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THE CANADIAN JOURNAL.

NEW SERIES.

No. LXXXV.—APRIL, 1874.

LEAVES THEY HAVE TOUCHED:

BEING A REVIEW OF SOME HISTORICAL AUTOGRAPHS.*

BY HENRY SCADDING, D.D.

I find in my portfolios and other receptacles of loose miscellaneous matter a considerable accumulation of manuscript documents of more or less public interest. Some of them are throughout in the handwriting of men of eminence, while others bear their signatures only, having been composed, or transcribed, or filled up, by a secretary or other functionary. I have thought that I might in some degree utilize these papers by citing pages from them, as nearly as may be in chronological order, and exhibiting the originals whenever the intrinsic interest of the document or other circumstances seemed to make it worth while to do so. In this way, I suppose, I may make my collections help forward the study among us of civil and literary history.

Autograph documents sometimes enable us to realize to ourselves a historical character in a curious manner. The statesman, the business man, the literary man, each reveals himself with an extra clearness in his manuscripts. Should the paper before us chance to be a first sketch or rough draft, we discover which were the writer's first thoughts and which were his second, what he deemed it politic to add under the circumstances, and what to suppress; while in the handwriting itself we have not only a clue to general character and

* The first of these papers was read before the Canadian Institute, January 10, 1874, as the President's Address for the Session of 1873-4.

temperament, but hints of the mood or frame of mind at the date and moment of composition—evidences as to whether these were calm and collected, or agitated by some dominant passion or feeling. Men whose names, after the lapse of a generation or two, had become simply abstract terms as it were, or mere shadows, thus live again in our imaginations by means of signs traced with their own hands when here in the flesh. No production of theirs coming under our eye in print could affect us in the same lively way.—Sometimes the character of one long defunct may be shrewdly divined from his effigy, his counterfeit presentment, on a well-preserved ancient coin or medal; but a surer idea of him would be gained by the study of an autograph fragment, were it possible to have access to such a waif from the past.—And what is now said of the manuscript relics of eminent men is true also, though perhaps not so strikingly, of books which exhibit their autographs and other evidences of former ownership. Here, we say to ourselves, as we are turning over the leaves of the volume—here are pages which their eyes have carefully scanned: here is matter which has engaged their special attention. Here and there perhaps we discern their underscorings: here and there we have their marginal annotations. To the cursory review then of the MS. collection which I propose to make, I may conveniently add brief notices of some volumes distinguished in the manner now spoken of, which are in my possession.

My first paper will consist of specimens of Canadian historical autographs. I trust that its effect will be to foster an interest amongst us in early Canadian history. To this paper I subjoin a few examples of autographs connected with the history of the adjoining United States. My second paper will be a review of a number of specimens which will, in their way, illustrate Old World history, civil and literary and in their way also, stimulate the study of Old World history amongst us. And in my third paper I shall treat of some MS. relics in my collection which specially relate to personages formerly or at present eminent in the universities of Cambridge and Oxford.

My matter, I must premise, will be of a very miscellaneous character—a mosaic made up of irregular pieces. The autograph collector cannot always possess himself of what he would desire. He must be content with what chance throws in his way. The fragments selected for my purpose in these papers will be, as far as practicable, charac-

teristic of the respective writers, or, if not so to be described, characteristic of the times, or indicative of the manners of the day. Here and there my specimen may form a text for a very brief dissertation on some point which it may suggest. Chronological succession or contemporaneousness will, as I have already hinted, be the chief principle of connection between the several parts of each of my papers.

I.—SOME CANADIAN AUTOGRAPHS AND NORTH AMERICAN GENERALLY.

I proceed, then first, with my Canadian autographs. I have aimed at a catena of manuscript memorials of governors and others who have been of note among us; but I have been hitherto only partially successful in securing specimens. The difficulty of recovering manuscript relics of sixty or seventy years ago is not slight. Whenever the only quotations I have it in my power to give are somewhat colourless, I trust to Canadian local feeling to clothe seemingly trivial words with the needful modicum of interest.

To make a beginning, I produce an autograph letter of the French Duke de la Rochefoucauld-Liancourt. This nobleman visited Canada in 1795. He remained for some time at Newark or Niagara, and then passed down the lake to Kingston. In the account of his travels which he afterwards published, he gave an elaborate description of Upper and Lower Canada, and commented in statesmanlike style on the policy of the Governor-General of the day, Lord Dorchester, and on that of the Lieutenant-Governor of the young western province, General Simcoe. The letter which I have expressly relates to this his volume of Travels, which I need scarcely say has now become a classic to the student of Canadian history. Soon after its publication on the continent of Europe, it was translated into English and published in London. It appears that the first sheet of the English production, containing the Translator's Preface, had been sent over to the duke, and he was shocked at some language which the translator had therein employed in regard to himself. He found himself openly charged with a breach of faith in proclaiming to the world certain matters that had been made known to him in the confidence of private conversation. The letter which ensues is the one which I have in my collection. It is in French, and is addressed to Mr. Neuman, the English translator. The duke says: "Monsieur,—
Une petite partie de la traduction que vous publiez de mon Voyage

dans l'Amérique du Nord viens de m'être envoyée de Londres. Je ne vous parlerai ni des censures, ni des éloges que vous faites de cet ouvrage dans votre préface ; il appartient au jugement et aux opinions du public, et de chaque lecteur en particulier, et chacun peut les prononcer comme il lui plaît, et rectifier même parfois le jugement du traducteur, si celui-ci a été fidèle dans sa traduction. Mais, monsieur, vous êtes homme de lettres, et homme de lettres distingué. Je dois donc vous croire des sentiments analogues à cette profession. Comment alors avez-vous pu vous permettre d'écrire dans cette même préface, page 9.—'He tells all that he could learn, without being restrained even by considerations of personal delicacy or the secrecy of honour.' De quel droit vous permettez-vous une insulte aussi offensante ? Qui vous a dit que j'avais violé un secret ? Qui vous a dit que les informations que j'avais recueillies dans le haut Canada m'avaient été données en confidence ? Qui peut enfin vous autoriser à dire que j'ai manqué à l'honneur ? Il me semble que pour hasarder une telle assertion contre qui que ce soit, il faut la soutenir de preuves bien fondées et bien multipliées ; autrement on se rend indigne de l'estime des gens honnêtes, car ils mettent les assertions calomnieuses au rang des plus mauvaises actions. Est-ce là une conduite digne d'un homme de lettres, d'un homme moral ? Est-ce enfin, pour me servir de l'expression très significative de votre langue, se conduire 'like a gentleman ?' Je vous en fais juge vous-même, monsieur, et si quelques motifs d'intérêt personnel ou d'influence particulière ont guidé votre plume en écrivant cette indigne phrase, je doute qu'ils soient suffisants pour vous excuser même auprès de votre réflexion et de votre conscience. J'ai seul, monsieur, le besoin de vous adresser ces réflexions et ces reproches. J'aurais pu les rendre publiques, et je suis assuré que parmi votre nation dont la générosité est un des caractères principaux, mes réclamations n'auraient pu être mal accueillies. Mais j'ai préféré les adresser à vous seul, et par respect pour votre caractère d'homme de lettres très distingué, et encore par ce que j'ai été indigné à la première lecture de cette phrase. J'ai néanmoins la confiance que la réputation de probité à laquelle seule j'aspire, et que je crois mériter ne recevra aucune atteinte de votre assertion." He then expresses some apprehension in regard to the perfect accuracy of Mr. Neuman's translation of the Travels. He says: "Je n'ai point lu la traduction dont la préface et l'épître dédicatoire ni ont été seulement

envoyées par un ami je suppose que la traduction est exacte; néanmoins, je vous avouerai, monsieur, que la dernière phrase de l'avant dernier *a l'ineu* de l'épître dedicatoire ne me laisse pas sans inquiétude, puis qu'elle est loin de rendre la sens de l'original qui à la verité est peu important dans ce passage. J'ai l'honneur d'être, monsieur, votre tres humble et tres obeissant serviteur, LA ROCHEFOUCAULD-LIANCOURT. Hamburg, Septembre 22, [1799], chez Mess. Mattmessen, Salem et Cie." Outside, it is addressed in English, "To H. Neuman, Esq., at R. Phillips', No 71 St. Paul's Churchyard, London;" and the stamp is "Foreign Office, October 1, 1799."

What Mr. Neuman's rejoinder was I am not able to report. The Travels were published in English, first in the quarto form and then in the octavo. I do not see that the translator made any alteration in his language in the second issue. The duke takes for granted, it will be observed, that the translator in his preface alluded to the account given of the policy of the Governor of Upper Canada in relation to the United States, and doubtless he was right in his conjecture. It will be proper, however, to mention that the duke in that portion of his narrative guarded himself against a possible charge of breach of faith. After speaking of the persistent hostility of the Governor against the newly established republic, and of his intention to employ the Indians in any future war with that power, he adds: "I should not have credited these projects had I heard them stated by any individual but the governor himself; nor should I have ventured to introduce them here, but that, within my knowledge, he has repeatedly communicated them to several other persons." The translator may also have had in view what the duke reports of the sentiments of some military men with whom he dined at Kingston. Amongst these gentlemen, he says, "The general opinion in regard to Canada is, that this country proves at present very burdensome to England, and will be still more so in future; and that, of consequence, Great Britain would consult her true interest much better by declaring Canada an independent country than by preserving it an English colony at so enormous an expense. The Canadians say they will never be sincerely attached to England, so that if in time of war a militia were raised, not half of them would take up arms against America [he means to say the United States], and none perhaps against France. The British Government commits, therefore, in their opinion, a gross error in expending such vast sums in attempting to

improve and preserve a country which, sooner or later, is sure to secede from Great Britain, and which, did it remain faithful to the mother country, could not be of real service to it for any length of time."

As to Mr. Neuman, of whom the duke speaks as "a distinguished man of letters," the only other literary production of his which I see named is a translation of a play of Kotzebue's, entitled "Self-Immolation." As to the duke himself, the author of the *Travels*, it will be of interest to state that he was the descendant and lineal representative of François, Duc de la Rochefoucauld, the famous author of the "Reflexions, or Moral Sentences and Maxims," who was descended from the ancient Dukes of Guienne. One of these Rochefoucaulds served under Philip Augustus of France against our *Cœur de Lion*; and Froissart speaks of another of them who attended a tournament at Bourdeaux with a retinue of 200 men, all kinsmen or relatives. One perished in the massacre of St. Bartholomew's Eve, and his heir was soon afterwards murdered by the partizans of the League. The son of this one was created a duke by Louis XIII., (the title had been previously count), and it was his son, the second duke, who became known throughout Europe by his volume of *Maxims*. The next duke, Master of the Horse to Louis XIV., was, like his predecessors, a great soldier; as also was his successor, who took part in the engagement at Landeu, in which William III. of England was defeated. The next duke became a friend and follower of Voltaire, and lost favour at the court of Louis XV. The next, during the troubles of the French Revolution, was taken from his carriage and killed by a mob in the presence of his wife and mother at Gisors in 1792, his crime being his title, although politically he was a liberal. The traveller of the years 1795, '96, '97, in the United States and Canada, was the nephew of this duke, and, as I suppose, inheritor of the title, which, however, had become illegal in France. He was the friend, and, in some sort, the pupil, agriculturally, of the Englishman Arthur Young, and many parts of the duke's work consist of the kind of information which Arthur Young, towards the close of the last century, travelled through England, Ireland, France and Italy to collect. The Epistle Dedicatory, of which we have already heard, prefixed to the *Travels*, is addressed to the widow of the recently-murdered duke, his uncle: the lady, however, was dead before the *Travels* appeared. The duke, while referring to this

circumstance in his Preface, alludes to the tragical fate of his relative. It would appear that both uncle and nephew had been warned of their danger if they remained in France; but of his uncle, the nephew says: "His virtue was so exalted as to render him unsuspecting of so nefarious a course, and his internal consciousness induced him to slight the advice which his friends gave both to him and to me, at the time when an order was given to arrest us, and which in all probability was not the only mandate concerning us from the same quarter. He would not quit France; but I," exclaims the author of the Travels,—“I, who was less confident and less virtuous, fled from the poignard, while he fell by its stroke!”

But it is time to proceed to another autograph.

The Lord Dorchester of whom the Duke de Liancourt has occasion to speak so often in the first volume of his Travels was better known as General Carleton, and General Sir Guy Carleton. As General Carleton he won in his day laurels from Quebec almost as glorious as Wolfe's. Furnished with very inadequate means, he endured a close siege of six months within its walls, defending it against two determined assaults, in one of which the commander of the invading force, Montgomery, was slain. This was in 1775-6. The war of the American Revolution was in progress. The Congress, aware of the weakened condition of the royal armies in Canada, determined to attempt the conquest of that country. On the 3rd of November, 1775, Montreal surrendered to a United States force sent against it by way of Lake Champlain and the Richelieu. Not many days later in the same month, a force appeared before Quebec, having pushed north by a new and most difficult route—the valleys of the Kennebec and Chaudiere. Quebec was almost destitute of competent defenders. The bulk of the troops had been drawn off to posts more exposed. Happily Carleton, Governor-General at the time, and Commander-in-Chief, had escaped capture at Montreal, and by the memorable aid of Com. Bouchette, had descended the river in safety to Quebec. Here he instantly organized a garrison out of such material as was at hand: the French and English inhabitants acting as militia; some men of a discharged Highland regiment (Fraser's); the sailors from the ships; a few regulars (70); a few Royal Artillery (22), and 35 marines. All caught the spirit which animated Carleton himself, and the result was that the city and fortress were saved to England. A consider-

able portion of the invading force surrendered at the time their commander was slain : the remainder, in the following spring, decamped; leaving behind them their stores, their artillery, their scaling ladders and their sick. Three armed ships from England seen rounding the opposite promontory of Point Levi, bringing aid and supplies, were the cause of this precipitate flight. No hostile flag has since been seen before the walls of Quebec. These occurrences took place, as we already said, in 1776.

My *MS.* memorial of Carleton is interesting and somewhat characteristic. It consists of an order wholly in his own handwriting, authorizing the distribution of powder and shot to the Indians of Lorette, a well-known Huron village near Quebec. The date of this document is January 4, 1770. It reads as follows : "Quebec, Jan. 4, 1770. You are hereby required to issue out of the King's stores of this town, one hundred weight of gunpowder and two hundred weight of shot for the Huron, of Lorette. GUY CARLETON. To the respective officers of the Board of Ordnance."

