse of some years, a private residence, remarkable for the originality of its design, the outline of its many projecting roofs presenting a multitude of concave curves in the Chinese pagoda style. In several buildings in this neighbourhood an effort was a long time made, chiefly, we believe, through the influence of Mr. Shep-

hard, to reproduce what in the west of England are called cobwalls; but either from an error in compounding the material, or from the peculiar character of the local climate, they proved unsatisfactory. The Sheppards, early proprietors of land a little further on, were a different family and spelt their name differently. It was some members of this family that were momentarily concerned in the movement of 1837.

In Willowdale, a hamlet just beyond Shephard's, was the residence of Mr. David Gibson, destroyed in 1837 by the Government forces. We observe in the *Gazette* of January 6th, 1826, the announcement, "Government House, York, 29th December, 1825. His Excellency the Lieutenant-Governor has been pleased to appoint David Gibson, gentleman, to be a surveyor of land in the Province." In the practice of the profession indicated he was prosperous, and also as a practical farmer. He likewise represented North York in the Provincial Parliament. When the calm came after the tumult of 1837, he was appointed one of the Superintendents of Colonization Roads. He died at Quebec in 1864.

A road turning off at right angles to the eastward out of Willowdale led to a celebrated camp meeting ground, on the property of Mr. Jacob Cummer, one of the early German settlers. It was in a grand maple forest—a fine specimen of such trysting places. It was here that we were for the first time present at one of the peculiar assemblies referred to, which, over the whole of this northern continent, in a primitive condition of society at its several points, have fulfilled, and still fulfil, an important, and we doubt not, beneficent function. This, as we suppose, was the scene of the camp meeting described in Peter Jones' Autobiography. "About noon," he writes on Tuesday, the 10th of June, 1828, "started for the camp ground. When we arrived we found about three hundred Indians collected from Lake Simcoe and Scugog Lake. Most of those from Lake Simcoe have just come in from the back lakes to join with their converted brethren in the service of the Almighty God. They came in company with brother Law, and all seemed very glad to see us, giving us a hearty shake of the hand. The camp ground enclosed about two acres, which was surrounded with board tents, having one large gate for teams to go in and out, and three smaller ones. The Indians occupied one large tent, which was 220 feet long and 15 feet broad. It was covered overhead with boards, and the sides were made tight with lathes to make it secure from any encroachments. It had four doors fronting the camp ground. In this long house the Indians arranged themselves in families, as is their custom in their wigwams. Divine service commenced towards evening. Elder Case first gave directions as to the order to be observed on the camp ground during the meetings. Brother James Richardson then preached from Acts ii. 21; after which I gave the substance in Indian, when the brethren appeared much affected and interested. Prayer-meeting in the evening. The watch kept the place illuminated during the night." The meeting continued for four days.

Where the dividing line occurs between York and Markham, at the angle on the right was the first site of the sign of the Green Bush, removed afterwards, as we have noted, to the immediate outskirts of York; and to the left, somewhere near by, was a sign that used to interest from its peculiarity, the Durweston Gate: a small white five-barred gate, hung by its topmost bar to a projection from a lofty post, and having painted on its lower bars "Durweston Gate," and the landlord's name. It was probably a reproduction by a Dorsetshire immigrant of a familiar object in his native village.

Not excluding from our notes, as will be observed, those places where Shenstone sighed to think a man often "found the warmest welcome," we must not forget Finch's—a great hostelry on the right, which we soon reached as we advanced northward, of high repute about 1836, and subsequently, among excursion parties from town, and among the half-pay settlers of the Lake Simcoe region, for the contents of its larder and the quality of its cooking. Another place of similar renown was Crew's, six or eight miles further on. When for long years, men—especially Englishmen, called by their occasions away from their homes, had been almost everywhere doomed to partake of fare too literally hard, and perilous to the health, it is not to be wondered at, when, here and there, at last a house for the accommodation of the public did spring up where, with cleanly quarters, digestible viands were to be had, that its fame should speedily spread; for is it not Dr. Samuel Johnson himself who has, perhaps rather sweepingly said, "there is nothing which has yet been contrived by man by which so much happiness is produced, as by a good tavern or inn."

Where a long slope towards the north begins soon after Finch's, a village entitled Dundurn was once projected by Mr. Allan McNab, afterwards the famous Sir Allan, acting, we believe,

at the time as agent for Mr. H. J. Boulton; but Dundurn never advanced beyond incipience. The name was afterwards familiar as that of Sir Allan's château close by Hamilton.

A well-travelled road now soon turned off to the right leading to certain, almost historic, mills in Markham, known as the German Mills. In the *Gazetteer* of 1799 these mills are referred to. "Markham township in the east riding of the County of York fronts Yonge Street," it is stated in that early work, "and lies to the northward of York and Scarborough. Here" it then adds "are good mills and a thriving settlement of Germans." The German Mills were situated on lot No. 4 in the third concession, on a portion of the Rouge or Nen—a river which the same *Gazetteer* informed its readers was "the back communication from the German settlement in Markham to Lake Ontario." The expectation in 1799 was, as the *Gazetteer* further shows, that this river, and not either the Humber or the Don, would one day be connected with the Holland river by a canal. It was not certainly known in 1794, where the river which passed the German Mills had its outlet. In Iredell's plan of Markham of that date, the stream is marked "Kitchessepe or Great River," with a memorandum attached—"waters supposed to empty into Lake Ontario to the eastward of the Highlands of York." Information, doubtless, noted down, by Iredell, from the lips of some stray native. Kitchessepe, "Big River" is of course simply a descriptive expression, taken as in so many instances, by the early people, to be a proper name. (It does not appear that among the aborigines there were any proper local names, in our sense of the expression.) The German Mills were founded by Mr. Berezy, either on his own account or acting as agent for an association at New York for the promotion of German emigration to Canada. When, after failing to induce the Government to reconsider its decision in regard to the patents demanded by him for his settlers, that gentleman retired to Montreal the German Mills with various parcels of land were advertised for sale in the *Gazette* of April 27, 1805, in the following strain: "Mills and land in Markham. To be sold by the subscriber for payment of debts due to the creditors of William Berezy, Esq., the mills called the German Mills, being a grist mill and a saw mill. The grist mill has a pair of French burs, and complete machinery for making and bolting superfine flour. These mills are situated on lot No. 4 in the third concession of Markham; with them will be given in, lots No. 3 and 4 in the third concession, at the option of the purchaser. Also 300, acres being the west half of lot No. 31, and the whole of lot 32 in the second concession of Markham. Half the purchase money to be paid in hand, and half in one year with legal interest. W. ALLAN. N.B.—Francis Smith, who lives on lot No. 14 in the third concession, will show the premises. York, 11th March, 1805." It appears from the same *Gazette* that Mr. Berezy's vacant house in York had been entered by burglars after his departure. A reward of twenty dollars is offered for their discovery. "Whereas," the advertisement runs, "the house of William Berezy, Esq., was broken open sometime during the night of the 14th instant, and the same ransacked from one end to the other; this is to give notice that whoever shall lodge an information, so that the offender or offenders may be brought to justice, shall upon conviction thereof, receive Twenty Dollars. W. CUEWETT. York, 16th April, 1805." We have before referred to Mr. Berezy's embarrassments, from which he never became disentangled; and to his death in New York in 1813. His decease was thus noticed in a Boston paper, quoted by Dr. Canniff, p. 364, "Died—In the early part of the year 1813, William Berezy, Esq., aged 68; a distinguished inhabitant of Upper Canada, and highly respected for his literary acquirements. In the decease of this gentleman, society must sustain an irreparable loss, and the republic of letters will have cause to mourn the death of a man eminent for genius and talent."

The German Mills were purchased and kept in operation by Capt. Nolan, of the 70th Regiment, at the time on duty in Canada; but the speculation was not a success. We have heard it stated that this Capt. Nolan was the father of the officer of the same name and rank who fell in the charge of the Light Brigade at the very first outset, when, at Balaklava,

"Into the valley of Death
Rode the six hundred."

The *Gazette* of March 19, 1818, contains the following curt announcement: "Notice. The German Mills and Distillery are now in operation. For the Proprietors. Alexander Patterson, Clerk. 11th March, 1818." Ten years later they are offered for sale or to lease in the *U. C. Loyalist* of April 5, 1828. (It will be observed that they once bore the designation of Nolanville.) "For sale or to be leased," thus runs the advertisement, "all or any part of the

property known and described as Nolanville or German Mills, in the third concession of the township of Markham, consisting of four hundred acres of land, upwards of fifty under good fences and improvements, with a good dwelling-house, barn, stable, saw-mill, grist-mill, distillery, brew-house, malt-house, and several other out-buildings. The above premises will be disposed of, either the whole or in part, by application to the subscriber, William Allan, York, January 26, 1828. The premises can be viewed at any time by applying to Mr. John Duggan residing there."

In the absence of striking architectural objects in the country at the time, we remember, about the year 1828, thinking the extensive cluster of buildings constituting the German Mills a rather impressive sight, coming upon them suddenly, in the midst of the woods, in a deserted condition, with all their windows boarded up.

One of our own associations with the German Mills is the memory of Mr. Charles Stewart Murray, afterwards well-known in York as connected with the Bank of Upper Canada. He had been thrown out of employment by Capt. Nolan's relinquishment of the Mills. He was then patronized by Mr. Thorne of Thornhill. In our boyish fancy, a romantic interest attached to Mr. Murray from his being a personal friend of Sir Walter Scott's, and from his being intimately associated with him in the excursion to the Orkneys, while the Pirate and the Lord of the Isles were simmering in the Novelist's brain. "Not a bad Re-past," playfully said Sir Walter after partaking one day of homely meat-pie at the little inn of one Itac. Lo! from Mr. Murray's talk, a minute grain to be added to Sir Walter's already huge cairn of ana. Mr. M., too, was imagined by us, quite absurdly doubtless, to be an hereditary devotee of the Pretender, if not closely allied to him by blood. (His grandfather, or other near relative, had, we believe, really been for a time secretary to Prince Charles Edward Stuart.)