The band of Hurons at Lorette were thus, we see, not deprived of their fire-arms. Confidence in the native races was established. The wide-spread conspiracy of Pontiac against the English had collapsed some time since ; and the great chief himself had met with a violent death in the far west the preceding year. The powder and shot ordered to be issued from the King's stores were expected probably to aid in provisioning the city during the winter months.

In 1777 Carleton solicited his own recall from Canada, offended at the appointment of General Burgoyne, instead of himself, to the command-in-chief of the army in North America. He afterwards, however, obtained the honour which he had envied Burgoyne. But the war was then drawing to a close. It was in 1782 that he succeeded Sir Henry Clinton as Commander-in-Chief. In 1786 he was raised to the peerage as Lord Dorchester ; and in the same year he was sent out again to Canada to execute the functions of Governor-General a second time. In 1796 he returned to England, after a popular administration ; and in 1806 he died, having attained the age of eighty-three.

Sir Guy Carleton's successor as Governor-General, before his second return to Canada, was General Haldimand, a Swiss by birth. I have his autograph attached to a document dated Quebec, 25th October, 1782—a paper transmitted to the Lords Commissioners of

his Majesty's Treasury, in company with an account of "all the revenues in Canada for the last six years." I regret that I do not possess the account itself. He adds: "Independent of these revenues, there are quit-rents and other territorial rights due to the Crown from the lands at or near Detroit. I do not find," he says, "that any account has been transmitted here of the amount. I have applied," he says, "to Lieutenant-Governor Hamilton, and to Major de Peyster, the present commanding officer at Detroit, for information on that subject, which I will take the earliest opportunity to transmit." This Report is addressed to Richard Burke, Esq., who appears to have been Secretary to the Lords of the Treasury. He was brother of the celebrated Edmund Burke, and he made some speeches in Parliament on the Quebec Bill.

I have another document bearing the signature of "Fred. Haldimand," which will recall the times in which it was written. The Revolution, we must again remember, was in progress in New England and the colonies further south. But Canada was yet a fastness of the Royal cause. Here was still a base of operation against the anti-Monarchists of the continent. From Quebec, "British gold" circulated to clever hands in Albany and New York and other places; hence also was it disbursed in the way of relief to sufferers in limb and property in the cause of the Crown. Canada was the asylum towards which the eyes of persecuted loyalists elsewhere were, voluntarily or involuntarily, directed. Sometimes, as we shall see, an itinerant friar from these quarters was a secret political agent elsewhere. Once, perhaps often, a scout is dispatched hence to intercept a mail, with a view doubtless not only of embarrassing the malcontents, but also of discovering who were and who were not disaffected nearer home.

The paper to which I refer contains an account of cash paid at sundry times for private services and gratuities from 25th June, 1779, to 10th November, 1784. Major Robert Mathews, Secretary to the Governor, also signs the document. I give a few of the items. "1780, Aug. 10.—To Enos McIntosh for services rendered to scouting party, £6. Sep. 26.—To Lieutenant Smith, of the 31st Regiment, towards indemnifying his loss when shipwrecked serving with a party as marines on board the armed ship *Wolfe* (20 guineas), £23 6s. 8d. Nov. 29.—To John Coffin, Esq., (late of Boston,) in consideration of his distinguished services during the blockade, and

his distressed circumstances, £100. 1781, May 14.—To Mr. Wing and his guide, John Chalmers, going on secret service to Saratoga to intercept the Albany mail, £24. May 16.—To Captain Sherwood of the Loyal Rangers, gratuity for private services, £50. July 5.—To *Hulibras* (an inhabitant of Albany), gratuity for private services (50 guineas), £58 6s. 8d. [It would have brought trouble upon the party to have named him.] Oct. 16.—At Sorel, gratuity to the officers of the militia for their readiness upon all occasions in forwarding the service (6 guineas), £7. 1782, Feb. 27.—Père Louis, a Recollet, gratuity for private services (10 guineas), £11 13s. 4d. April 7.—To Capt. Sherwood (agent for secret service) to send to Col. Wells and other correspondents in the Colonies, to defray contingent expenses (50 guineas), £58 6s. 8d. July 9.—To Mr. Lansing, (agent for Vermont), gratuity for private service, £49. 1783, May 27.—To Captain Brant, the Mohawk Chief (30 guineas), £35. July 28.—To Baptiste Lepage, an inhabitant of Percée, gratuity granted to him yearly in consideration of his having lost both his hands, and otherwise wounded at the defence of that post, £10. Sept. 11.—To Mr. Shepherd, of Albany, gratuity for forwarding dispatches and intelligence (25 guineas), £29 3s. 4d. 1784.—To Joseph Brant and Captain David, Mohawk Chiefs, to defray their expenses from and to Montreal. Oct. 25.—To Captain Gleissenberg, of the Brunswick troops, in consideration of his services, having been twice wounded in our service, and in great distress, £58 6s. 8d.”

The paper from which I have made these extracts is dated, not from Quebec, but from Curzon Street, London, 23rd March, 1786. This was the year after Haldimand's recall. Trouble arising out of his government in Canada, fell upon him after his retirement into private life. He had administered affairs too much in the spirit of a martinet, and actions at law for damages were successfully brought against him in the English courts.

Of this period is an autograph signature which I have of “John Schank, senior officer and commissioner.” It is attached to a certificate that “Surgeon Melvill had attended the pilots and sick invalids that were put on board His Majesty's armed ship, the *Canceaux*, by order of His Excellency Gen. Haldimand,” for which Surgeon Melvill was to receive a gratuity of six guineas. To this is appended Surgeon Melvill's receipt to Thomas Dunn, Esq., Paymaster, Naval Department, Quebec.

John Schank was afterwards an Admiral of the Blue. In 1776 he commanded the armed ship *The Inflexible*, on Lake Champlain. In 1793 he published in London a folio "Sketch of Two Boats and a Cutter with Sliding Keels." He is to be distinguished from Colonel, subsequently General, Shank, who once commanded the forces in Upper Canada, and possessed property in the neighbourhood of Toronto. The name of the latter was spelt differently. I have his autograph also in a note to be given hereafter.

Some of the agents dispatched to Albany and elsewhere on confidential errands by Governor Haldimand were, no doubt, occasionally involved in trouble through their mission. We have perhaps an instance in one Augustin Lansier, who gives this receipt in 1779 for money received by way of compensation for sufferings at the hands of "the rebels":—"Received from Thomas Dunn, Esq., by order of His Excellency, Gen. Haldimand, One Hundred Pounds, currency, as a gratuity for my sufferings when Prisoner among the Rebels, and on account of my Effects of which they plundered me in March, 1776, when they took me Prisoner. LANSIER. Quebec, 9th Sep. 1779." That his Christian name was Augustin we learn from a mem. on the back of the receipt. The Thomas Dunn, Esq., here named, twice at subsequent periods administered the Government of Lower Canada during interregnums with great eclat. The Hon. J. H. Dunn, familiar to readers of Upper Canada history, and father of Colonel Dunn, distinguished in the Crimea, was, as we suppose, of the same Dunn family already connected with Canada. Of Governor Haldimand we have permanent memorials in the Canadian local names—Haldimand County, Haldimand Township, and Haldimand Cove. It was during his administration that the scheme for settling the United Empire Loyalists in Upper Canada began to be carried actively into effect. From Lord Dorchester, it should have been said, Dorchester Township is named; and once the heights from Queenston to Hamilton appear to have been known as Dorchester Mount.

Among my papers is the autograph of a military commander very distinguished in Canadian history just before the era of Haldimand and Lord Dorchester. The name of Amherst is familiar to us as *that of the general officer to whom the Marquis de Vaudreuil surrendered Montreal and the whole of Canada in 1760.* He was afterwards raised to the peerage as Lord Amherst. It is his signature simply as "Amherst" that I possess, repeated thrice. The document,

however, does not relate to Canada ; but it may be worth while to give it, furnishing as it does an example of routine at the Horse Guards in 1789. Moreover, it is addressed to the identical Sir George Yonge from whom our Yonge Street has its name. The paper is labelled at the back, "Lord Amherst, recommending succession to Lieut. Pyott in the 2nd Regiment of Life Guards, and to Lieut. Young in the 60th Regiment of Foot." It is wholly in Amherst's own admirable bold handwriting. Thus it reads : "St. James' Square, 3rd April, 1789. Sir, I have the honour to enclose to you a succession to Lieut. Pyott, in the 2nd Regiment of Life Guards, which His Majesty has been pleased to approve, and to direct that Commissions may be prepared for His Majesty's signing. I reported to the King the situation of Lieut. John Young, of the 60th Foot, that I had transmitted his memorial to you ; and that from his services, losses and paralytick state of health, he begged to be permitted to sell his Commission ; and as Lieut. Pyott was desirous of remaining in the Army, I hope, he might be allowed to purchase of Lieut. Young. I therefore beg the favour of you to lay the same before His Majesty, and to desire the Commission may be dated on the 2nd of April, by which Lieut. Pyott will retain his rank in the Army. I enclose Lieuts. Pyott and Young's certificates. I have the honour to be, &c., AMHERST." We have then also, wholly in Amherst's hand, a memorandum of the move-up consequent on Lieut. Pyott's change : "Most humbly proposed to your Majesty in the Second Regiment of Life Guards : By Purchase, to be Lieutenant *vice* Edward Pyott, who resigns, the eldest Cornet who can purchase—John Hughes. To be Cornet *vice* John Hughes, promoted Sub-lieutenant in the late first Troop of Horse Grenadier Guards—Arthur Cuthbert." All this is signed "Amherst, Colonel," and dated 2nd April, 1789, with the addition, "Approved by the King : the Commission dated this day. AMHERST."

The supporters of Lord Amherst's shield of arms are two Indians, described in Burke's Peerage as "Canadian Indians;" but, strange to say, they are represented as fettered, as in chains. The heraldic emblazonment of these figures is this : "Two Canadian war Indians, of a copper colour, rings in their ears and noses, and bracelets on their wrists and arms, argent ; cross-belts over their shoulders, buff ; to one, a powder-horn pendent ; to the other, a scalping-knife ; their waists covered with a short apron, gules ; gaiters, blue ; seamed, or ;

legs fettered and fastened by a chain to the bracelet on the outer wrist, proper; the dexter Indian holding in his exterior hand a battle-axe; the sinister holding in his exterior hand a tomahawk, thereon a scalp, all proper." It is evident the herald gave his whole mind to this elaborate delineation. The Canadian will note his elegant euphemisms "gaiter" and "apron," and the nice distinction of battle-axe and tomahawk. It need scarcely be added that our Amherstburg and Amherst Island have their names from this Lord Amherst. One of Lord Amherst's seats, that near Seven Oaks in Kent, is called "Montreal."

Lord Amherst was twice Commander-in-Chief of the Forces, in England. In 1795 he was succeeded in this high office by the Duke of York, second son of George III., whose column dominates St. James' Park in London so conspicuously at the present day. It was from this Duke of York that Toronto was named York; and on this account it is that I preserve with care a certain cheque on the famous London Bankers, Coutts & Co., for the respectable sum of £160. These are its terms: it is in favour, it will be seen, of a namesake of the duke's, of whom I discover nothing. "London, February 6th, 1798. To Messrs. Thomas Coutts & Co. Pay to Frederick Anders or Bearer the sum of One Hundred and Sixty Pounds, and place to my account. FREDERICK." The whole is written with the duke's own hand, neatly and well, on a half sheet of gilt-edged notepaper. Frederick Street, Toronto, still retains the duke's Christian name.

I wish I could produce a relic of General Wolfe. I have to content myself at present with a long and valuable holograph from the hand of one who was intimately associated with him, Major Holland. Major Holland was an engineer officer, who, in a most essential manner, aided General Wolfe at the capture of Louisbourg and before Quebec. Major Holland's name has also a special interest with us as having been given to a well-known river to the north of Toronto, the Holland River. In his letter which I transcribe, we are introduced to Captain Cook, subsequently the great circumnavigator, who comes before us consistently as the intelligent, inquiring man he was, desirous of adding at every opportunity to his professional knowledge and skill. Cook, it appears, was sailing master of the ship-of-war *The Pembroke*, of which the commander was Captain Simcoe, father of Governor Simcoe. When at Quebec

in 1792, Governor Simcoe desired Major Holland to give him, in writing, whatever particulars he could recall respecting his father, Captain Simcoe, then deceased some thirty years. Hence the letter which I have. The Captain of *The Pembroke*, it will be observed from Major Holland's account, was an enlightened and spirited naval officer, possessed of the dash and daring that marked Wolfe himself. Cook too, it will be noticed, acknowledged in after years his great indebtedness to his former superior on board *The Pembroke*. Holland's letter to Governor Simcoe reads as follows :