A mile or two beyond where the track to the German Mills turned off, Yonge Street once more encountered a branch of the Don, flowing, as usual, through a wide and difficult ravine. At the point where the stream was crossed, mills and manufactories made their appearance at an early date. The ascent of the bank towards the north was accomplished, in this instance, in no round-about way. The road went straight up. Horse-power and the strength of leather were here often severely tested. On the rise above began the village of Thornhill, an attractive and noticeable place from the first moment of its existence. Hereabout several English families had settled, giving a special tone to the neighbourhood. In the very heart of the village was the home, unfailingly genial and hospitable, of Mr. Parsons, one of the chief founders of the settlement; emigrating hither from Sherborne in Dorsetshire in 1820. Nearer the brow of the hill overlooking the Don, was the house of Mr. Thorne, from whom the place took its name: an English gentleman also from Dorsetshire, and associated with Mr. Parsons in the numerous business enterprises which made Thornhill for a long period a centre of great activity and prosperity. Beyond, a little further northward, lived the Gappers, another family initiating here the amenities and ways of good old west-of-England households. Dr. Paget was likewise an element of happy influence in the little world of this region, a man of high culture; formerly a medical practitioner of great repute in Torquay. Another character of mark associated with Thornhill in its palmy days was the Rev. George Mortimer, for a series of years the pastor of the English congregation there. Had his lot been cast in the scenes of an Oberlin's labours or a Lavater's, or a Felix Neff's, his name would probably have been conspicuously classed with theirs in religious annals. He was eminently of their type. Constitutionally of a spiritual temperament, he still did not take theology to be a bar to a scientific and accurate examination of things visible. He deemed it "sad, if not actually censurable, to pass blindfolded through the works of God, to live in a world of flowers, and stars, and sunsets, and a thousand glorious objects of Nature, and never to have a passing interest awakened by any one of them." Before his emigration to Canada he had been curate of Madeley in Shropshire, the parish of the celebrated Fletcher of Madeley, whose singularly beautiful character that of Mr. Mortimer resembled. Though of feeble frame his ministerial labours were without intermission; and his lot, as Fletcher's also, was to die almost in the act of officiating in his profession.—An earlier incumbent of the English Church at Thornhill was the Rev. Isaac Fidler. This gentleman rendered famous the scene of his Canadian ministry, as well as his experiences in the United States, by a book which in its day was a good deal read. It was entitled "Observations on Professions, Literature, Manners, and Emigration in the United States and Canada." Although he indulged in some sharp strictures on the citizens of the

United States, in relation to the matters indicated, and followed speedily after by the never-to-be-forgotten Mrs. Trollope, his work was reprinted by the Harpers. Mr. Fidler was a remarkable person,—of a tall Westmoreland mould, resembling the common pictures of Wordsworth. He was somewhat peculiar in his dress, wearing always an extremely high shirt-collar, very conspicuous round the whole of his neck, forming a kind of spreading white socket in which rested and revolved a head, bald, egg-shaped and spectacled. Besides being scholarly in the modern sense, Mr. Fidler possessed the more uncommon accomplishment of a familiarity with the oriental languages. The notices in his book of early colonial life have now to us an archaic sound. We give his narrative of the overturn of a family party on their way home from church. "The difficulty of descending a steep hill in wet weather may be imagined," he says. "The heavy rains had made it (the descent south of Thornhill) a complete puddle which afforded no sure footing to man or beast. In returning from church, the ladies and gentlemen I speak of," he continues, "had this steep hill to descend. The jaunting-car being filled with people was too heavy to be kept back, and pressed hard upon the horses. The intended youthful bridegroom (of one of the ladies) was, I was told, the charioteer. His utmost skill was ineffectually tried to prevent a general overturn. The horses became less manageable every moment. But yet the ladies and gentlemen in the vehicle were inapprehensive of danger, and their mirth and jocularly betrayed the inward pleasure they derived from his increasing struggles. At last the horses, impatient of control, and finding themselves their own masters, jerked the carriage against the parapet of the road and disengaged themselves from it. The carriage instantly turned over on its side; and as instantly all the ladies and gentlemen trundled out of it like rolling pins. Nobody was hurt in the least, for the mire was so deep that they fell very soft and were quite imbedded in it. What apologies the gentleman made I am unable to tell, but the mirth was perfectly suspended. I overtook the party at the bottom of the hill, the ladies walking homewards from the church and making no very elegant appearance."—As an example of the previously undreamt-of incidents that may happen to a missionary in a backwoods settlement, we mention what occurred to ourselves when taking the duty one fine bright summer morn, many years ago, in the Thornhill Church, yet in its primitive unenlarged state. A farmer's horse that had been mooning leisurely about an adjoining field, suddenly took a fancy to the shady interior disclosed by the wide opened doors of the sacred building. Before the churchwardens or any one else could make out what the clatter meant, the creature was well up the central passage of the nave. There becoming affrighted, its ejection was an awkward affair, calling for tact and manœuvring.

The English Church at Thornhill has had another incumbent not undistinguished in literature, the Rev. E. H. Dewar, author of a work published at Oxford in 1844, on the Theology of Modern Germany. It is in the form of letters to a friend, written from the standpoint of the Jeremy Taylor school. It is entitled "German Protestantism and the Right of Private Judgment in the Interpretation of Holy Scripture." The author's former position as chaplain to the British residents at Hamburg gave him facilities for becoming acquainted with the state of German theology. Mr. Dewar, to superior natural talents, added a refined scholarship and a wide range of accurate knowledge. He died at Thornhill in 1862. The incumbent who preceded Mr. Dewar was the Rev. Dominic E. Blake, brother of Mr. Chancellor Blake; a clergyman also of superior talents. Previous to his emigration to Canada in 1832, he had been a curate in the county of Mayo. He died suddenly in 1859. It is remarked of him in a contemporary obituary that "his productions indicated that while intellect was in exercise his heart felt the importance of the subjects before him." These productions were numerous, in the form of valuable papers and reports, read or presented to the local Diocesan Society.

It is curious to observe that in 1798, salmon ascended the waters of the Don to this point on Yonge Street. Among the recommendations of a farm about to be offered for sale, the existence thereon of "an excellent salmon fishery" is named. Thus runs the advertisement (*Gazette*, May 26, 1798): "To be sold by public auction, on Monday, the 2nd of July next, at John McDougall's hotel, in the town of York, a valuable farm, situated on Yonge Street, about twelve miles from York, on which are a good log house, and seven or eight acres well improved. The advantages of the above farm, from the richness of its soil and its being well watered, are not equalled by many farms in the Province; and above all, it affords an excellent salmon fishery, large enough to support a number of families, which must be conceived a great advantage in this infant country. The terms will be made known on the day of sale."

LI.—YONGE STREET FROM THORNHILL TO RICHMOND HILL.

As we move on from Thornhill with Vaughan on the left and Markham on the right, the name of another rather memorable early missionary recurs, whose memory is associated with both these townships—Vincent Philip Mayerhoffer. Notwithstanding its drawbacks, early Canadian life, like early American life generally, became, in a little while, invested with a curious interest and charm; by means, for one thing, of the variety of character encountered. A man might vegetate long in an obscure village or country town of the old mother country before he rubbed against a person of V. P. Mayerhoffer's singular experience, and having his wits set in motion by a sympathetic realization of such a career as his. He was a Hungarian; born at Raab in 1784; and had been ordained a presbyter in the National Church of Austria. On emigrating to the United States, he being himself a Franciscan, fell into some disputes with the Jesuits at Philadelphia, and withdrew from the Latin communion and attached himself, in company with a fellow-presbyter named Huber, to the Lutheran Reformed. As a recognized minister of that body he came on to Buffalo, where he officiated for four years to three congregations, visiting at the same time, occasionally, a congregation on the Canada side of the river, at Limeridge. He here, for the first time, began the study of the English language. Coming now into contact with the clergy of the Anglican communion, he finally resolved to conform to the Anglican Church, and was sent by bishop Stewart, of Quebec, to the German settlement in Markham and Vaughan. Here he officiated for twenty years, building in that interval St. Stephen's Church in Vaughan, St. Philip's in the 3rd concession of Markham, and the Church in Markham village, and establishing a permanent congregation at each. He was a vigorous, stirring preacher in his acquired English tongue, as well as in his vernacular German. He possessed also a colloquial knowledge of Latin, which is still a spoken language in part of Hungary. He was a man of energy to the last: ever cheerful in spirit, and abounding in anecdotes, personal or otherwise, the scenes of which the generality of persons about him were little acquainted with. It was from him, as we remember, we first heard the afterwards more familiarized names of Magyar and Sclave. His brother-clergy of the region where his duty lay were indebted to him for many curious glimpses at men and things in the great outer world of the continent of Europe. During the Napoleonic wars he was "Field Chaplain of the Imperial Infantry Regiment, No. 60 of the Line," and accompanied the Austrian contingent of 40,000 men furnished to Napoleon by the Emperor of Austria. He was afterwards, when the Austrian Emperor broke away from Napoleon, taken prisoner with five regiments of the line, and sent to Dresden and Mayence. He was at the latter place when the battle of Leipsic was fought (Oct. 16, 17, 18, 19, 1813.) He now left Mayence without leave, the plague breaking out there, and got to Oppenheim, where a German presbyter called Muller concealed him, till the departure of the French out of the town. After several adventures he found his way back to the quarters of his regiment now acting in the anti-French interest at Manheim, where he duly reported himself and was well received. After the war, from the year 1816, he had for three years the pastoral charge of Klingenmunster in the diocese of Strasbourg. He died in Whitby in 1859. A memoir of Mr. Mayerhoffer has been printed, and it bears the following title: "Twelve years a Roman Catholic Priest; or, The Autobiography of the Rev. V. P. Mayerhoffer, M. A., late Military Chaplain to the Austrian Army and Grand Chaplain of the Orders of Free Masons and Orangemen of Canada, B. N. A., containing an account of his career as Military Chaplain, Monk of the Order of St. Francis, and Clergyman of the Church of England in Vaughan, Markham and Whitby, C. W." He had a musical voice which had been properly cultivated. This, he used to say, was a source of revenue to him in the early part of his public career, those clergy being in request and receiving a higher remuneration, who were able to sing the service in a superior manner. His features were strongly marked and peculiar, perhaps Mongolian in type; they were not German, English or Italian. Were the concavity of the nose and the projection of the mouth a little more pronounced in "Elias Howe," the medallions of that personage would give a general idea of Mr. Mayerhoffer's profile and head. In his younger days he had acquired some medical knowledge, which stood him in good stead for a time at Philadelphia, when he and Huber first renounced the Latin dogmas. His taste for the healing art was slightly indulged even after the removal to Canada, as will be seen from an advertisement which appears in the *Courier* of February 29, 1832. (From its wording it will be observed that Mayerhoffer had not yet become familiarized with the English language.) It is,