“Quebec, 11th January, 1792. Sir: It is with the most sincere pleasure that I recall to memory the many happy and instructive hours I have had the honour of enjoying in your late most excellent father's company ; and with more than ordinary satisfaction do I recollect the following circumstance which gave birth to our acquaintance : — The day after the surrender of Louisbourg, being at Kensington Cove surveying and making a plan of the place, with its attack and encampments, I observed Captain Cook (then master of Captain Simcoe's ship *The Pembroke* man-of-war) particularly attentive to my operations; and as he expressed an ardent desire to be instructed in the use of the Plane Table (the instrument I was then using), I appointed the next day in order to make him acquainted with the whole process. He accordingly attended, with a particular message from Captain Simcoe expressive of a wish to have been present at our proceedings, and his inability, owing to indisposition, of leaving the ship ; at the same time requesting me to dine with him on board, and begging me to bring the Plane Table pieces along. I with much pleasure accepted that invitation, which gave rise to my acquaintance with a truly scientific gentleman, for the which I ever held myself much indebted to Captain Cook. I remained that night on board, and in the morning landed to continue my survey at White Point, attended by Captain Cook and two young gentlemen who your father, ever attentive to the Service, wished should be instructed in the business. From that period I had the honour of a most intimate and friendly acquaintance with your worthy father ; and during our stay at Halifax, whenever I could get a moment of time from my duty, I was on board *The Pembroke*, where the great cabin, dedicated to scientific purposes and most taken up with a drawing-table, furnished no room for idlers. Here, under Captain Simcoe's eye, Mr. Cook and myself compiled materials

for a chart of the Gulf and River St. Lawrence, which plan at his decease was dedicated to Sir Charles Saunders, with no other alterations than what Mr. Cook and I made coming up the river. Another chart of the river, including Chaleur and Gaspé Bays, mostly taken from plans in Admiral Durell's possession, was compiled and drawn under your father's inspection, and sent by him for immediate publication to Mr. Thomas Jeffereys, predecessor to Mr. Faden. These charts were of much use, as some copies came out prior to our sailing from Halifax for Quebec in '59. By the drawing of these plans under so able an instructor, Mr. Cook could not fail but improve, and thoroughly brought in his hand, as well in drawing as protracting, &c.; and by your father's finding the latitudes and longitudes along the coast of America, principally Newfoundland and Gulf of St. Lawrence, so erroneously heretofore laid down, he was convinced of the propriety of making accurate surveys of those parts. In consequence, he told Captain Cook that as he had mentioned to several of his friends in power the necessity of having surveys of those parts, and astronomical observations made as soon as peace was restored, he would recommend him to make himself competent to the business by learning Spherical Trigonometry, with the practical part of Astronomy; at the same time giving him Leadbetter's Works, with which Mr. Cook, assisted by his explanations of difficult passages, made infinite use, and fulfilled the expectations entertained of him by your father, in his survey of Newfoundland. Mr. Cook frequently expressed to me the obligations he was under to Captain Simcoe; and on my meeting him in London in the year 1776, after his several discoveries, he confessed most candidly that the improvements and instructions he had received on board *The Pembroke* had been the sole foundation of the services he had been enabled to perform. I must now return to Louisbourg, where, being General Wolfe's engineer during the attack of that place, I was present at a conversation on the subject of sailing for Quebec that Fall: the General and Captain Simcoe gave it as their joint opinion it might be reduced the same campaign. But this sage advice was overruled by the contrary opinions of the admirals, who conceived the season too far advanced, so that only a few ships went with General Wolfe to Gaspé, &c., to make a diversion at the mouth of the River St. Lawrence. Again: early in the spring following, had Captain Simcoe's proposition to Admiral Durell been put into execu-

tion, of proceeding with his own ship *The Pembroke*, *The Sutherland*, Captain Rous, and some frigates, *via* Gut of Canso for the River St. Lawrence, in order to intercept the French supplies, there is not the least doubt but that Monsieur Cannon with his whole convoy must have inevitably been taken; as he only made the river six days before Admiral Durell, as we learnt from a French brig taken off Gaspé. At this place, being on board *The Princess Amelia*, I had the mortification of being present whilst the minute guns were firing on the melancholy occasion of Captain Simcoe's remains being committed to the deep. Had he lived to have got to Quebec, great matter of triumph would have been afforded him, on account of his spirited opposition to many Captains of the Navy, who had given it as their opinion that ships of the line could not proceed up the river; whereas our whole fleet got up perfectly safe. Could I have had recourse to my Journals, which have unfortunately been lost, it would have been in my power to have recounted many circumstances with more minuteness than I am at present enabled to do. I have the honour, &c., SAMUEL HOLLAND."

Captain Simcoe's death occurred, from natural causes, off Gaspé, just as the fleet was beginning its ascent of the river for the memorable attack on Quebec, in 1759. His monument in Cotterstock Church, Northamptonshire, says: "He was an officer esteemed for great abilities in naval and military affairs, of unquestioned bravery, and unwearied diligence." Appended to Major Holland's letter is the following memorandum in the handwriting of Gen. Simcoe himself: "Major Holland told me that when my father was applied to, to know whether his body should be preserved to be buried on shore, he replied, 'Apply your pitch to its proper purpose: keep your lead to mend the shot holes: commit me to the deep.' J. G. S." The mention in Major Holland's letter of "the great cabin" of *The Pembroke*, "dedicated to scientific purposes, mostly taken up with a drawing table, and furnishing no room for idlers," gives us a pleasant glimpse of an interior scene in an armed cruiser engaged in the double service of defending and surveying a coast. Great, doubtless, has been the debt of all later navigators of the Gulf and River St. Lawrence to the observations jotted down for the first time in the busy great cabin of *The Pembroke*. Major Holland was uncle of Joseph Bouchette, author of "The British Dominions in North America," who ultimately became his successor as Surveyor-General of Lower Canada.

My autographic relic of Surveyor-General Bouchette is a letter written at Montreal in February, 1800, addressed to a cousin of his, Ensign Cheniquy, 2nd Battalion Royal Canadian Volunteers, at Quebec. This letter happens to name Major Holland. It refers to an enclosure, an application to the Governor apparently, which Cheniquy was first to seal and then entrust to the hands of Major Holland, "as if he had not seen it." "You alone," he then proceeds, "can put the matter in fair and speedy train. * * Neglect nothing, and let the matter be over as soon as possible; and let me know the result." He then offers land at 3s. 6d. an acre. "As to land," he says, "I shall dispose of any quantity at 3s. 6d. per acre. I have six hundred acres in Darlington, the third township to the eastward of York, and two hundred acres on Yonge Street, back of the town, lot No. 62; and I have four hundred acres in Rainham, near the Grand River; therefore I state this to you that you may take your choice, or any number of acres you please."

The successor of Gen. Simcoe in the Government of Upper Canada was Lieut.-Gen. Hunter. I have nothing to represent him except a note in the handwriting of his Secretary and Aide-de-Camp, addressed to the Ensign Cheniquy just named. The ensign, after obtaining his commission, had perhaps been prevented by circumstances from joining his corps, and had offered some explanations. The Secretary's note was as follows:—"SIR: I have had the honour of laying your letter of this day [the document is dated at Quebec, 17th March, 1800,] before Lieut.-Gen. Hunter, expressing your anxiety to join your regiment immediately. The General desires me to say that he perfectly approves of your joining your regiment as soon as possible, and thinks the sooner you do so the better. I have the honour to be, &c., W. J. CURREY, Aide-de-Camp."—This reads like a communication from Gen. Hunter, who is remembered as a strict disciplinarian.

An autograph letter, which I preserve, of Monseigneur Denaut, French Bishop of Quebec, relates also to the same Ensign Cheniquy. We learn from it that the young soldier had been applying in 1803 for admission or re-admission to the Seminary at Quebec, with a view to studying for Holy Orders in the French Church. The letter is in French, and is dated "Quebec, 3 9bre, 1803." "Monsieur," the bishop says, "Je n'ai point d'objection particulière à votre entrée au Seminaire pour y continuer vos études. Je l'ai déjà permis une fois, et vous avez quitté. Voyez M. le Superieur et arrangez-vous ensemble.

Quant à faire de vous un ecclésiastique—cela ne peut avoir lieu qu'après examen fait par Monseigneur de Canathe qui jugera de votre capacité, de vos dispositions, et du temps de vous admettre. Je m'en rapporterai à lui, et sa décision sera la mienne. Je suis &c., † P. Evêque de Quebec.”—The Monseigneur de Canathe just mentioned was Joseph Octave Plessis, coadjutor to Bishop Denaut from 1797 to 1806. His Life has been published, and forms a work of great historical interest. I have his autograph also, and it chances likewise to relate to Ensign Cheniquy. A document in the handwriting of Bishop Plessis is by no means a common sight. The language of the paper this time is Latin. First we have a brief certificate of Joseph Cheniquy having attended confession, signed by a presbyter named Demers. “Audivi Jos. Cheniquy. Quebeci, die 3â Maii, 1803. DEMERS, pter.”; Then in continuation follows Bishop Plessis' testimonial to Cheniquy's orthodoxy: “Quem fidei Catholicæ adhærentem et nullo, quod noverim, censurarum vinculo irretitum omnibus ad quos præsens perveniet schedula testificor. Ego infra scriptus. † J. O. Epûs Canathensis et Co-adjutor Quebecensis, Qubeci, 13 Maii, 1803.” The “Demers, presbyter,” whose signature appears above, was in his day a man of eminence in the scientific world of Canada. His work, entitled “Institutiones Philosophicæ ad usum studiosæ juventutis,” was published at Quebec, in 1835.—Further on, I shall have occasion to give some passages from an autograph letter of Jacob Mountain, the first English Bishop of Quebec.

I introduce here the letter of a Mohawk chief addressed to General Simcoe in England, after his final departure from Upper Canada. It will serve to shew the esteem and veneration in which the general continued to be held among the native tribes and other portions of the people lately under his rule. Liancourt remarked how Governor Simcoe cultivated the good will of the Indians. Joseph Brant was his personal friend. The name of the chief whose letter I am about to give from the original, was John Norton, but known among the Mohawks as 'Teyoninhekarawen. He is said by some to have been the son of an Indian woman by a Scotchman; but Stone in his Life of Brant puts it the other way, and says that he was the son of a Scotchwoman by an Indian, which does not seem so probable. He passed two years in Scotland in his early boyhood, and moreover received some education in an American college. Stone remarks of him, that next to Thayendanagea, *i. e.* Brant, he was the most distin-

guished of the modern Mohawks. It was he who continued the translation of the Gospels, begun by Brant. The letter of Teyoninhokarawen which I possess is dated at Bath, in England, Dec. 24, 1804. It then proceeds thus :

“Sir: The many important concerns that have occupied your Excellency’s time since you left the wilds of Canada to lament your absence, may have left but imperfect traces on your mind of some of its remoter parts and of its inhabitants. But with respect to them, retired and sequestered from the busy world, nothing could intervene to shade from their memories the grateful sense they retain of your benevolent intentions towards them, and the active zeal with which you were ever ready to promote every measure in your power for the welfare of that country and the various descriptions of people therein residing, as also for those out of its boundary, but who ever faithfully adhered to His Majesty’s interests and relied on his fatherly protection. Since I have been in Britain,” he continues, “I have greatly desired to do myself the honour of waiting on your Excellency. But the distance of your residence, and the business which occupied my attention, caused me to defer from time to time, till lately I came to Bath, when I proposed myself that pleasure ; but by a particular arrangement was so soon recalled to London as to put it out of my power for that time. As I now hope to be able to remain for this week at Bath, could your Excellency with propriety and convenience permit me to wait upon you, I would do myself that honour any day you might be pleased to appoint. With the greatest respect, I have the honour to be, &c., JOHN NORTON. Teyoninhokarawen.—P.S. Please to direct to me at Mr. Robert Barclay’s, Bath.” The peculiar use of the word “Britain” above reveals the Scottish tincture in the chief’s education.

Norton, we are told, when in Bath appeared in the Pump Room in Indian costume, and the following scene is said to have occurred. A young Englishman, who had been in America, accosted him, and gave him to understand that he suspected him to be an impostor. Norton calmly assured him to the contrary. “But then,” returned the other, “if you really are what you pretend to be, how will you relish returning to the savages of your own country?” “Sir,” replied Norton, “I shall not experience so great a change in my society as you imagine ; for I find there are savages in this country also.”—Norton proved himself a useful ally to England in the war with the United

States in 1812-13-14. He assisted at the capture of Detroit; he was present on Queenston Heights when Brock was killed; he entered Fort Niagara when surprised and taken by Colonel Murray in December, 1814; and again, at the famous night-attack on the United States' camp at Stoney Creek, he was also present. Norton's association with the British officers on these and other occasions gave rise to some wild stories, believed in the United States. One writer reports that Colonel Murray, when he surprised Fort Niagara, entered the fort at the head of 400 British and Indians. James, in his "Military Occurrences of the Late War," &c., corrects the statement by saying there was but one Indian, and he was a Scotchman: meaning, of course, Norton. But doubtless, wherever Norton was, his savages were not far off.

As a companion-piece to Norton's letter, I give another, written also by our educated Indian chief, Captain John Brant, son of Joseph, and his successor as Tekarihogea, or Head Chief of the Mohawks. Its date, however, is so late as 1825. I transcribe from the original. Application is made therein to Colonel Givins, of the Indian Department, for his friendly intervention in behalf of Thomas Davis, Susannah Johnson and Lucy Brant, Grand River Indians, who had suffered losses during the War of 1812. "Their respective claims," Captain Brant says, "have been legally authenticated before William Holme, Esq., of Dumfries; and I believe that they have proceeded in every respect according to the rules of the Commissioners. These claims were transmitted to J. B. Macaulay, Esq., Clerk to the Commissioners, nearly a year since. It is in consequence of the bad state of health of the Hon. Col. Claus," Brant adds, "that Thomas Davis intends to solicit your assistance, and to inquire of Mr. Macaulay if the Commissioners have examined those claims: and also the result of such examination. Any assistance you can render to these people will be gratefully acknowledged by, Dear Sir, your very faithful servant, J. BRANT." The letter is dated at Wellington Square, July 5, 1825. This is the J. Brant who, when visiting England in 1821, called on the poet Campbell to retract the language he had used in "Gertrude of Wyoming" in regard to his father, Joseph Brant. Campbell's elaborate reply can be seen at the end of Stone's Life of Joseph Brant. The Mohawk name was Ahyouwaeghs.

The Hon. Col. Claus long filled a large space in the Canadian public view, as Chief Superintendent of Indian affairs. Here is a

letter of his dated Niagara, 6th November, 1806. It is addressed to the same Cheniquy of whom we have already heard. Cheniquy's occupation as a military man was gone, the Canadian Volunteers having been disbanded. Col. Claus alludes to hopes of half-pay fondly but vainly indulged by Cheniquy. He speaks a good word for Gen. Hunter, who was lately deceased. He names also Judge Thorpe, and disapproves of his having presented himself as a candidate for a seat in Parliament. Col. Claus addresses his letter to Cheniquy at Springfield Park, near York. This was the abode of Mr. John Mills Jackson. Col. Claus says,—“Dear Sir, I was favoured with your letter of the 12th ultimo, and I am to acknowledge myself highly flattered with your good wishes for me. I have been unwell, but not seriously so. I hope and at present feel myself to be getting strength every day. I have heard that Mr. Justice Thorpe is offered to the public to represent the Counties of York, Durham, &c. Every man has a right to give his opinion; and I think that Law and Divinity ought to have nothing to do with Politics. * * * There is no report here of the half-pay being allowed to the Canadian Volunteers. As to the truth of it, I cannot say anything about it.—I hope it may be the case. As to General Hunter's administration, what a few idlers and discontented people may say will never affect him. Those who cry out are strangers both to him and his measures, and some who received from him that censure and punishment that they deserved. He was an honest man, which cannot be said of some who make such a noise. I should be happy if I had it in my power to do anything for you. I shall always be happy to hear from you, and believe me, &c., W. CLAUS.” It may be pleasing to know that, through Col. Claus, Cheniquy did obtain (in 1807) an appointment as Collector at St. Joseph, in the Far West. I have a letter of Cheniquy's in which this is implied. Also I have a portion of Cheniquy's Journal as far as Matchedash Bay, *en route* to St. Joseph. In his way up Yonge Street he rested at the Count de Chalûs'. (He speaks of the Count's place as “Windham.”)

Having named Judge Thorpe, I am led to give two or three letters from the hands of our early Judges. First I go back in time a little, and transcribe an autograph of Chief Justice Osgoode's, the first Chief Justice of Upper Canada. It is a communication addressed to W. Dummer Powell, Esq., at Detroit, in 1794. Mr. Powell's home was at that place at the time. He had not yet been raised to the

Bench. The Chief Justice writes plaintively of his "solitude" at Niagara: alludes to some mental perplexity which he does not care to commit to paper: refers to projects for the speedy establishment of a Superior Court of Judicature to be stationary at the seat of Government. Among the items relating to current events at the end, he speaks of the pacific tone of certain communications of "Mr. Washington" to Congress. The Chief Justice writes from Navy Hall, the Governor's residence at Niagara, the humble accommodations of which are to be gathered from the regret expressed that it had not been convenient to offer Mr. Powell's son a bed there, except only during the absence of Major Littlehales. I now give the text of the letter:

"Navy Hall: May 2, 1794. Dear Sir: By the report of the Attorney General on his return from Detroit, [this would be Mr. White] as well as the expectation formed by your son on his arrival here, I was flattered with the hopes of seeing you in this quarter during the course of last winter, and had cause to regret the disappointment both from the loss of your company, which would have greatly cheered my solitude, and because I was thereby deprived of an opportunity of conversing with you upon some topic connected with our system of judicature, and perhaps of receiving some insight upon a question that involves a matter of candour with which I confess I am at present somewhat puzzled, and which, if stated upon paper, might lead to a tedious and unavailing discussion. As it seems to suit the general convenience that the Assembly should meet in June, it would not be easy to arrange matters for holding the Western Circuit in spring so as to secure my return in time. I must therefore defer it till autumn. Many circumstances have made it absolutely necessary that some course should be taken to relieve those gentlemen in part who have gratuitously stood forward to administer justice at a time when the country was destitute of professional men, and to carry into effect the institution of that Superior Court which is provided for by the civil estimate of the Province, and the want of which has been openly and repeatedly complained of by the people. For the reasons you formerly detailed, I know that the removal of your family will be attended with much inconvenience, and, without the means, can only wish I had the power of redressing it. In this case the most friendly part I can act is to apprise you, that unless some unforeseen event should occur, a Bill will be brought forward

this Session to establish a Superior Court of Judicature, to be stationary at the Seat of Government; and, till that shall be fixed, to be holden at the last place of meeting of the Assembly. I am sorry it was not in my power to offer a bed to your son except during the absence of Major Littlehales. We have no news from Europe except by way of the States. A copy of the King's speech has found its way here, which continues to insist on the necessity of opposing the measures of the French. No mention is made of the American States; but I am happy to learn, from a recent communication from Mr. Washington to Congress of letters from Mr. Pinkney, that at an interview with Lord Grenville the most pacific professions were made by the Secretary, so that the apprehensions of war begin to subside. I am, Dear Sir, with great esteem, &c., WILLIAM OSGOODE."

It would appear that during the subsequent autumn Mr. Powell had visited Niagara, and had returned rather suddenly to Detroit, with the intention of bringing down his family. Navy Hall was to have afforded them a temporary shelter in the expected absence of the Governor for the winter. But in the meantime some change had occurred in the aspect of public affairs, and it might be expedient for the Governor to pass the winter, after all, at Niagara: also, it might be necessary to quarter a military guard in the spare portion of the Governor's House. The following note was accordingly dispatched. I copy from the original. "Navy Hall, Nov. 14, 1794. DEAR SIR: The critical situation of affairs will in all probability render it necessary for His Excellency to remain at Navy Hall during the ensuing winter, and he may have occasion to quarter troops in that part of the House which was otherwise intended for the temporary accommodation of your family. Under these circumstances, His Excellency has directed me to write to you immediately, to obviate any inconvenience you might else experience. I am, Dear Sir, with regards, &c., E. B. LITTLEHALES.—P.S. Colonel Simcoe was prevented from personally explaining to you what he has directed me to write, owing to your unexpected departure to Detroit."—To this autograph letter of Major Littlehales', it will not be inappropriate to append Liancourt's account of the impression made on himself by that gentleman. "Before I close the article of Niagara," the duke says, "I must make particular mention of the civility shown us by Major Littlehales, Adjutant and first Secretary to the Governor—a well-bred, mild and amiable man, who has the charge of the whole

correspondence of Government, and acquits himself with peculiarity and application. Major Littlehales appeared to possess the confidence of the country. This is not unfrequently the case with men in place and power; but his worth, politeness, prudence and judgment give this officer peculiar claims to the confidence and respect which he universally enjoys."

In connection with Mr. Powell's first visit to Niagara and the fraternal conferences which, as we have seen, Chief Justice Osgoode in his solitude desired to have with him, I must give the following note from the autograph of the Governor himself: "Col. Simcoe's compliments to Mr. Powell: Mr. Chief Justice Osgoode is to be with him at eleven o'clock, when he shall be happy to present Mr. Powell to him. Sunday morning." Public men, at home and here, were not in 1794 so scrupulous as they are obliged now to be, in regard to utilizing occasionally some of the hours of Sunday for the consideration of affairs of state. In the following year, under date of "4th July, 1795, Saturday morning," we have a note in the handwriting of Major Littlehales, addressed to Mr. Powell, in these words: "Lieut.-Governor Simcoe will be glad to have the pleasure of seeing you to dinner to-morrow at three o'clock, and is the more solicitous in this invitation, as he wishes to converse with you upon business, before or after dinner." And when the King's birthday falls on a Sunday, the Commandant at Fort George does not defer to the following day the dinner to which he invites his friends. Thus: "Major Shank requests the honour of Mr. A. Macnab's company to dinner on Sunday, the 4th of June."

A note of Chief Justice Elmsley (Osgoode's successor) to Mr. Powell, now advanced to be Mr. Justice Powell, exhibits the same peculiarity. It is dated "Sunday morning," and conveys the following queries to Mr. Powell. (They constitute my chief MS. relics of Chief Justice Elmsley). "1. Is there any ordinance or law that has made any alteration in the Penal Law of this Province since the 14th George III., except that which extends Petty Larceny to twenty shillings sterling? 2. By what Proclamation, Ordinance or Law was the Penal Law of England introduced here? for the 14th Geo. III. mentions its having been established near nine years. To these questions," he then says, "allow me to add another of much less importance. Is it the custom to give the Grand Jury a dinner here, as elsewhere?" I happen to possess Mr. Justice Powell's response, in

his autograph. He says: "I know of no law affecting the Penal Code of this Province except the change you mention, extending the value of Petty Larcenies to meet in some measure the depreciation of money. I consider the Criminal Code of England, as it stood in 1774, to be operative here, being then confirmed by statute. Its first introduction was by Proclamation, 1763, extending the Laws of England to all newly acquired conquests, It followed the first Civil Governor's Commission, which was in '65 or '66." He then answers the Chief Justice's inquiry about the dinner. "It has not been customary to entertain the Grand Jury on the Home Circuit, no allowance having been made for the expenses of it to the Officers." Chief Justice Elmsley was afterwards Chief Justice of Lower Canada. A few words of his, penned by him when resident at Quebec, are the following—the mention of five o'clock as the Quebec dinner hour will perhaps redeem them from mere commonplace: "Mr. Elmsley will do himself the honour of waiting on the Bishop of Quebec and Mrs. Mountain at dinner on Friday next, at 5 o'clock." The note is addressed to "Mrs. Mountain, Belmont."

To accompany Chief Justice Elmsley's autographs, I add a passage from an admirably written letter now lying before me, of Mrs. Elmsley, at the time of the date (1825) his widow. It is addressed to Mr. Alexander Wood, and relates to a generous offer that had been made by that gentleman to restore a parcel of land containing fifty acres, to the Elmsley Estate, for a reason which will in these days be considered romantic. In view of the great and unexpected rise in the value of property since the purchase, he feels that he got it altogether too cheap. He therefore desires to hand it back to the Estate, that the Estate, and not himself, might reap the benefit. Mrs. Elmsley firmly declines the proffered advantage in this well-expressed language: "I thought I had not sufficiently remunerated you for the infinite trouble you have had in the care you have taken of the property, by allowing you to *purchase* the lot in question instead of *giving* it, and was much gratified when I heard it had become more valuable. In case you should wish to dispose of it even in this way you were still my *creditor*, for the land became yours at the price it was *then* valued at; and whatever *future* advantages might arise from such property, the increase of value must be yours as much as if you were to receive the benefit of any article in trade. You have done more for me and my family than any one else would

have done ; and though I feel your last act of kindness, if possible, more than all past favours, yet I must not tax your friendship at so high a rate. Therefore, pray do not be offended if I decline the benefit you generously proposed, and allow me the gratification of knowing that you have received a trifling profit from what, in fact, is your own to dispose of as you please. The continued friendship of a mind like yours will always afford me more real pleasure than accession of riches ; for few, very few indeed, possess such feelings as yours, and such a friend I shall feel the greatest pride in boasting of. I have met with many instances of ingratitude, but your disinterested conduct has a hundredfold overpaid me."

The successor to Chief Justice Elmsley, in Upper Canada, was Chief Justice Allcock. My MS. relic of him is dated from London, 3rd April, 1805. He writes to inform Mr. Justice Powell that "Mr. Robert Thorpe, who succeeded Mr. Cochran at Prince Edward Island, [*i.e.*, as Judge], is appointed his successor in Upper Canada." The vacancy on the Bench in Upper Canada had been occasioned by a singular disaster, by which a judge, a solicitor-general, a sheriff, a high bailiff, a prisoner, witnesses, and others were suddenly engulfed in Lake Ontario in a Government vessel named *The Speedy*, not one person of those on board surviving to tell the tale.—Chief Justice Allcock then goes on to describe to Judge Powell how he has fixed the Circuits. "He [the new judge, Thorpe] is here now, and I have made an arrangement with him about the Circuits of this year, which I hope you will approve of. I shall be obliged [he says] to take the East in my way home, [*i.e.*, from London], as I fear it would be too late to go to the West after my arrival at York. Mr. Thorpe," he then adds, "is going to Prince Edward Island from hence : he expects to sail from thence early in July for York with his family, consisting, I think, of a lady and five children. His arrival at York," continues Mr. Allcock, "depending as mine does, on wind and weather, he agrees to go to Newcastle only, (to which he says he will ride) ; so that I hope you will have no objection to take Niagara, London and Sandwich.—Mr. Thorpe," he further explains, "much wished to have some place he could ride to this year, as he said his Lady's alarms would be such as to the dangers of the Lake as to injure her materially, if he was to leave her on such an expedition on her first arrival. Under all circumstances," the Chief Justice finally observes, "I could think of no other arrangement."

When *The Speedy* foundered, Mr. Herchmer, a merchant of York, also perished. I have Mr. Herchmer's signature attached to a receipt, which happens to give the amount of municipal tax paid by two citizens of York in 1801. "Received, York, 22nd April, 1801, from Alexander Wood, Esq., for Doct. Burns, the sum of four dollars, being the amount of his Taxes and his brother's. J. HERCHMER, Collector. Doct. Burns, 16s., Alex. Burns, Esq., 4s.; total, 20s." One barrister who narrowly escaped drowning in *The Speedy* was Mr. Weekes. He determined, as Mr. Thorpe proposed to do, to "ride" to the vessel's destination, and so saved his life. My specimen of Mr. Weekes' autograph consists of an order for window-glass and putty left with Mr. Wood. He was contemplating building at York. "Please to order from England for me Six Hundred feet of Glass, ten by sixteen inches, and putty sufficient for glazing the same. W. WEEKES. 12th Oct., 1805. Alexander Wood, Esq." In the following year Mr. Weekes was killed in a duel at Niagara.

Chief Justice Allcock's successor was Chief Justice Scott. I have two autograph letters of Mr. Scott. One was written when he was Attorney General, and is addressed to Judge Powell, requesting him to nominate some one to conduct the Crown business in his absence, it being necessary for him to repair to York in consequence of the death of the Lieutenant-Governor, General Hunter. "As the melancholy event," he says, "that hath taken place renders it a duty in me to return to York as soon as possible, I request that you will appoint any gentleman at the Bar whom you may think fit to carry on prosecutions for the Crown, when a person in such a situation may by you be considered as necessary." The other letter was written by Mr. Scott eleven years later, on his being allowed a pension. It is addressed to Governor Gore, and reads thus: "March 30th, 1816. My Dear Sir: I have only time to offer my sincere thanks to your Excellency and the Members of the Legislature. Their generous conduct I see and feel; and I shall ever bear in mind the high obligation they have laid me under. I now return the enclosed according to your request. I am, with great regard, your Excellency's obedient and obliged servant, THOS. SCOTT." The pension was the comfortable one of £800 sterling per annum, as appears from a receipt which I have: it is a printed form filled up, and it runs thus with great and satisfactory particularity: "Upper Canada. Receiver General's Office, York, the third day of January,

1820. Received of George Crookshank, Esq., Acting Receiver General, the sum of Four Hundred and forty-four Pounds eight shillings and tenpence halfpenny, Canada Currency, being my half-year's allowance of Pension from the 1st of July to the 31st of December, 1819, inclusive, at £800 sterling per annum, as late Chief Justice of the Province, granted upon my retirement from the Bench by His Royal Highness the Prince Regent, as signified in Earl Bathurst's letter dated the 18th of June, 1816; pursuant to Lieut.-Governor Sir P. Maitland's warrant No. 22 of this date, having signed five receipts of the same tenor and date.—THOS. SCOTT. £444 8s. 10½d., Canada Currency; dollars at 5s. each."