headed thus: "The use and direction of the new-invented and never-failing Wonder Salve, by D. V. P. Mayerhoffer, of Markham, U.C., H.D., 5th concession." It then proceeds: "Amongst all in the medicine-invented unguents his salvo takes the first place for remedy, whereby not in vain obtains the name of Wonder Salve for experience taught in many cases to deserve this name; and being urged to communicate it to the public, I endeavour to satisfy to the common good of the public. It is acknowledged by all who know the virtue of it, and experienced its worth, it ought to be kept in every house, first for its inestimable goodness, and, second, because the medicine the older it gets the better it is: money spent for such will show its effect from its beginning for twenty years, if kept in a dry place, well covered. In all instances of burns, old wounds, called running sores, for the letter-worm or ring, &c., as the discussions and use will declare, wrapped round the box or the medicine. It is unnecessary to recommend by words this inestimable medicine, as its value has received the approbation of many inhabitants of this country already, who sign their names below for the surety of its virtue and the reality of its worth, declaring that they never wish to be without it in their houses by their lifetimes. In Markham, Mr. Philip Eckhardt, jun., do. do., sen., Godlieb Eckhardt, Abraham Eckhardt, John Pingel, jun., Mr. Lang, Mr. Large, John Perkins, John Schall, Charles Peterson, Luke Stantenkough, Peter March. In Vaughan, Jacob Fricher, Daniel Stang. Recommended by Dr. Baldwin, of York. The medicine is to be had in the eighth concession of Markham, called Riarstown, by Sinclair Huldex; in the 5th concession, by Christopher Hevelin and T. Amos; in the town of York, in J. Baldwin's and S. Barnham's stores; on Yonge Street, by Parsons and Thorne. Price of a box, two shillings and sixpence, currency. January 11, 1832."

Military associations hang about the lands to the right and left of Richmond Hill. The original possessor of Lot No. 22 on the west side, was Capt. Daniel Cozens, a gentleman who took a very active part in opposition to the revolutionary movement which resulted in the independence of the United States. He raised, at his own expense, a company of native soldiers in the royalist interest, and suffered the confiscation of a considerable estate in New Jersey. Three thousand acres in Upper Canada were subsequently granted him by the British Crown. His sons, Daniel and Shivers, also received grants. The name of Shivers Cozens is to be seen in the early plans of Markham on lots 2, 4 and 5 in the 6th concession. Samuel died of a fit at York in 1808; but Shivers returned to New Jersey and died there, where family connections of Capt. Cozens still survive. There runs amongst them a tradition that Capt. Cozens built the first house in our Canadian York. Of this we were informed by Mr. T. Cottrill Clarke, of Philadelphia, who has taken a friendly interest in notices which he has chanced to see of these papers. We observe in an early plan of York the name of Shivers Cozens on No. 23 in Block E, on the south side of King Street: the name of Benjamin Cozens on No. 5 on Market Street: and the name of Capt. Daniel Cozens on No. 4 King Street (New Town) north side, with the date of the grants, July 20, 1799. It is thus quite likely that Capt. Cozens or a member of his family put up buildings in York at a very early period. We read in the *Niagara Herald*, of Oct. 31, 1801, the following: "Died on the 6th ult., near Philadelphia, Capt. Daniel Cozens." In the *Gazette & Oracle*, of January 27, 1803, we have a memorandum of the decease of Samuel Cozens: "Departed this life, on the 29th ult., Mr. Samuel D. Cozens, one of the first inhabitants of this town [York]. His remains were interred with Masonic honours on the 31st."

Another officer of the Revolutionary era was the first owner, and for several years the actual occupant, of the lot immediately opposite Capt. Cozens'. This was Capt. Richard Lippincott, a native of New Jersey. A bold deed of his has found a record in all the histories of the period. The narrative gives us a glimpse of some of the painful scenes attendant on wars wherein near relatives and old friends come to be set in array one against the other. On the 12th of April, 1782, Capt. Lippincott, acting under the authority of the "Board of Associated Loyalists of New York," executed by hanging, on the heights near Middleton, Joshua Huddy, an officer in the revolutionary army, as an act of retaliation,—Huddy having summarily treated, in the same way, a relative of Capt. Lippincott's, Philip White, surprised within the lines of the revolutionary force, while on a stolen visit of natural affection to his mother on Christmas Day. On Huddy's breast was fastened a paper containing the following written notice, to be read by his co-revolutionists and friends when they should discover the body suspended in the air.—"We, the Refugees, having long with grief beheld the cruel murders of our brethren, and finding nothing but such measures carrying into execution, therefore determined not to suffer

without taking vengeance for the numerous cruelties; and thus begin, having made use of Captain Huddy as the first object to present to your view; and further determine to hang man for man while there is a Refugee existing. Up goes Huddy for Philip White!" When the surrender of Capt. Lippincott was refused by the Royalist authorities, Washington ordered the execution of one officer of equal rank to be selected by lot out of the prisoners in his hands. The lot fell on Capt. Charles Asgill of the Guards, aged only nineteen. He was respited however until the issue of a court-martial, promised to be held on Capt. Lippincott, should be known. The court acquitted; and Captain Asgill only narrowly escaped the fate of Andre, through prompt intervention on the part of the French Government. The French minister in London, the Count de Vergennes, to whom there had been time for Lady Asgill, the captain's mother, to appeal—received directions to ask his release in the conjoint names of the King and Queen as "a tribute to humanity." Washington thought proper to accede to this request; but it was not until the following year, when the revolutionary struggle ended, that Asgill and Lippincott were set at liberty. The former lived to succeed to his father's baronetcy and to become a General officer. Colonel O'Hara, of Toronto, remembered dining at a table where a General Sir Charles Asgill was pointed out to him as having been, during the American revolutionary war, for a year under sentence of death, condemned by General Washington to be hanged in the place of another person.

Capt. Lippincott received from the Crown three thousand acres in Upper Canada. He survived until the year 1826, when, aged 81, and after enjoying half-pay for a period of forty-three years, he expired at the house of his son-in-law in York, Colonel George Taylor Denison, who gave to his own eldest son, Richard Lippincott Denison, Captain Lippincott's name.

In connexion with Richmond Hill, which now partially covers the fronts of Captain Cozens' and Captain Lippincott's lots, we subjoin what Captain Bonnycastle said of the condition of Yonge Street hereabout in 1816, in his "Canada and the Canadians." "Behold us at Richmond Hill," he exclaims, "having safely passed the Slough of Despond which the vaunted Yonge Street mud road presents between the celebrated hamlet of St. Albans and the aforesaid hill." And again: "We reached Richmond Hill, seventeen miles from the Landing, at about 8 o'clock (scm. by moving southward) having made a better day's journey than is usually accomplished on a road which will be macadamized some fine day;—for the Board of Works," he proceeds to inform the reader, "have a Polish engineer hard at work surveying it; of course, no Canadian was to be found equal to this intricate piece of engineering; and I saw a variety of sticks stuck up; but what they meant I cannot guess at. I suppose they were going to grade it, which is the favourite American term." The prejudices of the Englishman and Royal Engineer routinier here betray themselves. The Polish engineer, who was commencing operations on this subdivision of Yonge Street, was Mr. Casimir Stanislaus Gzowski, whose subsequent Canadian career renders it probable that in setting up "the variety of sticks," the meaning of which Capt. Bonnycastle does after all guess at, he understood his business. We are assured that this portion of Yonge Street was in fact conspicuous for the superior excellence of its finish. Captain Bonnycastle indulges in a further little fling at civilians who presume to undertake engineering duties, in a story which serves to fill a page or two of his book, immediately after the above remarks on Yonge Street, about Richmond Hill. He narrates an incident of his voyage out:—"A Character," he says, "set out from England to try his fortune in Canada. He was conversing about prospects in that country, on board the vessel, with a person who knew him, but whom he knew not. 'I have not quite made up my mind,' said the character, 'as to what pursuit I shall follow in Canada; but that which brings most grist to the mill will answer best; and I hear a man may turn his hand to anything there, without the folly of an apprenticeship being necessary; for if he have only brains, bread will come; now what do you think would be the best business for my market?' 'Why,' said the gentleman, after pondering a little, 'I should advise you to try civil engineering; for they are getting up a Board of Works there, and want that branch of industry very much, for they won't take natives: nothing but foreigners and strangers will go down.' 'What is a civil engineer?' said the Character. 'A man always measuring and calculating,' responded his adviser, 'and that will just suit you.' 'So it will,' rejoined Character, and a civil engineer he became accordingly, and a very good one into the bargain, for he had brains, and had used a yard measure all his lifetime." Who "the Character" was, we do not for certain know.

LII.—YONGE STREET FROM RICHMOND HILL TO BOND'S LAKE.