I should have noted further back that between Gov. Simcoe and Gov. Hunter came the Administrator, Peter Russell. He was afterwards Receiver General of the Province. Here is his autograph signature, a fine one, attached in that capacity to a receipt, which informs us what was the sum accruing to the public Treasury from Licenses in the Midland District in 1806. "Receiver General's Office, 20th March, 1806. Received from John Cummings, Esq., Inspector for the Midland District, through the hands of Alexander Wood, Esq., Twenty-three pounds twelve shillings and ninepence, Halifax Currency, for account of Duties received on Licenses in that District.—PETER RUSSELL, Receiver General. £23 12s. 9d., Hx. Currency; dollars at 5s." Mr. Russell died at York in 1808. I copy the printed card of invitation which was sent to his friends on the occasion of his Funeral, the mem. at its close sounding somewhat strange to us now. "Sir: The favour of your attendance at the Funeral of the late Mr. Russell is requested on Wednesday next, at 2 o'clock precisely. York, 3rd October, 1808. Divine Service and a Funeral Sermon, by the Reverend Mr. Stuart."

Of Governor Gore I have several minute manuscript remains. He was twice Governor of Upper Canada. He departed before the Three Years' War, begun in 1812, and was reappointed when the contest was over. The following is a familiar note to Mr. Justice Powell, 3rd May, 1810. He was just on the start for an inspectional tour, probably. "Dear Sir: I hope to get away on Saturday morning; therefore if you will excuse a short invitation, and take your *supper* with us to-morrow at half-past 5 o'clock, we shall be most happy of your company.—FRANCIS GORE." The italicised *supper* is, I think, a jocose allusion to the use of the word supper for "Tea," common

in the United States and among country people here. Secondly, I produce Mr. Alexander Wood's License to sell Spirituous Liquors, signed by Governor Gore's own hand, with Mr. Allan's receipt as Inspector, for the fees receivable on the same. This is the same Mr. Wood whose scruples about profiting by the great rise in the value of fifty acres of the Elmsley Estate were noted just now. "Province of Upper Canada. Francis Gore, Lieutenant-Governor of the Province of Upper Canada, &c., &c., &c. To all whom these presents may concern: This License is granted to Alexander Wood, Esq., of the County of York, Home District, Shopkeeper, to utter and sell Wine, Brandy, Rum, or any other spirituous liquors by retail, to be drank out of his house. This License to be in force until the fifth day of January, One thousand eight hundred and eleven; provided that the said Alexander Wood shall observe such rules and regulations as are or shall be made in that behalf. Given under my hand and seal at arms at York, in the County of York, the seventeenth day of January, One thousand eight hundred and ten, in the 50th year of His Majesty's reign.—FRANCIS GORE, Lt.-Governor. By His Excellency's Command: JOHN MCGILL, Inspector-General, Public Provincial Accounts."—"Received from the said Alexander Wood, Esq., the sum of One pound sixteen shillings sterling, being the original statute duty on each License, and likewise the sum of Twenty shillings, lawful money of this Province, being the additional duty imposed on the same by the Legislature.—W. ALLAN, Inspector." The John M'Gill, whose autograph also here appears, is the gentleman from whom M'Gill Street and M'Gill Square, Toronto, have their names. I give one or two more representative relics of Gov. Gore. Here is an extract from a letter to Col. Givins of York, after his final retirement from the Government of Upper Canada. Writing from 15 Lower Grosvenor Place, he says: "I learn that Lord Dalhousie has recommended a Major Darling to succeed to our poor friend Claus. I suppose his Lordship is satisfied with that gentleman's perfect knowledge of the Indian Nations to justify him in preferring him to so important an office. * * If I was a little younger, it would afford me great pleasure to pay you a visit and witness your improvements. My late absence from London prevents me from filling up a letter with the news of the day: the most important event is the hourly expectation of the Duke of York's death. It is quite impossible to describe how universally he is beloved,

not only by the Army, but by every class." The rumour respecting the appointment of Major Darling did not prove to be well-grounded. Col. Givins himself became Col. Claus' successor in the Chief Superintendency of Indian Affairs. A little later, Mr. Gore communicates to Mr. Justice Powell at York an *on dit* of the moment in London, which he evidently thought farcical, and which also did not prove true. "Many thanks for your letter," he says, "and I was about writing to you to tell you that Sir Peregrine Maitland has asked for a twelve month's leave of absence, which is granted: and that Sir Francis Burton has received the appointment of Governor General of British North America!!! I beg you not to mention this latter appointment," Mr. Gore adds, "because Sir Francis begged me not to mention it; and yet it has transpired, although many do not believe it." He closes with a hint which probably had much latent significance: "I should recommend you," he says, "to abstain from making any applications to the Colonial Office at present, but wait till Mr. W. Horton abdicates, which I understand will be about Christmas."

The name of Sir John Harvey, otherwise so greatly distinguished, has an especial interest with Upper Canadians, inasmuch as it was he—at the time Lieut.-Col. Harvey—who planned and so successfully carried out the daring night attack on the enemy's Camp at Stoney Creek on the 5th of June, 1813, by which a most effectual check was given to the progress of invasion. My autograph memorial of Sir John Harvey is the following letter, addressed to Col. Givins: it refers, like another document, already given, to the death of Col. Claus, and to a movement which was set on foot to secure for Col. Givins the succession to the General Superintendency of Indian Affairs—a post for which his long experience with the native tribes, and his knowledge of their languages, peculiarly fitted him. The movement was, as we have already been apprized, successful. "I had not heard" he says, London, 1st Dec., 1826, "of poor Col. Claus' death, nor do I at all know whether it be intended to keep up the appointment he has so long held. If such should be the intention, much attention would doubtless be paid to the recommendations of the authorities in Canada, particularly, I should imagine, as regards Upper Canada, to that of your excellent Lieut.-Governor, [in 1826, this would be Sir John Colborne,] whose support you will, I doubt not, have, and you can require nothing beyond that." Previously,

however, in the letter, Sir John Harvey had said, "I addressed a note to Mr. Horton for Lord Bathurst's information, stating my knowledge of your services in the Indian Department, particularly as they fell under my observation in the late War, in such a manner as may, I trust, be serviceable to you."

When Gov. Gore departed for England in 1811, it was simply on leave. Major General Brock, the Commander of the Forces, became Administrator or President of Upper Canada. Of this distinguished man, soon after slain at the Battle of Queenston Heights, where his noble monument is a conspicuous object, I have an epistolary relic. It is not in any way of a military character, being a letter to the Bishop of Quebec, the first Bishop Mountain, of whom we have before heard. Every one knows that at the outset a close connexion subsisted between Church and State in Upper Canada, often no doubt to the inconvenience and perplexity of both contracting parties. Solemn letters passing between governors and bishops on the subject of missionaries, rectors and ecclesiastical livings, have become curiosities now to us under the modern and much simplified system of a Free Church in a Free State. Bishop Mountain, it appears, had thought it proper to apply to the Administrator of the Government for his opinion as to the advisability of ordaining a certain German Lutheran named Weagant. The Administrator had referred the matter to Dr. Strachan, recently appointed to York. He then replies: "York, Upper Canada, September 24th, 1812. My Lord: I was honoured with your Lordship's letter of the 3rd ult., a fortnight ago, but thinking that it would be more satisfactory to receive a confirmation from Dr. Strachan of the favourable account given by others of Mr. Weagant's character, I have delayed until my arrival here giving an answer. Dr. Strachan is of opinion that Mr. Weagant's abilities and moral conduct entitle him to be admitted into the ministry of our Church, and that he will be of essential benefit to the people among whom he now resides, who generally speak Dutch, in which language he is only competent to officiate. It appears that Mr. Weagant attends at present three places of worship, and it is suggested that he should be required to perform some duties. Allow me to assure your Lordship that I shall at all times be proud to attend to your recommendations, and to express my regret that your Lordship's ill state of health deprived this Province of the advantage of your Lordship's presence. I have the honour to

be, with high respect and consideration, your Lordship's most obedient and very humble servant, ISAAC BROCK, M.G." This letter is wholly in the handwriting of Gen. Brock. As a pendant, I add an extract from a letter by Major Glegg, who was with the general as one of his aides-de-camp at the moment of his death at the base of Queenston Heights. It was written some years later at Quebec to a friend who had congratulated him on a happy windfall in England, which he was about to take possession of. "I thank you," he says, "very sincerely for your congratulations on my late very unexpected good fortune; it is quite true that a distant connexion has left me a very pretty estate in my own county (Cheshire), and in the immediate neighbourhood of all my relations, about seven miles west of Liverpool, and thirteen from Chester, where I shall be truly happy to give you a good day's shooting and a most hearty welcome under my roof. It is my intention to proceed to England soon after the opening of the navigation, proceeding through your Province to New York."

During the Three Years' War, in the course of which Gen. Brock was killed, the church at Niagara was burnt, along with the whole town. Being of stone, however, the walls of the building remained. Some sentences of a letter, now before me, from Mr. Addison, the English clergyman there at the time, to Bishop Mountain of Quebec, will afford an idea of the situation in which the inhabitants found themselves. It is dated at Niagara, 30th Dec., 1815. "I took the liberty," he says, "of recommending the state of our church to your Lordship's protection by Lieut.-Col. Robertson, of the Canadian Fencibles. I now think it my duty to acquaint your Lordship that we have begun to perform the Service in it, and have got, by means of a subscription, three windows and some benches put into it. We are still in a very comfortless situation, and if Government will not assist us, I fear we shall continue so for some time." The three windows here spoken of were not some of "the storied windows richly dight" with which we deck our churches now, but doubtless the most matter-of-fact affairs, simply to answer the primary purpose of windows, viz., the admission of light: the three opposite apertures were probably roughly boarded up. Mr. Addison then expresses some desire to be transferred from Niagara to the London District. "I have been strongly solicited," he says, "by some of my old hearers who have removed to that district, to live amongst them, and should

not feel much disinclined, if such a salary was allowed for visiting the Indians two or three times a month, as would make up for the loss I must sustain in leaving my present situation. I beg leave, however, to assure your Lordship that I wish not to ask any unpleasant favour, for really, my Lord," Mr. Addison pathetically subjoins, "I think it a matter of great indifference where I struggle through the few remaining years of my life."

It having happened just now that Dr. Strachan and Bishop Mountain came before us together, I give here, as examples of their autograph letters respectively, two extracts in which a trifling passage of arms or crossing of pens occurs between them. The Bishop of Quebec was in London at the moment, attending to Canadian Ecclesiastical interests at Downing Street and elsewhere. The Doctor writes to him from York, Upper Canada; and after, among many other things, detailing certain specific advantages which he has heard the Roman Catholics of Upper Canada had lately obtained from the Home Government, he ventures to observe to the Bishop, "It is impossible to look at this statement, my Lord, without inferring that either the Ministers at home, or the Head of the Church in this country, had failed in their duty. It therefore behoves your Lordship to take such steps as shall clear you from any such suspicion, and bring to light your incessant exertions for the increase and prosperity of the Church, (*i.e.* the Church of England in Canada.)" He suggests that the Secretary of State for the Colonies should be moved to dispatch a strong letter to the authorities in Canada in favour of the Church of England; "and if the letter added," he says, "that his Majesty's Government expected the hearty co-operation of men high in office here in promoting the prosperity of the Establishment and affording it every assistance, it would have a wonderful effect. Such a letter," he remarks, not surely with his customary shrewdness, "your Lordship might, I think, very easily procure."

After passing in review the other points in Dr. Strachan's communication, the Bishop takes notice with a good deal of dignity of the words and ideas just quoted. He writes from Hastings, in Sussex: "You tell me, Sir," he says, "that it is impossible to look at this business without inferring that either the Ministers at home or the Head of the Church in Canada had failed in their duty. It therefore (you say) behoves me to take such steps as shall clear me from any such suspicion, &c. These observations may in some degree be

just. I am fully aware that in ordinary minds, or with persons not sufficiently informed of the difficulties to be encountered—the Ministers consider the affairs of the Canadas to be involved in very great difficulties—a want of success will commonly produce the suspicion of a want of due exertion. Yet I do not exactly see the propriety of urging this to me. I must bear these suspicions as I may. The time perhaps will come when the exertions which I have made will be better understood. I shall not remit them; but it is not my intention to make them public at present. I have a very awful responsibility, and I trust that I am duly sensible of it; but what 'it behoves me to do,' under the circumstances in which I am placed, ought in propriety to be left to my own judgment." Then as to the facility with which Ministers might be moved to adopt a particular line of action, the Bishop rejoins: "Ministers will not consider the Ecclesiastical affairs of the Colonies but in conjunction with other matters relating to them. Whenever they do proceed in this business, they will certainly not fail to have before them all that relates to the Reserved Lands, and everything else materially affecting the Establishment and the general interests. But like many other persons at a distance from Courts and Ministers, you mistake extremely in supposing that effectual attention to everything that seems important in the Colonies, and particular directions respecting it, may 'very easily' be obtained here." In his next letter, Dr. Strachan offers many apologies for his "loose manner of expressing himself," which he says was the result of haste,—Col. Talbot, who was to be the bearer of the letter, being kept literally waiting until it should be finished. He then adds: "The great exertions of your Lordship to place the Church in these Provinces upon a more respectable footing do more than equal my expectations, which were not perhaps very moderate. They are not to be measured by their success; but will reflect the greatest credit on the first Bishop of Quebec, when they are once generally known, long after we are all mingled with the dust." Both of these energetic contenders in a cause which it was their office to uphold are now mingled with the dust, and truly their names are held in honour. But the way out of the maze in the perplexities of which they were entangled—how different it finally was from that which they had conceived to be the only one!

But now I must return to secular affairs. When Gen. Brock was killed, the command, civil and military, devolved on Gen. Sheaffe.

The name of Gen. Sheaffe—afterwards Sir Roger Hale Sheaffe—is associated with the history of Toronto. It was he who retired with the remains of the small regular army under his command towards Kingston, when Toronto, then York, was taken and partially sacked by the Congressional invading force. I possess an autograph letter of his. It is addressed to Col. Givins at York, and introduces to him and to us Capt. Basil Hall. "I have the pleasure of introducing to you," Gen. Sheaffe says, "Capt. Basil Hall of the Royal Navy. In granting him the benefit of any kind offices in your power, and in procuring from others any aid that may promote the purposes of his visit to Canada, you will confer an obligation on, yours very truly, R. H. SHEAFFE." This letter is dated Edinburgh, 8th April, 1827.