A short distance beyond Richmond Hill was the abode of Colonel Moodie, on the right, distinguished by a flag-staff in front of it, after the custom of Lower Canada, where an officer's house used to be known in this way. (In the neighbourhood of Sorel, as we remember, in the winter of 1837, it was one of the symptoms of disaffection come to a head, when in front of a substantial habitant's home a flag-staff was suddenly seen bearing the inscription "— —, Capitaine, élu par le peuple.") Colonel Moodie's title came from his rank in the regular army. He had been Lieut.-Colonel of the 104th regiment. Sad that a distinguished officer, after escaping the perils of the Peninsular war and of the war with the United States, here in 1812-13, should have yet, nevertheless, met with a violent death in a petty local civil tumult. He was shot, as all remember, in the troubles of 1837, while attempting to ride past Montgomery's, regardless of the insurgent challenge to stop.

"Thou might'st have dreamed of brighter hours to close thy chequered life
Beneath thy country's victor-flag, sure beacon in the strife;
Or in the shadow of thy home with those who mourn thee now,
To whisper comfort in thine ear, to calm thine aged brow.
Well! peaceful be thy changeless rest, —thine is a soldier's grave:
Hearts like thine own shall mourn thy doom—meet requiem for the brave—
And ne'er 'till Freedom's ray is pale and Valour's pulse grown cold
Shall be thy bright career forgot, thy gloomy fate untold."

So sang one in the columns of a local contemporary paper, in "Lines suggested by the Lamented Death of the late Colonel Moodie."

At a certain period in the history of Yonge Street, as indeed of all the other leading thoroughfares of Upper Canada, about 1830-33, a frequent sign that property had changed hands, and that a second wave of population was rolling in, was the springing up, at intervals, of houses of an improved style, with surroundings, lawns, sheltering plantations, winding drives, well-constructed entrance-gates, and so on, indicating an appreciation of the elegant and the comfortable. We recall two instances of this, which we used to contemplate with particular interest, a little way beyond Richmond Hill, on the left: the cosy, English-looking residences, not far apart, with a cluster of appurtenances round each—of Mr. Larratt Smith, and Mr. Francis Boyd. Both gentlemen settled here with their families in 1836. Mr. Smith had been previously in Canada in a military capacity during the war of 1812-13, and for many years subsequently he had been Chief Commissary of the Field Train Department and Paymaster of the Artillery. He died at Southampton in 1860. Mr. Boyd, who emigrated hither from the county of Kent, was one of the first, in these parts, to import from England improved breeds of cattle. In his house was to be seen a collection of really fine paintings, amongst them a Holbein, a Teniers, a Domenichino, a Smirke, a Wilkie, and two Horace Vernets. The families of Mr. Boyd and Mr. Smith were related by marriage. Mr. Boyd died in Toronto in 1861.

Beyond Mr. Boyd's, a solitary house, on the same side of Yonge Street, lying back near the woods, used to be eyed askance in passing:—its occupant and proprietor, Mr. Kinnear, had in 1843 been murdered therein by his man-servant, assisted by a female domestic. It was imagined by them that a considerable sum of money had just been brought to the house by Mr. Kinnear. Both criminals would probably have escaped justice had not Mr. F. C. Capreol, of Toronto, on the spur of the moment, and purely from a sense of duty to the public, undertaken their capture, which he cleverly effected at Lewiston in the United States.

The land now began to be somewhat broken as we ascended the rough and long-uncultivated region known as the Oak Ridges. The predominant tree in the primitive forest here was the pine, which attained a gigantic size; but specimens of the black oak were intermingled. Down in one of the numerous clefts and chasms which were to be seen in this locality, in a woody dell on the right, was Bond's Lake, a pretty crescent-shaped sheet of water. We have the surrounding property offered for sale in a Gazette of 1805, in the following terms: "For Sale: lots No. 62 and 63, in the first concession of the township of Whitchurch, on the east side of Yonge Street, containing 380 acres of land: a deed in fee simple will be given by the subscriber to any person inclined to purchase. Johnson Butler. N.B. The above lots include the whole of the Pond commonly called Bond's Lake, the house and clearing round the same. For particulars inquire of Mr. R. Ferguson and Mr. T. B. Gough at York, and the subscriber at Niagara. March 23, 1805."

Bond's farm and lake had their name from Mr. William Bond, who so early as 1800 had established in York a Nursery Garden, and introduced there most of the useful fruits. In 1801 Mr. Bond was desiring to sell his York property, as appears from a quaint advertisement in a Gazette of that year. He therein professes to offer his lot in York as a free gift; the recipient however being at the same time required to do certain things. "To be given away," he says, "that beautifully situated lot No. one, fronting on Ontario and Duchess Streets: the buildings thereon are—a small two-and-a-half storey house, with a gallery in front, which commands a view of the lake and the bay: in the cellar a never-failing spring of fine water; and a stream of fine water running through one corner of the lot; there is a good kitchen in the rear of the house, and a stable sufficient for two cows and two horses, and the lot is in good fence. The conditions are, with the person or persons who accept of the above-present, that he, she or they purchase not less than two thousand apple-trees at three shillings, New York currency, each; after which will be added, as a further present, about one hundred apple, thirty peach, and fourteen cherry trees, besides wild plums, wild cherries, English gooseberries, white and red currants, &c. There are forty of the above apple trees, as also the peach and cherry trees, planted regular, as an orchard, much of which appeared in blossom last spring, and must be considered very valuable: also as a kitchen garden, will sufficiently recommend itself to those who may please to view it.—The above are well calculated for a professional or independent gentleman; being somewhat retired—about half-way from the Lake to the late Attorney General's and opposite the town-farm of the Hon. D. W. Smith [afterwards Mr. Allan's property.] Payment will be made easy; a good deed; and possession given any time from the first of November to the first of May next. For further particulars inquire of the subscriber on the premises. WILLIAM BOND. York, Sep. 4, 1801."—The price expected was, as will be made out, 750 dollars. The property was evidently the northern portion of what became afterwards the homestead-plot of Mr. Surveyor-General Ridout. It would appear that Mr. Bond's property did not find a purchaser on this occasion. In 1804 he is advertising it again, but now to be sold by auction, with his right and title to the lot on Yonge Street. In the *Gazette* of August 4, 1804, we read as follows: "To be sold by auction, at Cooper's tavern in York, on Monday, the twentieth day of August next, at eleven o'clock in the forenoon (if not previously disposed of by private contract), that highly cultivated lot opposite the Printing Office [Bennett's] containing one acre, together with a nursery thereon of about ten thousand apple, three hundred peach, and twenty pear trees, and an orchard containing forty-one apple trees fit for bearing, twenty-seven of which are full of fruit; thirty peach and nine cherry trees full of fruit; besides black and red plums, red and white currants, English gooseberries, lilacs, rose bushes, &c., &c., also a very rich kitchen garden.—The buildings are a two-and-a-half storey house, a good cellar, stable and smokehouse. On the lot is a never-failing spring of excellent water, and a fine creek running through one corner most part of the year. The above premises might be made very commodious for a gentleman at a small expense; or for a tanner, brewer, or distiller must be allowed the most convenient place in York. A view of the premises (by any person or persons desirous of purchasing the same) will be sufficient recommendation. The nursery is in such a state of forwardness that if sold in from two to three years (at which time the apple trees will be fit to transplant) at the moderate price of one shilling each, would repay a sum double of that asked for the whole, and leave a further gain to the purchasers of the lot, buildings, and flourishing orchard thereon. A good title to the above, and possession given any time after the first of October next. Also at the same time and place the right as per Register, to one hundred acres in front of lot 62, east side Yonge Street, for which a deed can be procured at pleasure, and the remainder of the lot procured for a small sum. It is an excellent soil for orchard, grain and pasture land. There is a field of ten acres in fence besides other clearing. It is a beautiful situation, having part of the Lake commonly called Bond's Lake, within the said lot, which affords a great supply of Fish and Fowl. Terms of payment will be made known on the day of sale. For further particulars enquire of the subscriber on the former premises, or the printer hereof. William Bond. York, 27th June, 1804."

Thirty years later we meet with an advertisement in which the price is named at which Lot No. 63 could have been secured. Improvements expected speedily to be made on Yonge Street are therein referred to. In a Gazette of 1834 we have: "A delightful situation on Yonge Street, commonly called Bond's Farm, containing 190 acres, beautifully situated on Bond's Lake upon Yonge Street, distant about 16 miles from the city of Toronto: price £350. The picturesque

beauty of this lot," the advertisement says, "and its proximity to the flourishing capital of Upper Canada, make it a most desirable situation for a gentleman of taste. The stage-coaches between Toronto and Holland Landing and Newmarket pass the place daily; and there appears every prospect of Yonge Street either having a railroad or being macadamized very shortly. Apply (if by letter free of postage) to Robert Ferris, at Hamilton, the proprietor."

In the advertisement of 1805, given above, Bond's Lake is styled a pond. The small lakes in these hills seemed, of course, to those who had become familiarized with the great lakes, simply ponds. The term "lake" applied to Ontario, Huron, and the rest has given a very inadequate idea of the magnitude and appearance of those vast expanses, to externs who imagine them to be picturesque sheets of water somewhat exceeding in size, but resembling, Windermere, Loch Lomond, or possibly Lake Lemán. "Sea" would have conveyed a juster notion: not however to the German, who styles the lakes of Switzerland and the Tyrol, "seas."

Bond's Lake inn, the way-side stopping place in the vale where Yonge Street skirts the lake, used to be, in an especial degree, of the old-country cast, in its appliances, its fare, its parlours and other rooms.

LIII.—YONGE STREET FROM BOND'S LAKE TO THE SUMMIT OF THE RIDGES.

We now speedily passed Drynoch, lying off to the left, on elevated land, the abode of Capt. Martin McLeod, formerly of the Isle of Skye. The family and domestic group systematized on a large scale at Drynoch here, was a Canadian reproduction of a chieftain's household. Capt. McLeod was a Scot of the Norse viking type, of robust manly frame, of noble, frank, and tender spirit; an Ossianist too, and, in the Scandinavian direction, a philologist. Sir Walter Scott would have made a study of Capt. McLeod, and may have done so. He was one of eight brothers who all held commissions in the army. His own military life extended from 1808 to 1832. As an officer successively of the 27th, the 79th and the 25th regiments, he saw much active service. He accompanied the force sent over to this continent in the war of 1812-13. It was then that he for the first time saw the land which was to be his final home. He was present likewise at the affair of Plattsburg: and also, we believe, at the attack on New Orleans. He afterwards took part in the so-called Peninsular war, and received a medal with four clasps for Toulouse, Orthes, Nive, and Nivelle. He missed Waterloo, "unfortunately," as he used to say; but he was present with the allied troops in Paris during the occupation of that city in 1815. Of the 25th regiment he was for many years adjutant; and then paymaster. Three of his uncles were general officers. It is not inappropriate to add that the Major McLeod who received the honour of a Companionship in the Order of St. Michael and St. George for distinguished service in the Red River Expedition of 1870, was a son of Captain McLeod, of Drynoch.

That in and about the Canadian Drynoch Gaelic should be familiarly heard was in keeping with the general character of the place. The ancient Celtic tongue was in fact a necessity, as among the dependants of the house there were always some who had never learned the English language. Drynoch was the name of the old home in Skye. The Skye Drynoch was an unfenced, hilly pasture farm of about ten miles in extent, yielding nutriment to herds of wild cattle and some 8,000 sheep. Within its limits a lake, Loch Brochadale, is still the haunt of the otter which is hunted by the aid of the famous terriers of the island; a mountain stream abounds with salmon and trout; while the heather and bracken of the slopes shelter grouse and other game.

Whittaker, in his *History of Whalley*, quoted by Hallam in his *Middle Ages*, describes the aspect which, as he supposes, a certain portion of England presented to the eye, as seen from the top of Pendle Hill in Yorkshire, in the Saxon times. The picture which he draws we in Canada can realize with great perfectness. "Could a curious observer of the present day," he says, "carry himself nine or ten centuries back, and ranging the summit of Pendle, survey the forked vale of Calder on one side and the bolder margins of Ribbles and Hodder on the other, instead of populous towns and villages, the castles, the old tower-built house, the elegant modern mansion, the artificial plantation, the enclosed park and pleasure-ground, instead of uninterrupted enclosures which have driven sterility almost to the summit of the fells, how great then must have been the contrast, when, ranging either at a distance, or immediately beneath, his eye must have caught vast tracts of forest-ground stagnating with bog or darkened by native woods, where the wild ox, the roe, the stag, and the wolf, had scarcely learned the

supremacy of man, when, directing his view to the intermediate spaces, to the winding of the valleys, or the expanse of plains beneath, he could only have distinguished a few insulated patches of culture, each encircling a village of wretched cabins, among which would still be remarked one rude mansion of wood, scarcely equal in comfort to a modern cottage, yet there rising proudly eminent above the rest, where the Saxon lord, surrounded by his faithful cotarii, enjoyed a rude and solitary independence, having no superior but his sovereign." This writer asks us to carry ourselves nine or ten centuries back, to realize the picture which he has conceived. From the upland here in the vicinity of Drynoch, less than half a century ago, gazing southwards over the expanse thence to be commanded, we should have beheld a scene closely resembling that which, as he supposed, was seen from the summit of Pendle in the Saxon days; while, at the present day, we see everywhere throughout the same expanse, an approximation to the old mother-lands, England, Ireland, and Scotland, in condition and appearance: in its style of agriculture, and the character of its towns, villages, hamlets, farm houses, and country villas.

We now entered a region once occupied by a number of French military refugees. During the Revolution in France, at the close of the last century, many of the devotees of the royalist cause passed over into England, where, as elsewhere, they were known and spoken of as *émigrés*. Amongst them were numerous officers of the regular army, all of them, of course, of the noblesse-order, or else, as the inherited rule was, no commission in the king's service could have been theirs. When now the royal cause became desperate, and they had suffered the loss of all their worldly goods, the British Government of the day, in its sympathy for the monarchical cause in France, offered them grants of land in the newly-organized province of Upper Canada. Some of them availed themselves of the generosity of the British Crown. Having been comrades in arms they desired to occupy a block of contiguous lots. Whilst there was yet almost all Western Canada to choose from, by some chance these Oak Ridges, especially difficult to bring under cultivation and somewhat sterile when subdued, were preferred, partly perhaps through the influence of sentiment; they may have discovered some resemblance to regions familiar to themselves in their native land. Or in a mood inspired and made fashionable by Rousseau they may have longed for a lodge in some vast wilderness "where the mortal coil" which had crushed the old society of Europe should no longer harass them. When twitted by the passing wayfarer who had selected land in a more propitious situation, they would point to the gigantic boles of the surrounding pines in proof of the intrinsic excellence of the soil below, which must be good, they said, to nourish such a vegetation. After all, however, this particular locality may have been selected rather for them, than by them. On the early map of 1798 a range of nine lots on each side of Yonge Street, just here in the Ridges, is bracketed and marked, "French Royalists: by order of his Honor," i.e., the President, Peter Russell. A postscript to the *Gazetteer* of 1799 gives the reader the information that "lands have been appropriated in the rear of York as a refuge for some French Royalists, and their settlement has commenced." On the Vaughan side, No. 56 was occupied conjointly by Michel Saigeon and Francis Reneux; No. 57 by Julien le Bugle; No. 58 by René Aug. Comte de Chalûs, Amboise de Farcy and Quetton St. George conjointly; No. 59 by Quetton St. George; No. 60 by Jean Louis Vicomte des Chalûs. In King, No. 61 by René Aug. Comte de Chalûs and Augustin Boiton conjointly. On the Markham side: No. 52 is occupied by the Comte de Puisaye; No. 53 by René Aug. Comte de Chalûs; No. 54 by Jean Louis Vicomte de Chalûs and René Aug. Comte de Chalûs conjointly; No. 55 by Jean Louis Vicomte de Chalûs; No. 56 by le Chevalier de Marseuil and Michel Fauchard conjointly; No. 57 by the Chev. de Marseuil; No. 58 by René Létourneaux, Augustin Boiton and J. L. Vicomte de Chalûs conjointly; No. 59 by Quetton St. George and Jean Furon conjointly; No. 60 by Amboise de Farcy. In Whitchurch, No. 61 by Michel Saigeon.

After felling the trees in a few acres of their respective allotments, some of these *émigrés* withdrew from the country. Hence in the Ridges was to be seen here and there the rather unusual sight of abandoned clearings returning to a state of nature.

The officers styled Comte and Vicomte de Chalûs derived their title from the veritable domain and castle of Chalûs in Normandy, associated in the minds of all young readers of English History with the death of Richard Cœur de Lion. Jean Louis de Chalûs, whose name appears on numbers 54 and 55 in Markham and on other lots, was a Major-General in the Royal Army of Brittany. At the balls given by the Governor and others at York, the jewels of Madame la

Comtesse created a great sensation, wholly surpassing everything of the kind that had hitherto been seen by the ladies of Upper Canada. Ambroise de Farcy of No. 58 in Vaughan and No. 60 in Markham had also the rank of General. Augustin Bolton of No. 53 in Markham and No. 61 in Vaughan was a Lieutenant-Colonel. The Comte de Puisaye of No. 52 in Markham figures conspicuously in the contemporary accounts of the royalist struggle against the Convention. He himself published in London in 1803 five octavo volumes of *Memoirs*, justificatory of his proceedings in that contest. Carlyle in his "French Revolution" speaks of de Puisaye's work, and, referring to the so-called Calvados war, says that those who are curious in such matters may read therein "how our Girondin National forces, i.e., the Moderates, marching off with plenty of wind-music, were drawn out about the old Chateau of Brécourt, in the wood-country near Vernon (in Brittany), to meet the Mountain National forces (the Communist) advancing from Paris. How on the fifteenth afternoon of July, 1793, they did meet:—and, as it were, shrieked mutually, and took mutually to flight, without loss. How Puisaye thereafter,—for the Mountain Nationals first, and we thought ourselves the victors,—was roused from his warm bed in the Castle of Brécourt and had to gallop without boots; our Nationals in the night-watches having fallen unexpectedly into *saute qui peut*." Carlyle alludes again to this misadventure, when approaching the subject of the Quiberon Expedition, two years later, towards the close of the La Vendée war. Affecting for the moment a prophetic tone, in his peculiar way, Carlyle proceeds thus, introducing at the close of his sketch, de Puisaye, once more, who was in command of the invading force spoken of, although not individually so "In the month of July, 1795, English ships," he says, "will ride in Quiberon roads. There will be debarkation of chivalrous *Ci-devants*, (i.e. ex-noblesse), of volunteer Prisoners-of-war—eager to desert; of fire-arms, Proclamations, clothes-chests, Royalists and specie. Whereupon also, on the Republican side, there will be rapid stand-to-arms; with ambuscade-marchings by Quiberon beach, at midnight; storming of Fort Penthlièvre; war-thunder mingling with the roar of the mighty main; and such a morning light as has seldom dawned: debarkation hurled back into its boats, or into the devouring billows, with wreck and wail;—in one word, a *Ci-devant* Puisaye as totally ineffectual here as he was at Calvados, when he rode from Vernon Castle without boots."

The impression which Carlyle gives of M. de Puisaye is not greatly bettered by what de Lamartine says of him in the *History of the Girondists*, when speaking of him in connexion with the affair near the Chateau of Brécourt. He is there ranked with adventurers rather than heroes. "This man," de Lamartine says, "was at once an orator, a diplomatist, and a soldier,—a character eminently adapted for civil war, which produces more adventurers than heroes." De Lamartine describes how, prior to the repulse at Chateau Brécourt, "M. de Puisaye had passed a whole year concealed in a cavern in the midst of the forests of Brittany, where, by his manœuvres and correspondence, he kindled the fire of revolt against the republic." He professed to act in the interest of the moderates, believing that, through his influence, they would at last be induced to espouse heartily the cause of constitutional royalty. Thiers in his "History of the French Revolution," vii. 146, speaks in respectful terms of Puisaye. He says that "with great intelligence and extraordinary skill in uniting the elements of a party, he combined extreme activity of body and mind, and vast ambition" and even after Quiberon, Thiers says "it was certain that Puisaye had done all that lay in his power." De Puisaye ended his days in England, in the neighbourhood of London, in 1827. In one of the letters of Mr. Surveyor Jones we observe some of the improvements of the Oak Ridges spoken of as "Puisaye's Town."