Capt. Basil Hall's three volumes of Travels in North America in 1827-8 appeared in 1829. He preceded Mrs. Trollope by a few years, and, like that lady, he gave great offence by his criticisms, which, like hers, were not always of the most enlightened kind. An autograph letter which I chance to have of Capt. Hall's relates wholly to America. It is addressed to W. R. Hamilton, Esq., Secretary to or otherwise connected with the Athenæum Club, and it offers some recommendations in regard to the newspapers of the United States some forty years ago. The letter is dated 4 St. James' Place, Wednesday, 23rd June, 1830. "My dear Sir," it proceeds, "in reply to your question about American papers, I beg leave to mention to you, that I think your best plan would be to take one of the New York Tri-weekly Papers, as they are called, and Niles' Weekly Register. The New York Paper will give you all the interesting transatlantic information current at the moment, including as good a report of the Debates in Congress as can be required in this country; while Niles' Register will be found very useful, from its containing all the Reports made to Congress and a great mass of other information pretty well arranged, and carefully indexed. These qualities make Niles' Register a good work of reference; and it is my intention to offer to the Athenæum a complete set from its commencement, I think in 1811, up to 1828. This can easily be completed to the present day; and if the Committee think fit, it may be continued in future as a document to be referred to. With respect to the National Intelligencer, it strikes me that this would be superfluous, if you get Niles' Register and a New York Tri-weekly Paper. When Congress is sitting, indeed, the reports of the Debates are more fully given in the Intelligencer than in any

other Journal, but they are of such length and so peculiarly local, that they are well nigh unintelligible even on the spot. At this distance I can hardly think they would be found interesting or useful by the members of the Athenæum, especially if they had the means of applying to the condensed Reports in a New York Paper. I would venture, therefore, respectfully to recommend to the Committee to order, simply, The New York Enquirer, Tri-weekly, and Niles' Weekly Register. I remain, most truly yours, BASIL HALL."

After the War which was wound up by the Treaty of Ghent, Gov. Gore returned to Upper Canada, as has been already intimated. On his final retirement in 1818, Sir Peregrine Maitland succeeded. But there was a brief interregnum, when President Smith, as senior member of the Executive Council, was at the head of affairs. I shew Col. Smith's hand subscribed to a document which records the allowance made to a Lieutenant-Governor or Administrator, in 1820, "in lieu of fees." Col. Smith's proportion for four months is nicely calculated down to five-tenths of a farthing, sterling,—an expression more dignified than half a farthing would have been. The Prince Regent and Carlton House suddenly come before us in the paper. "Upper Canada, Receiver-General's Office, York, 30th June, 1820. Received from George Crookshank, Esq., Acting Receiver-General of Upper Canada, the sum of One hundred and Ffty. ven Pounds nineteen shillings and four pence and five-tenths of a farthing, sterling, dollars at 4s. 6d., being one moiety of a part of the One Thousand Pounds, sterling, per annum, in lieu of fees which have hitherto formed a part of the emoluments of the Lieutenant-Governor of this Province, from the 8th March to the 30th June, 1820. inclusive. as established by His Majesty's warrant, under the sign-manual of His Royal Highness the Prince Regent, bearing date at Carlton House the 29th September, 1812, having signed five receipts of same tenor and date.—SAMUEL SMITH, Administrator."

My first autographic relic of Sir Peregrine Maitland will be a certificate under his hand and seal, guaranteeing the trustworthiness of an attestation given by a Notary Public at York to another document. I select this particular paper because it brings under view a group of names familiar to the early people of Toronto, two of them also, in addition to Sir Peregrine's, autographically inscribed. First we have a copy of a Power of Attorney from William Halton to Duncan Cameron to draw certain moneys. The accuracy of the copy and

the genuineness of the original, with its signatures, are attested by STEPHEN HEWARD, Notary Public. The Lieutenant-Governor adds his testimony to the reliability of the Notary; and Major Hillier subscribes the Governor's certificate as Private Secretary. Preceding Mr. Heward's signature is his Notarial Seal, bearing his name; and preceding the Governor's signature is a seal with the Royal Arms. The witnesses to the original signature of William Halton are D'Arcy Boulton and George S. Boulton. The Governor's certificate is in these terms: "By Sir Peregrine Maitland, K. C. B., Lieutenant-Governor of Upper Canada, Major-General Commanding His Majesty's Forces therein, &c. &c. &c., I do hereby certify that Stephen Heward is a Notary Public, duly admitted in the Province, to whose acts in that capacity entire credit is due. Given under my hand and office-seal at York in Upper Canada, this fourteenth day of January, 1820.—P. MAITLAND. By His Excellency's Command, GEORGE HILLIER, P. S."

My second memorial of Sir Peregrine will be another illustration of that curious interlacing of Church and State which was once expected to be a joy for ever in this country. It is a pleasant letter to Bishop Mountain of Quebec, the prelate whose acquaintance we have formed already. We have in it again the Governor of Upper Canada in the character of a Charlemagne, pointing out the best position for a clergyman, and solving a difficulty in relation to the ownership of a place of worship. Between these two matters of business we have an appropriate reference to the past and present of the aborigines of the country. "My dear Lord," Sir Peregrine says, "I have communicated my sentiments to Archdeacon Stuart respecting the fittest station for the Rev. Mr. Morley. Indeed, I had no hesitation in deciding on the Grand River, as the Mohawks, with whom he has to converse, are in greater numbers, and have more settled habitations there than in any other part of the Province. This subject reminds me," he then proceeds, "of a letter I received from your Lordship long ago, and which, but that I could plead absence from home and indisposition, I should feel ashamed had remained so long unanswered. In that letter your Lordship requests that I would point out to you some source of information relative to the past and present state of the Indian Tribes dispersed over this part of the American Continent. To my intercourse with the Officers of the Indian Department and other persons long resident in this country, I owe the very

limited information I have obtained respecting these tribes, and I am not acquainted with any publication on the subject of which you do not appear to have been in possession." He then adds: "On referring to the Rev. Mr. Myers' application and the Note of Council, it seems to me that Mr. Myers could not take a better step than to offer the Presbyterians to restore to them the sums they subscribed for the building of the Church: this, I think, would remove all difficulties." There are then some family compliments: "Lady Sarah unites with me in felicitating your Lordship and Mrs. Mountain very sincerely on your daughter's marriage, and on the good state of health which both Mrs. Arrabin and her sister seemed to enjoy when we had the pleasure of meeting them. I have the honour to remain, my dear Lord, yours very faithfully, P. MAITLAND." This letter is dated from "The Cottage," i.e. Stamford Cottage, July, 1st, 1823. So recently as September 18th, 1873, I noticed in the Bath Chronicle the following sentence: "Several noble families are placed in mourning by the death of Lady Sarah Maitland, daughter of Charles, fourth Duke of Richmond, and aunt of the Countess of Bessborough." This is the same Lady Sarah.

In Sir Peregrine Maitland's day, the Canada Company, which still carries on its operations, was instituted and incorporated. Of its first Chief Commissioner, Mr. Galt, I exhibit two little relics; the first, a note, dated Barn Cottage, Old Brompton, 25th Nov., 1833, addressed to W. Jerdan, Esq., for thirty-four years editor of the *Literary Gazette*, relating to the affairs of Mr. Picken, deceased, a man of letters, who had, in his day, written a book on the Canadas. "The sudden death of Mr. Picken," he says, "has left his family in very straitened circumstances, and his son has requested me, if you would have the goodness to insert it in the *Literary Gazette*, to write his character. He likewise tells me that his father has a novel finished, and if he can dispose of it, I have promised to correct the press. The notice in the *Gazette* would be of great service." The second relic of Mr. Galt is a portion of the manuscript of a story of his, entitled, "Tribulations." I select a passage: "No to waste words, we were by and by married, but for all that she was not your grandmother; for she had not been my gude wife scarcely a twelve-month and a day when she took a kittling in her craig and departed this life at her appointed time with a sore heart—a kink, as it were—leaving me all her residue, which was a great penny, more than

double and aboon for what I married her; but she said I had made the best of husbands, and needed a consolation for the loss of her; so saying, she died, leaving me with the meal, though the basin was taken away."

I show part of a letter in the curious, even, sloping, handwriting of Mr. Widder, so long associated with the Canada Company, with his familiar signature attached. "I have been urged by three successive mails from England, by influential parties, to endeavour to draft some project for a Railway, and Colonization purposes. This I have done, and with the concurrence of favourable circumstances, I believe that success will attend my scheme. I shall require to submit it, as I have previously intimated, to the consideration of *this* Government after I obtain the approbation from home; and as I think my success will be mainly influenced by the scheme having to be dealt with whilst you are a member of the Council, I feel extremely anxious about your continuance therein for two or three months. Believe me, &c., FRED. WIDDER." As a memorial of Mr. Robinson, the Commissioner of the Canada Company, lately deceased, I preserve with care an autograph addressed to him by Sir John Franklin, who, on one of his journeys north, previous to the expedition which proved fatal to him, was the guest of Mr. Robinson at Newmarket. "Dear Sir," Sir John Franklin writes, "you will be glad to learn that we reached the River by eight this morning with all the stores. I feel much indebted to Mr. Beaman for his exertions: without his aid and that of the men under him we should have had to remain some days on the other side of the Portage, as the Contractor had neither Teams nor Cart ready. The former were procured by Mr. Beaman from a farmer, and I have to request you will pay him for their use and charge the sum to the general account. I have just heard that Lieut. Douglas sent off his Batteaux yesterday; but as the wind is strong from N.W., I fear it will be three days before it reaches us: in that case our provision will run short, if Mr. Beaman does not succeed in getting us some on his return, which he will endeavour to do. We have found your Canteen and supplies extremely useful, and feel much obliged for your kindness in letting us have it. Believe me, &c., JOHN FRANKLIN. Monday, 11th April, 1825. Lieut. Back will have to get provisions from you for the men. The Batteaux will be sent back here for them as soon as possible." The river spoken of would be the Holland River, and the other side of the

Portage would indicate Penetanguishene, where Sir John would embark on Lake Huron for the North or North-West.

My first relic of the ruler of Upper Canada who came next after Sir Peregrine Maitland—viz., Sir John Colborne—will be one of an ecclesiastical character again. It is a note addressed to Bishop Mountain of Montreal, son of Bishop Mountain of Quebec, accompanying a paper justificatory of himself in proceeding to establish the famous fifty-seven Rectories. He says: “My dear Lord,—In transmitting to you the accompanying letter respecting the Rectories in Upper Canada, I beg to mention that I have no objection to this communication being forwarded by you to the Colonial Secretary, if you think the explanations will be useful to the cause. I remain, my dear Lord, sincerely yours, J. COLBORNE.” This note is dated Sorel, 14th Oct., 1837. On the same subject, I transcribe a letter to the same Bishop from Chief Justice Robinson, written also at Sorel, in 1837. It reads as follows, and contains, as we shall see, the main reason of Sir John Colborne’s recent action: “My dear Bishop,—I am spending a day with Sir John Colborne before commencing my duties on the Eastern Circuit. The Archdeacon made me the bearer of Lord Glenelg’s dispatch on the subject of the Rectories, and sent it open that Sir John might see it. It is a bulky document, but I believe it will reach you without subjecting you to the necessity of contributing to the Post Office revenue. I promised Dr. Strachan to see that it was sent to you from hence. Of course you are aware that both in 1817 and in 1825 instructions were sent by the Secretary of State, the latter formally and carefully framed on the Statute authorizing the Lieut.-Governor and Council to erect parsonages, &c., and to endow them; so that the Crown Officers have given their opinion upon a defective, or rather upon an erroneous statement of the case. I am, My dear Lord Bishop, most faithfully yours, J. B. ROBINSON.”

Another epistolary relic which I have of the Governor last named, is dated at Deer Park, near Honiton, Devon, May 24, 1852, written after he had become Lord Seaton. It shows the minute interest still taken in the affairs of the Province formerly under his charge. “I beg to acquaint you,” he says to a Canadian correspondent, “with reference to your letter of the 3rd, that I have made Lord Hardinge acquainted with my opinion as to the expediency of the title of the Ordnance Department to the Niagara Reserve being relinquished, to

enable the Town Council to proceed with their proposed Railway improvements, and shall be glad to render any assistance in my power to promote the views of the Memorialists. I have the honour to be &c., SEATON."

Having given above representative autographs of the two Bishops Mountain, I ought to present one of Bishop Stewart, the second Bishop of Quebec. I accordingly make an extract from a letter written by him while yet a simple missionary. It was addressed from London, in 1823, to Archdeacon Mountain at Quebec. "I have drawn up a subscription paper," he says, "in aid of building Churches in Canada, and of defraying the expense of repairing the Mchawk Church in the Bay of Quinté. I went to the Archbishop yesterday—to Addington—and he gave me £10. He told me that the robbers of Lambeth Palace had carried off very little indeed. I do not see that I can do anything in aid of procuring Bells for the Cathedral. Mr. Davidson promised me, last week, to inquire at the Treasury if there is any prospect of assistance in that quarter. * * You will oblige me by requesting Mr. Malhiot (at your leisure) to examine and air my linen and mattresses left in my cot at his house, for I wish to preserve them from being spoilt." This Bishop Stewart was a son of the Earl of Galloway.

Sir Francis Head was the successor to Sir John Colborne. I copy a portion of a letter of his, written after his return to England, to a friend in Canada: Lord Durham's Report is referred to in it, and he speaks of being engaged in the construction of a paper on a subject of which he recently knew nothing:—"I have been much occupied," he says, "for the last month in writing an article which will appear in the Quarterly Review on the first of January [1839], on Railroads, or perhaps on the Power of Steam. I was but a tyro in the steam department (as you may well recollect, for you know I nearly blew you up one day in the middle of a long argument) when I was at Toronto. In fact, I knew nothing at all about Railroads, but I was so strongly pressed to write about it, and ignorance was so strongly urged as being no objection whatever, that I at last undertook it. If you should read it, you will see that I fired a shot into Lord Durham, in return for the gun he fired on all preceding governors at his departure from Quebec." I take this occasion to produce an autograph of Lord Durham's, but unfortunately it was written before his famous mission to Canada, and so has no allusion

to Canadian affairs. It is dated Lambton Castle, Dec. 26th, 1834, and is addressed to S. W. Phillips, Esq. It must speak for itself. "Sir," it says, "I have the honour to transmit to you an Address to the King from the Inhabitants of Oban, which I beg you to lay before the Home Secretary for presentation to His Majesty. Your obedient servant, DURHAM."