It is possibly to the settlement, then only in contemplation, of emigrés here in the Oak Ridges of Yonge Street, that Burke alludes, when in his *Reflections on the French Revolution* he says: "I hear that there are considerable emigrations from France, and that many, quitting that voluptuous climate and that seductive Circean liberty, have taken refuge in the frozen regions, and under the British despotism, of Canada." "The frozen regions of Canada," the great rhetorician's expression in this place, has become a stereotyped phrase with declaimers. The reports of the first settlers at Tadoussac and Quebec made an indelible impression on the European mind. To this day, in transatlantic communities, it is realized only to a limited extent that Canada has a spring, summer and autumn as well as a winter, and that her skies wear an aspect not always gloomy and inhospitable. "British despotism" is, of course, ironically said, and means, in reality, British constitutional freedom.

(To be continued)

METEOROLOGICAL REGISTER.

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MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO—JULY, 1872.
 Latitude—43° 39' North. Longitude—76° 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.			Velocity of Wind.			Rain in Inches.	Snow in Inches.	
	Meas.			P.M.			P.M.			P.M.			P.M.			P.M.			P.M.					
	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	6 A.M.	10 P.M.	Mean	6 A.M.	10 P.M.	Mean			
1	29.591	29.487	29.539	73.7	80.8	77.2	707.0	707.6	707.3	85	85	85	68	68	68	Calm.	Calm.	Calm.	0.0	20.6	0.0	7.08	7.28	
2	502	516	509	75.2	88.1	81.7	658.7	728.6	693.7	79	79	79	67	67	67	W	S	Calm.	3.0	0.0	0.0	1.62	2.97	
3	457	332	372	71.5	82.4	77.0	616.6	659.0	637.8	80	80	80	84	84	84	W	S	Calm.	0.0	10.0	0.0	4.55	5.17	0.086
4	590	382	484	67.9	75.0	71.5	643.6	692.4	668.0	88	88	88	77	77	77	W	S	Calm.	0.0	3.0	0.0	0.47	1.86	Insp.
5	590	607	598	69.6	71.2	70.4	352.4	357.3	354.9	69	69	69	67	67	67	W	S	Calm.	0.0	5.7	0.0	3.00	4.60	
6	727	701	714	71.2	78.0	74.6	357.4	412.3	384.9	73	73	73	63	63	63	W	S	Calm.	1.0	8.6	7.0	2.63	3.90	
7																W	S	Calm.	0.0	8.5	4.0	0.83	2.35	Insp.
8	771	766	768	64.7	77.7	71.2	436.4	429.4	428.4	45	45	45	69	69	69	W	S	Calm.	0.0	2.6	3.5	1.68	2.72	
9	705	685	695	64.7	78.4	71.6	436.4	429.4	428.4	70	70	70	65	65	65	W	S	Calm.	0.0	2.6	0.0	1.39	1.89	
10	571	512	542	68.0	73.0	70.5	634.1	669.7	651.9	93	93	93	88	88	88	W	S	Calm.	0.0	4.2	0.0	0.28	2.01	
11	573	514	543	66.1	82.0	74.1	598.6	694.5	646.6	83	83	83	89	89	89	W	S	Calm.	0.0	7.2	0.4	0.28	2.01	7.20
12	473	408	440	67.2	83.1	75.2	599.7	720.6	660.2	90	90	90	65	65	65	W	S	Calm.	0.0	6.6	0.0	1.53	1.65	
13	555	542	548	60.1	69.4	64.7	412.4	417.4	414.9	64	64	64	70	70	70	W	S	Calm.	0.0	2.6	4.4	1.78	3.73	Insp.
14																W	S	Calm.	0.0	2.6	0.0	4.02	4.79	
15	528	432	480	66.1	83.8	75.0	480.7	586.6	533.7	76	76	76	73	73	73	W	S	Calm.	3.4	7.0	0.0	0.80	2.02	
16	362	327	345	71.9	83.1	77.5	716.8	819.7	768.3	92	92	92	85	85	85	W	S	Calm.	0.0	2.8	2.2	1.11	1.53	
17	409	441	425	70.5	83.4	77.0	643.6	694.2	668.9	92	92	92	66	66	66	W	S	Calm.	11.4	6.8	0.5	0.82	2.48	4.96
18	310	512	412	65.0	79.8	72.4	465.4	470.9	468.2	67	67	67	64	64	64	W	S	Calm.	0.0	2.8	10.8	6.39	6.52	Insp.
19	632	645	638	61.6	74.8	68.2	394.4	394.4	394.4	49	49	49	78	78	78	W	S	Calm.	9.4	11.5	0.0	6.22	6.47	
20	683	602	643	60.0	78.8	69.4	401.4	456.4	429.0	79	79	79	65	65	65	W	S	Calm.	0.0	10.4	0.0	2.80	2.93	
21																W	S	Calm.	0.0	2.4	0.0	1.83	2.62	4.40
22	495	574	534	60.4	73.3	66.9	414.4	431.4	423.0	78	78	78	51	51	51	W	S	Calm.	8.4	13.6	0.0	1.58	1.65	
23	612	543	578	68.2	80.1	74.2	463.4	519.4	491.4	81	81	81	85	85	85	W	S	Calm.	0.0	0.0	3.7	0.17	0.85	
24	554	567	560	69.4	74.4	71.9	463.4	463.4	463.4	88	88	88	63	63	63	W	S	Calm.	2.0	14.2	1.0	4.33	6.80	
25	701	672	687	69.3	76.7	73.0	394.4	394.4	394.4	84	84	84	72	72	72	W	S	Calm.	0.0	1.2	0.0	0.63	0.69	
26	406	359	382	61.4	75.9	68.7	438.4	449.4	443.9	89	89	89	81	81	81	W	S	Calm.	0.0	31.0	0.8	9.53	10.37	0.002
27	618	597	608	61.4	73.3	67.4	448.4	463.4	455.9	80	80	80	78	78	78	W	S	Calm.	0.0	12.2	0.0	6.72	1.77	
28																W	S	Calm.	0.0	2.6	0.0	3.91	4.04	
29	595	540	568	62.5	83.3	73.0	460.4	543.4	501.9	81	81	81	88	88	88	W	S	Calm.	0.0	2.6	7.4	0.95	1.41	5.80
30	714	700	707	62.5	83.3	73.0	460.4	543.4	501.9	80	80	80	84	84	84	W	S	Calm.	8.0	4.0	4.0	2.81	4.41	Insp.
31	574	567	570	60.4	66.6	63.5	397.4	397.4	397.4	70	70	70	64	64	64	W	S	Calm.	0.5	9.0	0.0	1.35	1.77	0.10
29	5691	29.6430	29.6570	164.61	177.07	166.82	70.16	2.23	496.629	491.507	80	57	74	69				1.78	7.66	2.32	3.56	2.297		

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO—AUGUST, 1872.
 Latitude—43° 39' 4 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 average	Tension of Vapour.			Humidity of Air.			Direction of Wind.			Refractant.	Velocity of Wind.					Inches in Snow		
	6 A.M.	10 P.M.	Mean.	6 A.M.	2 P.M.	10 P.M.		M.E.A.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.	10 P.M.	6 A.M.	2 P.M.		10 P.M.	M.E.A.	0	2	10		M.E.A.	
																									0	2	10
1	29.571	29.554	29.532	20.5416	70.1	60.0	3.74	0.25	362	321	444	394	68	43	85	69	E	E	E	1.6	13.8	4.4	4.72	4.94	1.186
2	478	457	525	4853	59.3	67.9	62.25	5.73	411	590	1.6	482	88	87	88	57	N	E	N	2.4	3.0	4.4	0.70	2.11	1.150
3	576	604	609	6231	57.8	70.8	63.27	4.65	377	509	428	431	82	67	85	75	S	S	S	6.1	3.8	0.0	0.77	2.33	...
4	827	760	718	7641	56.0	67.2	38.92	1.18	400	621	477	553	89	68	72	76	S	S	S	0.0	3.4	0.0	1.56	1.72	...
5	737	691	686	7042	62.9	67.9	70.33	2.67	467	553	693	623	81	50	68	76	S	S	S	0.0	0.0	0.0	1.78	2.61	...
6	691	720	692	7041	65.8	77.0	69.47	3.81	576	662	616	623	90	71	80	81	S	S	S	0.0	7.1	0.0	1.16	1.17	...
7	691	720	679	6943	66.8	84.9	69.04	3.32	632	690	704	479	85	89	68	69	S	S	S	0.0	0.5	0.0	2.32	2.37	...
8	692	681	647	6104	67.2	84.2	73.07	8.51	584	731	626	652	88	62	77	74	S	S	S	0.0	6.0	0.0	3.45	3.65	...
9	636	661	690	6077	69.7	81.2	68.67	4.63	662	653	458	691	92	61	65	69	W	W	W	3.0	3.4	0.8	2.60	3.69	...
10	651	657	629	6392	66.9	70.1	66.7	68.55	1.65	695	621	698	613	69	84	91	E	E	E	0.0	0.0	2.0	0.25	0.37	...
11	611	558	602	5151	60.5	73.7	69.4	70.41	3.68	622	631	616	624	95	70	80	E	E	E	0.0	5.0	0.0	1.23	1.37	...
12	495	471	458	472	68.3	74.1	67.9	76.87	4.28	644	73.2	622	654	93	87	81	E	E	E	0.0	0.0	3.4	0.46	0.74	...
13	552	678	728	6553	63.0	76.9	67.69	5.77	543	621	461	514	80	68	82	73	W	W	W	0.0	0.0	0.0	0.33	0.24	...
14	681	619	619	6602	65.4	71.9	65.1	67.53	1.25	561	521	493	569	80	66	75	W	W	W	1.0	1.5	7.5	3.53	4.03	...
15	631	640	627	6311	60.4	70.5	71.27	1.37	530	476	695	649	92	69	85	70	E	E	E	2.0	7.5	0.0	3.21	3.59	...
16	777	803	805	7965	66.6	75.2	79.7	71.37	6.68	553	610	639	676	65	70	93	E	E	E	0.0	2.8	2.2	0.90	1.27	...
17	814	814	775	814	66.8	77.7	72.3	72.40	0.90	575	653	710	677	87	69	85	S	S	S	0.0	0.0	0.0	0.75	0.91	...
18	729	649	557	6364	69.0	82.9	73.7	76.03	10.78	694	829	758	765	98	77	91	S	S	S	0.0	3.4	0.0	0.91	0.91	...
19	504	469	557	5181	77.0	89.9	69.7	78.63	4.13	672	610	389	533	82	37	53	S	S	S	0.0	9.5	0.0	3.16	3.16	...
20	633	623	620	6268	65.0	79.1	65.07	67.77	6.72	632	733	567	651	86	74	76	W	W	W	1.4	25.6	9.4	8.04	0.26	...
21	631	623	659	6101	65.7	79.1	70.2	70.47	6.82	338	398	645	433	75	40	71	W	W	W	8.8	6.4	0.0	4.16	5.54	...
22	614	644	555	6165	62.9	77.3	74.4	72.73	6.68	648	643	681	610	80	69	81	S	S	S	0.0	2.0	1.2	0.93	0.91	...
23	673	626	665	6651	63.2	76.6	67.2	69.74	6.95	517	397	300	401	90	32	54	S	S	S	0.0	2.8	2.4	0.47	0.61	...
24	674	620	581	6172	62.9	73.0	64.0	67.53	3.71	477	468	465	484	73	60	78	S	S	S	4.4	10.7	2.6	0.25	0.41	...
25	618	573	511	5882	62.9	72.6	63.2	66.42	3.12	479	627	475	507	83	60	78	S	S	S	0.2	5.0	0.0	2.02	3.16	...
26	442	447	447	4371	54.2	58.0	56.00	60.41	6.98	305	379	309	291	77	66	62	S	S	S	0.0	2.6	16.4	0.60	5.51	...
27	596	563	610	5891	66.9	66.9	68.6	61.17	1.63	313	293	288	287	70	41	57	W	W	W	11.2	19.8	10.8	5.03	15.21	...
28	628	617	603	6142	63.6	75.6	67.03	59.48	3.62	511	571	626	534	85	64	78	W	W	W	1.99	6.31	2.45	...	3.73	2.405

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR AUGUST, 1872. COMPARATIVE TABLE FOR AUGUST.

YEAR.	TEMPERATURE.			R-IN.		SNOW.		W-ND.			
	Mean.	Excess above average.	Maxi- mum.	Mini- mum.	Range.	No. of days.	Inches.	No. of days.	Inches.	Resultant.	Mean Velocity.
1844	64.3	- 0.8	86.8	43.5	43.3	17	Imp.	...	...	0	0.16lbs
1845	67.9	+ 1.8	84.8	41.5	43.3	9	1.725	...	...	...	0.19
1846	68.4	+ 2.3	86.4	40.6	36.9	9	1.776	...	...	...	0.17
1847	65.1	+ 1.0	82.6	44.6	38.0	10	2.140	...	...	...	0.19
1848	69.2	+ 3.1	87.0	48.7	38.8	8	0.855	...	...	S 21 W	0.98
1849	66.3	+ 0.2	79.0	49.0	30.0	10	4.970	...	...	N 71 W	0.60
1850	66.8	+ 0.7	85.0	41.0	44.6	13	4.365	...	...	N 16 E	0.32
1851	63.6	- 2.5	79.8	42.0	37.6	10	1.350	...	...	N 63 W	0.40
1852	66.9	+ 2.8	81.2	46.8	35.4	11	2.695	...	...	N 70 E	0.56
1853	69.0	+ 2.6	94.0	42.6	62.4	11	2.576	...	...	S 36 E	0.30
1854	68.0	+ 1.9	99.2	45.6	63.6	6	0.455	...	...	N 64 W	1.76
1855	64.1	- 2.0	83.6	40.0	43.6	6	1.455	...	...	N 63 W	1.94
1856	63.6	- 2.5	82.7	41.9	41.2	12	1.680	...	...	N 60 W	2.88
1857	65.3	- 0.8	88.2	46.0	42.2	13	6.265	...	...	N 77 W	1.61
1858	67.6	+ 1.6	84.0	44.0	40.6	11	3.800	...	...	N 69 W	1.55
1859	66.6	+ 0.6	82.2	45.8	39.4	11	3.900	...	...	N 30 W	1.62
1860	64.6	- 1.6	87.0	40.8	40.6	14	3.405	...	...	N 70 W	1.63
1861	65.6	- 0.6	85.2	47.0	38.2	16	2.958	...	...	N 8 E	0.40
1862	67.6	+ 1.6	89.6	42.8	46.7	12	3.483	...	...	N 78 W	1.67
1863	66.0	+ 0.6	88.0	42.4	45.6	12	2.205	...	...	S 61 W	1.80
1864	68.2	+ 2.5	94.0	47.0	47.0	10	6.060	...	...	N 60 W	1.58
1865	65.2	- 0.9	87.8	44.4	43.4	8	1.990	...	...	N 60 W	1.55
1866	69.8	+ 5.3	77.0	42.4	34.6	14	4.457	...	...	N 69 W	2.68
1867	68.1	+ 2.0	95.2	42.2	63.0	10	2.440	...	...	N 76 W	1.25
1868	67.2	+ 1.1	84.4	46.8	37.4	13	1.682	...	...	S 58 W	1.01
1869	63.9	- 2.6	89.0	43.6	45.1	11	4.273	...	...	N 42 W	1.95
1870	67.1	+ 1.0	84.0	40.0	44.0	14	3.422	...	...	N 75 W	1.80
1871	67.4	+ 1.3	89.5	46.0	43.6	8	2.800	...	...	N 62 W	1.09
1872	69.6	+ 3.4	91.8	61.0	40.6	10	2.405	...	...	N 51 W	1.43
Results to 1871.	65.05	...	86.25	44.37	41.05	10.81	3.021	...	...	N 69 W	1.10
Excess for 12.	3.40	...	6.46	0.63	1.16	8.10	0.616	...	...		1.65

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 of the wind are from hourly observations.

Highest Barometer.....20.855 at 8 a.m. on 20th. } Monthly range
 Lowest Barometer.....29.311 at 10 p.m. on 20th } 0.642.
 { Maximum Temperature.....91.98 on 22nd. } Monthly range
 { Minimum Temperature.....61.90 on 30th } 40.8.
 { Mean Maximum Temperature.....78.957. } Mean daily range
 { Mean Minimum Temperature.....61.922. } 17.55.
 { Greatest daily range.....26.94 from a.m. to p.m. of 24th.
 { Least daily range.....9.0 from a.m. to p.m. of 12th.
 Warmest day.....22nd...Mean Temperature.....78.963 } Difference=22° 55.
 Coldest day.....30th...Mean Temperature.....66.908 }
 Maximum Solar.....152° 20 on 21st. } Monthly range
 Radiation } Terrestrial.....48° 0 on 24th. } 106.0.
 Aurora observed on 8 nights, viz.: 3rd, 4th, 8th, 9th, 14th, 24th, 25th, and 29th.
 Possible to see Aurora on 23 nights; impossible on 6 nights.
 Raining on 79 days; depth 2.405 inches; duration of fall 22.8 hours.
 Mean of Cloudiness, 0.56.

WIND.

Resultant Direction, N. 51° W.; Resultant Velocity 1.43 miles.
 Mean Velocity 3.73 miles per hour.
 Maximum Velocity 28.0 miles, from noon to 1 p.m. of 30th.
 Most Windy day 30th; Mean Velocity 17.10 miles per hour.
 Least Windy day 14th; Mean Velocity 0.24 miles per hour.
 Most Windy hour-noon; Mean Velocity 7.40 miles per hour.
 Least Windy hour 8 p.m.; Mean Velocity 1.89 miles per hour.

Solar halo on 24th.
 Fog 21st at 6 a.m.
 Rainbows on 1st and 2nd.
 Thunder on 10 days.
 Lightning on 8 days.
 August 9th, 10th and 12th considerable numbers of Shooting Stars observed.

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR SEPTEMBER, 1872.
COMPARATIVE TABLE FOR SEPTEMBER.