The name of Sir Francis Head suggests that of William Lyon McKenzie. I have Mr. McKenzie's autograph signature in a copy of Story's Laws of the United States, captured at Montgomery's on Yonge Street in 1837. Leaves are turned down at the Act of 1794 to establish the Post Office and Post Roads within the United States; and in the Act of 1799 to regulate the Collection of Duties on Imports and Tonnage. I have also his name subscribed with his own hand to Scrip for One Dollar, issued by the Provisional Government of Upper Canada in 1837, at Navy Island. I copy the document, which is a printed form only partially filled up: (David Gibson's autograph also appears thereon.) "\$1. Provisional Government of Upper Canada, No. 252. Navy Island, Upper Canada, Dec. 27, 1837. Four months after date, the Provisional Government of Upper Canada promise to pay to — or order, at the City Hall, Toronto, One Dollar, for value received. WM. L. MCKENZIE, Chairman *pro tem.* Ex. Com. Entered by the Secretary, P. H. WATSON. Examined by the Comptroller, DAVID GIBSON." I preserve likewise a blank commission in the "Patriot Army," organized along the frontier in the United States in 1839, ready-signed by H. HAND, Commander-in-Chief of the North-Western Army on Patriot Service in Upper Canada, and endorsed by "John Montgomery," President of the Grand Eagle Chapter of Upper Canada on Patriot Executive Duty, Windsor, Upper Canada, Sep. 26, 1839. ROBERT ROBERTSON, Secretary. A rude woodcut adorns the fly-leaf of this paper of an Eagle soaring aloft and carrying in its claws the British Lion. At the side is the motto "Liberty or Death."

W. Lyon McKenzie's name recalls to Upper Canadians that of Joseph Hume, and his often-quoted letter to Mr. McKenzie on the "baneful domination of the mother-country." I introduce here a note of Mr. Hume's, wholly creditable to him but on quite a foreign subject. It is a communication addressed to a young protégé or relative named Crow, who had been a little wild. The tenor of the document enables us at once to conceive the case. I copy the original.

"38 York Place. 26th March, 1819. Dear James: It was my intention to have seen you immediately after I wrote to Captain Tarbet, but I have been prevented by a press of business. On consulting Captain Tarbet, I think nothing better can be done for you at present than to proceed in his ship, and to put yourself under his orders in every way he may direct; and I am certain he will behave towards you as your conduct may deserve. I have written to your mother to that effect, and I should hope you will see the propriety of implicitly attending to your duty on board, so as to merit the patronage of Captain Tarbet. I have every disposition to give you the same assistance to forward you in life as I have given to your brother Robert and to your cousins. But as your behaviour has not hitherto been such as to deserve that countenance from me which I have given them, it would be highly improper in me to make no distinction. If, under Captain Tarbet's commands, you conduct yourself to merit his approbation and recommendation, I shall be most happy on your return to receive you as I have done your cousins, into my house, and to afford you all the assistance in my power to forward your views in life. But I am confident your own good sense must convince you that you have not behaved as you ought to have done, and that it is absolutely necessary you should have a fair trial, which you will have under Captain Tarbet, of shewing your capability, and of proving the inclination to behave well and to deserve attention. Captain Tarbet will order you such clothes, &c., as he may think you require for the voyage; and I shall have an opportunity of seeing you again before you sail. I am your well-wisher and friend, JOSEPH HUME. Mr. James Crow, Ship *York*." The young sailor, we will hope, weighed well these paternal words, and turned them to profitable account.

Sir George Arthur, who followed Sir Francis Head, was the last Governor of the Province of Upper Canada. His name is before me subscribed by his own hand, to a long letter addressed to Bishop Mountain of Montreal, from Government House, Toronto, 18th December, 1838. This again is ecclesiastical in tone. The whole paper is in the handwriting of Mr. John Kent, who for a time acted as Private Secretary to Sir George. I transcribe the concluding sentence: "The subjects brought under my consideration by your Lordship's letter I am conscious are of the deepest importance. I will give what attention to them I can bestow at present, and I do

assure you I shall have pleasure in doing so; but I lament there should be occasion to undertake, in the midst of commotions from without and troubles from within, measures which should have been adjusted in the day of tranquillity and of peace. I have the honour to be, &c., GEO. ARTHUR." A preceding paragraph possesses more interest. "I have caused," Sir George says, "the whole subject [of the Upper Canadian Indians] to be fully gone into by the Provincial Secretary, and Mr. Tucker is a gentleman who will feel it to be a conscientious duty to befriend the Indians, and to exert himself to bring their case forward, so as to remedy the past, as far as it admits of remedy, and to provide for the future."

Lord Sydenham carried the reunion of the Provinces of Upper and Lower Canada by judicious pressure brought to bear on the Special Council of the latter and the House of Assembly of the former. I have several autographs of Lord Sydenham's. Here is one signed while yet a Commoner—addressed to a Canadian member of Parliament: "10th December, 1839. My dear Sir: I hear that you made a most admirable speech this morning, which I cannot refrain from thanking you for. I only regret that I had not the pleasure of hearing it. Very truly yours, C. POULETT THOMSON." Here is another written after his elevation to the Peerage. He refers in it to a Periodical about to be brought out at Toronto, having a political object: also to certain land-grants in Garafraxa, a township on the Grand River. It is dated from Government House, Montreal, 28th November, 1841. "My dear Sir: I have yours of the 24th this morning. As the case now stands, the course you propose to adopt in regard to the 'Monthly' is the best, to take an opportunity in the publication of the first number to explain that 'my sanction and patronage' mean the support which I am glad to give to any literary work undertaken upon good principles,—and not a control or responsibility on the part of the Government. After all, the paragraph does not seem to have attracted much criticism, and may not injure the Journal, which was what I feared, or commit the Government. They are a funny people there. They make a great piece of work about the supposed interference of the Government with elections, about which we should care nothing in England, and do not mind an avowal that a Journal is under the sanction and prompting of the Executive. I have a complaint from home about our giving as much as 50-acre allotments in the Garafraxa concern,

and they want them to be reduced to 5 in future. This is too little, but at the same time 50 appears large. Will not 25 do? This, I think, was my original suggestion. Let me know your opinion, and also the *reasons* for 50, if you still think that number ought to be continued. Send me, too, some account of how the thing is proceeding, as you have been up there. They like *facts* at home very much, and *they* tell more than 100 arguments of any other kind. Believe me, my dear Sir, yours very truly, SYDENHAM." Lord Sydenham's very minute hand is difficult to decipher. He did not employ in his signature his full title—SYDENHAM AND TORONTO.

After Lord Sydenham came Sir Charles Bagot as Governor-General. My autograph memorial of him speaks of the Clergy Reserve question, which was not yet settled. The note is addressed to one of his Canadian Ministers, and is dated Friday, March 18, 1843. "I had entirely forgot," he says, "when you were here this morning, that I had transmitted by the last mail to the Colonial Office your own Memorandum upon the Clergy Reserve question; and I conceive therefore that *en attendant* the receipt of Lord Stanley's answer to my dispatch upon the subject, we have precluded ourselves from any further discussion upon the subject. As, however, there are no doubt other points which we have to decide in Council, I will be down to-morrow at 2 o'clock. Yours truly and faithfully, CHAS. BAGOT." I may add another example, addressed to an eminent Canadian legal functionary. It is dated simply "Sunday morning," and then runs thus: "My dear Sir: There appears to be no chance of seeing you excepting on a Sunday, when your Court is not sitting. Can you come and dine here quite quietly to-day: nobody but ourselves. I wish much to have some conversation with you on College matters, which admit of no more delay. I have not had a line from the Bishop. Yours truly and faithfully, CHAS. BAGOT." It was Sir Charles Bagot, it may be recalled, who laid the foundation-stone of King's College, which afterwards was transformed into University College, Toronto.

Of Lord Metcalfe, who came next after Sir Charles Bagot, I have to content myself at present with a sign-manual attached to a marriage-license; and similarly with respect to Lord Cathcart, who administered the Government for a short time.

In addition to the bold ELGIN AND KINCARDINE signature of the Governor-General who then succeeded, I have a note in the third

person wholly in his own free, dashing, gubernatorial handwriting. He speaks therein of the Reciprocity Treaty, names Monklands, the Governor-in-Chief's temporary residence near Montreal, and asks for the draft of a dispatch. "Lord Elgin would wish the Act for the establishment of reciprocal Free Trade with the United States, and the Minute of Council with reference thereto, to be sent to Monklands this evening or to-morrow, Saturday; also the draft of Lord Elgin's dispatch sent a fortnight ago, covering a letter from Mr. Merritt."

Apropos of drafts of dispatches:—I venture to give, from the original, a specimen of the irreverent way in which Secretaries at head-quarters sometimes speak of such things, one to the other. The following is from Mr. Governor's Secretary — to Mr. Provincial Secretary —, of Lord Sydenham's period, I think; and relates possibly to some great State Document which, after due manipulation, influenced subsequently perhaps the destinies of the whole country. "My dear —: I went to your room to ask you to read the enclosed and found you just gone. I wish you would look it over, if it is not too much trouble, and let me have it, if not to-night, early to-morrow. One point I assume, but you will correct me if I am wrong—that the surplus of £274,000 on the Loan was to go in aid of the Public Works Loan: indeed if it was not, I do not know where it should have gone. The enclosed is a rough draft, so pray have no hesitation in altering or adding to it. It wants a concluding sentence, which I will write afterwards—something about speaking strongly and public duty, &c. &c., and that kind of official balderdash. Yours ever truly, ———. Monday. P.S.—I have added the balderdash."—When we are thus admitted behind the scenes and learn some of the secrets of State, we can enter better into the spirit of old Oxenstiern's observation to his son:—"You are not aware, my child, with how little wisdom the world is governed!"

Of this era is a note which I produce, of Dominick Daly's, afterwards Sir Dominick, and Governor of Prince Edward's Island. He salutes in the following amiable manner his own successor in the post of Provincial Secretary under Lord Elgin, Mr. Sullivan: "My dear Sullivan," he says, "if I may not congratulate you, I certainly can the *Public*, upon your having waived your objections, and consenting to fill my late office. Should it happen that my knowledge of the details in any matter can be made available to you, I hope I need

not assure you that it will afford me much pleasure to be in any degree useful to you. So pray command yours, very truly, D. DALY. Champ de-Mars Street, Saturday, 10th March, 1848."

One more relic of Lord Elgin's day, ere I pass on. The year 1848, it will be remembered, was a memorable one for commotions in Europe. It was not allowed to pass without public trouble threatened to Canada, from the usual quarter. Mr. Barclay, so long the well-known British Consul at New York, had occasion to address the following communication to the proper functionary at Montreal, on the 28th of August, 1848. "Sir: I beg to acquaint you that a large company of persons, sympathizers with the seditious in Canada, left Albany and its vicinity on Saturday morning the 26th instant for Quebec. This information may be relied on as correct. It is derived from the same source as that communicated to you by my letter of the 26th instant, for the use of His Excellency the Governor-General. I have the honour to be, &c., ANTH. BARCLAY."

A sentence or two of Sir Edmund Head's, Lord Elgin's successor, must close for the present my Canadian series. After the requisite number of years, manuscript relics of the Lords Monck, Lisgar and Dufferin, and of several of their respective contemporaries in Canada, will be of equal interest with those which I have now adduced.

I transcribe first from a letter addressed by Sir Edmund to a friend in 1856. It may be observed that Sir Edmund Head's handwriting, while Governor-General, was of a style most appalling to the ordinary reader or copyist. The words are visible enough, with roomy spaces between them. The pen seems usually to have been a soft quill with a broad nib, much worn. But haste ever impelled the hand, and most of the letters are only partially formed. His signature might be anything—the cipher of an eccentric Shah or Padishah. In 1856 Ottawa had not yet been fixed on as the capital of Canada. The Government was still alternating between Toronto and Quebec. In November of this year, Sir Edmund writes to his friend thus: "The open state of the Seat of Government Question is doing harm by aggravating the French and English quarrels, and affording a topic in which four parts out of five can always be brought to bear negatively against any Government." To the same friend we have him expressing, two years later, an opinion on Canadian Confederation—some nine years before Confederation was effected. "I admit," he says, "the union of the Canadas may be difficult to maintain. If it

should go, according to my view the next, indeed the only hope would be the promotion of some Government on a still larger scale, more or less like a federation, which shall gather up the reins and control the St. Lawrence, as well as the Western and Eastern waters. I do not undertake to say," he adds, "that I should be for framing a Government strictly 'federal'—that is, one in which the (?) residue of power belonged to the local governments, and the limited power to the central one. It is possible, nay, probable in my opinion, that the local powers should be the limited ones, and the central power the unlimited one. We start, not from the separate existence of five or six independent states, but from the fact that all are already provinces subject to the same sovereign. All this, I think, matter for grave discussion; full of difficulties, but not therefore impracticable or absurd." In 1856 again we have Sir Edmund, in a letter from Toronto to the same friend, making the following startling observation: "I think," he says, "the Toronto University and its Colleges give about as much trouble as the rest of the Government business put together." Now that the storms alluded to are all over, how pleasant to hear or read these words!