YEAR	TEMPERATURE.				RAIN.		SNOW.		WIND.	
	Excess above Average.	Max. min.	Range.	No. of days.	Inches.	No. of days.	Inches.	No. of days.	Direction, city.	Mean Velocity.
1844	+ 0.6	81.5	53.6	4	impr	...	...	...	...	0.26 lbs.
1846	- 2.0	70.0	49.0	10	6.24	...	...	...	...	0.34
1846	+ 5.4	84.3	47.0	11	1.505	...	...	...	...	0.33
1847	- 2.4	74.5	36.0	15	0.065	...	...	...	...	0.53
1848	- 3.8	80.4	64.3	11	3.115	...	...	...	...	0.81 mls.
1849	+ 0.2	80.1	47.4	11	1.480	...	...	...	...	4.23
1850	- 1.6	76.0	29.5	21	1.785	...	...	...	...	4.78
1851	+ 2.0	86.3	32.0	24.3	2.645	...	...	...	...	4.45
1851	+ 0.6	81.8	35.8	10	1.620	...	...	...	...	4.60
1853	+ 0.8	85.5	33.0	12	5.140	...	...	...	...	4.33
1854	+ 3.0	83.0	38.8	14	5.376	...	...	...	...	4.04
1855	+ 1.6	82.0	33.0	12	5.585	...	...	...	...	7.61
1856	+ 0.6	82.0	33.0	13	4.105	...	...	...	...	6.53
1857	+ 0.6	82.0	34.1	11	2.610	...	...	...	...	6.65
1858	+ 1.1	81.4	55.0	8	0.735	...	...	...	...	6.69
1859	- 2.1	75.4	39.7	15	3.625	...	...	...	...	6.36
1860	- 2.7	75.8	28.7	14	1.059	...	...	...	...	6.70
1861	+ 1.1	78.8	37.1	17	3.027	...	...	...	...	4.81
1862	+ 1.0	79.4	39.0	9	2.844	...	...	...	...	5.11
1863	+ 2.1	80.0	31.4	8	1.235	...	...	...	...	4.48
1864	- 1.0	73.0	35.2	11	2.508	...	...	...	...	4.12
1865	+ 6.5	90.5	42.0	12	2.450	...	...	...	...	4.63
1865	- 2.8	80.0	34.4	15	5.857	...	...	...	...	4.63
1867	- 0.1	87.0	31.8	9	1.226	...	...	...	...	3.43
1868	+ 1.4	75.5	36.0	10	4.239	...	...	...	...	3.43
1869	+ 2.7	81.0	34.4	10	4.027	...	...	...	...	5.04
1870	+ 3.8	78.0	46.8	11	6.794	...	...	...	...	5.50
1871	- 3.2	81.8	31.0	8	1.290	...	...	...	...	6.24
1872	+ 1.1	84.4	38.2	10	2.624	...	...	...	...	6.44
Rec'd to 1871	.....	50.88	31.59	11.00	3.716	...	...	...	...	0.20
Excess for 72.	+ 1.07	+ 3.62	0.10	+ 0.94	1.100	...	...	...	...	...

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., 11 A.M., 4 P.M., 10 P.M., and midnight. The means and resultants of the wind are from hourly observations.

Highest Barometer.....20.042 at 8 a.m. on 14th. } Monthly range
 Lowest Barometer.....29.214 at 7 a.m. on 29th. } 0.728.
 { Maximum temperature.....84.4 on 7th. } Monthly range
 { Minimum temperature.....33.2 on 23th. } 46.2
 { Mean maximum temperature.....68.08 }
 { Mean minimum temperature.....(60.31) }
 { Greatest daily range.....27.6 from a.m. to p.m. of 1st. } 18.97
 { Least daily range.....9.90 from a.m. to p.m. of 9th. }
 Warmest day.....7th; mean temperature 72.85 } Difference=24.03
 Coldest day.....27th; mean temperature 48.82 }
 Maximum { Solar14.00 on 1st. } Monthly range=12.10
 { Terrestrial.....27.4 on 3rd. }
 Aurora observed on 4 nights, viz: 2nd, 3rd, 9th, and 29th.
 Possible to see aurora on 18 nights; impossible on 12 nights.
 Raining on 16 days; depth, 2.626 inches; duration of fall, 43.4 hours.
 Mean of cloudiness, 0.63.

WIND.

Resultant direction, N. 7.0° W.; Resultant velocity, 1.47 miles.
 Mean velocity, 5.24 miles per hour.
 Maximum velocity, 29.0 miles, from 9 to 10 a.m. of 13th.
 Most windy day, 20th; mean velocity, 13.03 miles per hour.
 Least windy day, 21st; mean velocity, 1.27 miles per hour.
 Most windy hour, 1 p.m.; mean velocity, 9.16 miles per hour.
 Least windy hour, 5 a.m.; mean velocity, 2.93 miles per hour.
 Fog on 6th, 11th, and 18th.
 Dew on 6th, 15th, 21st and 24th.
 Frost on 3rd, 14th, 16th, 26th, 27th, and 29th.—Ice on 27th.
 Thunder or lightning on 6th, 6th, 7th, 8th, 12th, 19th, 19th, 22nd, 23-d, 26th, and 29th.
 Fall of large size and to a considerable amount fell in the storm of the 19th.
 Solar Rainbow on 12th. Lunar Rainbow on 19th at 8 p.m.

REMARKS ON TORONTO METEOROLOGICAL REGISTER, FOR NOVEMBER, 1872.

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 of the wind are from hourly observations.

Highest Barometer.....29.966 at 7 a.m. on 17th. } Monthly range
 Lowest Barometer.....29.047 at 4 p.m. on 7th. } 0.919.
 Maximum temperature.....52° on 11th. } Monthly range
 Minimum temperature..... 8.2 on 29th. } 43-8
 Mean maximum temperature.....40°56' } Mean daily range
 Mean minimum temperature.....29°11' } 14°46'
 Greatest daily range.....23-8 from a.m. to p.m. of 28th.
 Least daily range..... 7-8 from a.m. to p.m. of 19th.
 Warmest day.....11th; mean temperature 47°56' } Difference=32°03'
 Coldest day.....29th; mean temperature 14°32'
 Maximum Solar Radiation { Terrestrial.....105°8 on 10th. } Monthly range=107°8
 Aurora observed on 6 nights, viz: 1st, 6th, 23rd, 25th, 26th and 27th.
 Possible to see aurora on 19 nights; impossible on 11 nights.
 Raining on 7 days; depth, 0.420 inches; duration of fall, 21.4 hours.
 Snowing on 9 days; depth, 1.3 inches; duration of fall, 25.6 hours.
 Mean of cloudiness, 0.68.

WIND.

Resultant direction, S. 85° W.; Resultant velocity, 5.15 miles.
 Mean velocity, 7.48 miles per hour.
 Maximum velocity, 37.0 miles, from noon to 1 p.m. of 25th.
 Most windy day, 30th; mean velocity, 19.55 miles per hour.
 Least windy day, 24th; mean velocity, 0.67 miles per hour.
 Most windy hour, 1 p.m.; mean velocity 12.47 miles per hour.
 Least windy hour, 2 a.m.; mean velocity, 5.18 miles per hour.

Large number of shooting stars on the night of the 27th.
 Solar haloes on 13th, 16th and 28th. Lunar haloes on 10th and 15th.
 It will be seen from the comparative table, that the rain fall for this month was the smallest yet recorded at Toronto Observatory; a deficiency not compensated by the amount of snow, which was also much below the average.

COMPARATIVE TABLE FOR NOVEMBER.

YEAR.	TEMPERATURE.				RAIN.		SNOW.		WIND.		
	Mean	Excess above Average.	Maxi. num.	Mini. num.	Range.	No. of days.	Inches.	No. of days.	Inches.	Resultant Direction.	Mean Velocity.
1844	34.9	-1.6	56.0	12.1	43.9	8	impr	4	8.0	0	...
1845	36.8	+0.3	59.5	8.1	51.4	7	1.165	2	5.0	...	0.53
1846	41.3	+4.8	58.6	18.0	37.6	12	5.805	2	0.4	...	0.64
1847	38.0	+2.1	57.9	8.7	49.2	14	3.156	3	inap.	...	0.56
1848	34.5	+2.0	49.0	15.9	33.1	9	2.020	3	1.4	N 81 W	1.81
1849	42.6	+8.1	56.4	26.5	29.9	10	2.815	2	1.0	N 39 W	1.56
1850	38.8	+2.3	62.8	11.0	51.8	7	2.955	1	inap.	N 42 W	1.43
1851	32.9	-3.6	50.2	13.8	36.4	6	3.855	6	6.7	N 50 W	1.23
1852	36.0	-0.5	50.4	18.2	32.2	7	1.775	3	2.0	N 59 W	1.53
1853	38.7	+2.2	55.6	12.8	42.8	15	2.425	8	2.7	N 9 W	0.55
1854	36.8	+0.3	65.4	13.8	41.6	13	1.115	4	1.3	W	3.44
1855	38.6	+2.3	59.2	15.5	43.7	8	4.590	6	3.0	N 66 W	3.16
1856	37.4	+0.9	56.4	18.8	37.6	10	1.375	9	9.5	N 85 W	2.95
1857	33.5	-3.0	58.2	-3.5	61.7	14	3.235	9	6.9	N 61 W	5.45
1858	34.2	-2.3	53.0	15.3	37.7	12	3.879	13	4.0	N 25 W	3.14
1859	38.9	+2.4	62.6	21.8	40.8	8	5.193	9	0.6	N 81 W	3.39
1860	37.9	+1.4	64.5	13.2	51.3	12	2.569	8	1.9	N 39 W	4.95
1861	37.1	+0.6	62.4	23.0	29.4	14	4.284	8	3.2	N 46 W	1.94
1862	35.6	+0.9	58.0	16.2	41.8	11	2.205	11	5.3	N 46 W	3.00
1863	39.1	+2.6	67.0	17.8	49.2	13	3.656	6	0.1	N 88 W	3.60
1864	36.9	+0.4	60.2	21.0	39.2	11	3.755	8	4.5	N 72 W	3.82
1865	38.6	+2.1	63.2	23.6	39.6	5	0.975	7	1.1	N 79 W	2.98
1866	38.4	+1.9	64.2	21.8	32.4	13	2.963	4	2.2	N 88 W	2.09
1867	36.9	+0.4	60.4	9.6	50.8	8	1.835	9	0.9	N 74 W	4.02
1868	36.2	-0.3	50.5	20.1	30.4	14	5.150	10	4.3	N 35 W	2.10
1869	32.7	-3.8	58.0	13.0	45.0	9	2.540	18	10.2	N 78 W	3.69
1870	36.6	+0.1	67.2	19.4	37.8	6	0.594	5	3.1	N 89 W	4.31
1871	36.6	+0.1	67.1	0.0	47.1	10	2.555	12	4.5	N 45 W	4.08
1872	32.9	-3.6	52.0	8.2	43.8	7	0.420	9	1.3	N 85 W	6.15
Results to 1871	36.53	57.82	15.20	41.62	10.03	2.977	6.88	3.28	N 76 W	2.68
Excess for %.	3.62	5.82	7.00	2.18	3.08	2.557	2.12	1.93	0.23

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