With my literary relics relating to the United States I shall be very brief. I show first a volume from the library of William Penn, a splendid copy of the first edition of Gilbert Wats' translation of Bacon's *Instauratio Magna*, printed at Oxford in 1640, with Marshall's portrait and mystical title-page; the whole dedicated to Charles I. in a Latin inscription, in which that king is styled "Dominus Virginie et Vastorum Territoriorum adjacentium et dispersarum Insularum in Oceano Occidentali." The bookplate therein exhibits the arms of the Penn family, and underneath, the following: "William Penn, Esq., Proprietor of Pensylvania. 1703." The motto is *Dum clavum teneam*, "Let me but hold the helm." The family motto, as given by Burke, is *Dum clavum rectum teneam*, "Let me but hold the helm aright"—which accords with the verse of Ennius, from which the words are borrowed. The omission of *rectum* makes the sentiment savour of ambition. It may be observed that the first syllable of "Pensylvania" has only one *n*; and so the name of the province appears in the older Gazetteers, and in early French works. Penn survived the date on his bookplate fifteen years. On several pages of my copy of the *Instauratio* there are marginal annotations in manuscript which are probably from the

hand of William Penn. He was, as we know, a scholarly man and a thoughtful student. At p. 29, St. Paul's words, *Devita profanas vocum novitates*, are quoted in Latin in the text: the annotator adds in the margin with a pen the rest of the sentence—*et oppositiones falsi nominis scientie*. At p. 277, on the expression, "glasses of steel" in the text, the observation is made—"speculis ex metallo, in Lat. edit."—shewing that Gilbert Wats' version of the Instauration was being compared with the original. At p. 200, "fine wafer-cakes" is erased, and "furmenty" substituted. An allegation in page 262 is declared "false" in the margin.—The great Elm-tree under which the treaty of Penn with the local aborigines was made, long continued to be a venerated object. When, during the war of the Revolution, Col. Simcoe was quartered at Kensington, he so respected it that when his soldiers were cutting down every tree for firewood, he placed a sentry under it, that not a branch of it might be touched. After Montmagny, a distinguished French Governor-in-Chief of Canada, the Indians used, as we know, to style all Governors-in-Chief *Onontio*, i.e. Montmagny, Great Mountain. In the same way the natives who had formed treaties with Penn, styled subsequent Governors of Pennsylvania, *Onas*, i.e. Pen, from the name of the great white man whom they had learned to respect. As the highest compliment which the Indians could pay to Sir William Keith, a Governor in 1722, they said, "We esteem and love you, as if you were William Penn himself."

The last royal Governor of the Province of New York was Major-Gen. Tryon. Happening to possess the original parchment containing his commission as Colonel of the 70th Regiment, I preserve it for two reasons: first, because it bears at its head the sign-manual of George III., some remains of the royal seal, and some other autographs of note; secondly, because the document is to me a kind of visible transition-link between the few relics which I have of the "old colony days" of the southern portion of this continent, and those which I have relating to later American history.

In 1777 Gov. Tryon was seeking release from his troublesome post. The Documentary History of the State of New York, published at Albany in 1859, contains many papers from the pen of Gov. Tryon, and among them is a letter dated at King's Bridge Camp, 3 Oct., 1771, addressed to Lord George Germain, from which I give an extract: "The incidents," he says, "that have occurred to me since

my return to this country, my present situation, and the state of my family affairs, all powerfully invite me to return home. The fee-simple of this vast continent would be no temptation for my residence in a country in which I have struggled through so many scenes of trouble and disappointment, against all which, a principle of pure affection for his Majesty and his Government has, thank God, sustained me." Under date of Whitehall [London], 5 June, 1778, Lord George Germain makes the agreeable announcement to Gov. Tryon, of his appointment to the Colonelcy of the 70th Regiment, and of his elevation to the rank of Major-General. "It was a great pleasure to me," he says, "in the course of last month to have the honour to lay before the King, for his Majesty's royal signature, a Commission giving you the rank of Major-General in America, according to that you held as Colonel, and which your merit and services so well entitle you to, and upon which, and your appointment to the command of the 70th Regiment, I beg you will accept my congratulations." On the 6th of the following September, Tryon acknowledges the receipt of the two commissions. He says to Lord George Germain: "These most gracious marks of his Majesty's bounty towards me have filled my mind with gratitude for such royal benevolence. I shall most cheerfully serve through this campaign," he continues, "at the expiration of which, unless a very opening prospect should present itself to render some essential service on this continent, I shall entreat the Commander-in-Chief's permission to quit America that I may lay in a better stock of health for future services, and settle my private affairs in England, which daily become more pressing." The parchment instrument, then, which I possess, is one of the documents to which reference is made in the two foregoing extracts. I give it entire, with the royal sign-manual at the beginning, and three other autographs of official persons at the close. "GEORGE R. George the Third, by the Grace of God, King of Great Britain, France and Ireland, Defender of the Faith, &c., to our Trusty and well-beloved William Tryon, Esq., greeting. We, reposing especial trust and confidence in your loyalty, courage and good conduct, do by these presents constitute and appoint you to be Colonel of our Seventieth Regiment of Foot, whereof our Trusty and well-beloved Lieutenant-General Cyrus Trapaud was late Colonel, and likewise to be Captain of a company in our said Regiment. You are therefore to take our said Regiment as Colonel, and the said Company as Captain, into

your care and charge, and duly to exercise as well the officers as soldiers thereof in Arms, and to use your best endeavours to keep them in good Order and Discipline. And We do hereby command them to obey you as their Colonel and Captain respectively. And you are to observe and follow such Orders and Directions from time to time as you shall receive from Us, or any other your superior officer, according to the Rules and Discipline of War in pursuance of the Trust We hereby repose in you. Given at our Court of St. James. the fourteenth day May, 1778, in the Eighteenth year of Our Reign, By His Majesty's Command, WERMOUTH. Entered with the Secretary at war, M. LEWIS. Entered with the Commissary-General of Musters, JOHN F. HESSE."—At the side of the document appear three half-crown stamps. In 1772 the whole of the western part of the State of New York was included in "Tryon County," a name which was changed after the Revolution to "Montgomery County," after General Richard Montgomery.

Finally I transcribe an interesting letter of General Washington's, which perhaps may have been in print before, although I have never seen it so offered to the public. We are therein transported to Philadelphia in 1782, and we find ourselves in the midst of naval and military movements connected with the War of Independence. It is addressed to Col. Dayton, and reads as follows (he spells "Pensylvania," it will be observed, as Penn spelt it): "Philadelphia, Jan. 28, 1782. Dear Sir: I have received your favour of the 12th, and am glad to find you have got rid of the person who embarrassed you. Inclosed you have my acceptance of Col. Delhart's resignation, which be pleased to deliver to him. I cannot grant that of Major Hollingshead before he himself signifies a desire of leaving the service. When he does that let him mention the time that he looked upon himself as out of the Army, that his resignation may be dated accordingly. I am of opinion with you that the most flagrant abuses are committed under the cover of flags to and from New York, and am willing to adopt any measures to prevent a continuance of them. I have no papers with me but those of a late date, and therefore cannot refer to the instructions formally given to you upon this subject. If I recollect them they were to put a stop to the practice of Flags going and coming at stated times, and to suffer no persons to go on board or to land from the Boats except those who have proper passports. All letters to be delivered to the Officer on Guard at

Elizabeth Town. If you think this mode, or one similar to it, will answer the purpose, you will carry it into execution and try the effect. Previous to seeing your letter to General Hand, I had heard that there was some uneasiness in the Company stationed at Wyoming, and had determined to relieve it. You will therefore order up a relief as soon as the troops are clothed. I have no new instructions to the officer who is to go upon the command. He will call upon Captain Mitchell for those given to him and follow them. You may give him this general caution, to confine himself to his military duty and avoid intermeddling in the politics of Pennsylvania or Connecticut. I am, Dear Sir, your most obt. servt., G. WASHINGTON."—Col. Dayton.

The great contest was drawing to a close. Winners as well as losers were becoming somewhat weary of it, as we may perhaps partly gather from the letter before us. Washington was aware that negotiations for peace were likely soon to commence. He knew, nevertheless, that it was politic to maintain to the latest moment a due preparedness for all issues.

I might give a few words from the hand of Bishop White, the first Anglican bishop in North America, consecrated at Lambeth in 1787; their subject matter, however, would be unimportant.

I exhibit the MS. signature—ABRAHAM LINCOLN; but I do not transcribe the document to which it is attached, that being simply a Military Commission, cancelled. It was "given" at Washington on the 27th of July, 1861. The autograph of the Acting Secretary of War, THOMAS A. SCOTT, likewise appears thereon.



SUMMARY OF RECENT RESEARCHES
ON THE
PALÆONTOLOGY OF THE PROVINCE OF ONTARIO,
WITH BRIEF DESCRIPTIONS OF SOME NEW GENERA.

BY H. ALLEYNE NICHOLSON, M.D., D.Sc., M.A., F.R.S.E.,
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I propose this evening to bring before the Institute the results of some inquiries into the Palæontology of Ontario, which I was enabled, chiefly by the liberality of the Government of the Province, to carry out during the last summer. In the course of these inquiries I investigated, more or less carefully, the Clinton, Medina, Niagara, Guelph, Corniferous and Hamilton Formations; but it was to the two latter that my efforts were especially directed, and it is to these that I shall entirely restrict my remarks to-night.

The time and means at my disposal being both limited, I thought it advisable rather to make a careful and prolonged examination of the fauna of a limited district than to make less exhaustive collections from a wider area and from more scattered localities. In accordance with this view, I repeatedly and very carefully examined the various fossiliferous localities in the Corniferous Limestone of Wainfleet, Humberstone and Bertie, in the County of Welland, on the North Shore of Lake Erie. I also visited more hurriedly the same deposits further to the west, as they occur in the Townships of Oneida and Walpole, in the County of Haldimand. And, lastly, I examined the Hamilton Formation in the Townships of Bosanquet and South Williams.

The American geologists, especially Messrs. Hall, Meek and Worthen, have noticed the occurrence in some instances in Western Ontario of Devonian fossils which are known to occur in the United States. The only detailed account, however, which we possess of the Devonian Fossils of Canada West is contained in a series of admirable papers published some years ago in our Journal by Mr. Billings (*Canadian Journal*, New Series, vols. iv., v. and vi.) In these

memoirs, Mr. Billings enumerates one hundred and fourteen species as known to him as occurring in the Devonian Formation of Ontario, and describes one hundred and four of these, a large number being new to science.

Of the forms described by Mr. Billings a considerable number have not come under my notice, owing, no doubt, to my researches having been confined to a comparatively limited area. As the result, however, of my researches, I have now to record one hundred and sixty species of fossils from the Devonian Rocks of Canada, of which forty-nine species appear to be altogether new, and about twenty-six additional species are now first described from Canadian specimens. I am, therefore, enabled to add seventy-five species to the list of the Devonian fossils of Ontario; though, from the condition of the literature appertaining to this subject, it is possible that some of the forms which I have described as new may really be identical with previously recorded species. There is also a number of forms which the materials in my hands do not permit me to identify at present, but which I hope to be able to determine by the aid of future investigations.

The following tables show more precisely the nature of the fossils which have come under my notice:—(In all the tabular lists the letter C indicates that the species occurs in the Corniferous Limestone, whilst H indicates its occurrence in the Hamilton Formation).

I. PROTOZOA.

The remains of Protozoa in the Corniferous Limestone, though not of a very varied nature, are far from uncommon, and constitute quite a marked feature in the Lower Devonian fauna. With the exception of a species of *Astræospongia*, and one or two undetermined forms, they belong entirely to the enigmatical genus *Stromatopora*, or to a genus so closely allied to this as to render any separation at present inadvisable. They may, with the greatest probability, be regarded as belonging to the *Spongida*, though the more typical forms of *Stromatopora* have not as yet been shown to possess some of the more important characters of Sponge-structure. Of the five species of *Stromatopora* which occur in the Corniferous Limestone, one is found in the Hamilton Formation, and all except *S. concentrica*, Goldfuss, appear to be new. The single species of *Astræospongia* is only known by its spicules, and it is probably identical with *A. Hamiltonensis*, Meek and Worthen.

LIST OF DEVONIAN PROTOZOA.

1. *Astræospongia Hamiltonensis*, *Meek and Worthen?* (C.)
2. *Stromatopora tuberculata*, *Nich.* (C.)
3. " *perforata*, *Nich.* (C.)
4. " *granulata*, *Nich.* (C. & H.)
5. " *mammillata*, *Nich.* (C. & H.)
6. " *concentrica*, *Goldfuss?* (C.)

II. CŒLEENTERATA.

Of all the organic remains of the Devonian Rocks of Ontario, and especially of the Corniferous Limestone, none are more conspicuous than the Corals, whether we take into consideration the vast number of individuals or the variety of type which they exhibit. Many parts of the Corniferous Limestone are almost wholly made up of corals; and as these are generally silicified, they weather out of the calcareous matrix in the most beautiful manner, and can be obtained in a state of exquisite preservation. Equally beautiful, if not more so, are the corals which weather out in countless numbers from the soft decomposing shales of the Hamilton Formation. Mr. Billings, in the Memoir already alluded to, estimates the number of corals in the Devonian Rocks of Canada West as probably about eighty, and of these he describes no less than fifty-four. Some of the most striking of these forms, such as the species of *Phillipsastræa*, have not come under my notice in any portion of the Corniferous and Hamilton Formations studied by me. I have, however, to record seventy-one species of Corals, of which thirty-one belong to the *Tabulata*, five are referable to the *Tubulosa*, and thirty-five belong to the great group of the *Rugosa*. The genera represented are twenty-one in number, viz: *Favosites*, *Michelinia*, *Alveolites*, *Fistulipora*, *Callopora*, *Chaetetes*, *Syringopora*, *Striatopora*, *Trachypora*, *Aulopora*, *Microcyclus*, *Zaphrentis*, *Blothrophyllum*, *Heliophyllum*, *Clisiophyllum*, *Diphyphyllum*, *Eridophyllum*, *Amplexus*, *Cystiphyllum*, *Haimeophyllum*, and *Petraia*. Of the species, about twelve can be more or less certainly identified with known European species, viz: *Favosites Gothlandica*, *F. hemispherica*, *F. Forbesi*, *F. polymorpha*, *F. dubia*, *F. cervicornis*, *F. reticulata*, *Aulopora tubæformis*, *Diphyphyllum gracile*, *Cystiphyllum vesiculosum*, and *Michelinia convexa*. Besides these, there are others very closely allied to European forms; and some which may perhaps turn out, on fuller investigation, to be nothing more than varieties.

LIST OF DEVONIAN CORALS.

7. *Blothrophyllum decortcatum*, *Billings* (C.)
8. " *approximatum*, *Nich.* (C.)
9. *Clisiophyllum Oneidaense*, *Billings* (C.)
10. " *pluriradiale*, *Nich.* (C.)
11. *Zaphrentis gigantea*, *Lesueur* (C.)
12. " *fenestrata*, *Nich.* (C.)
13. " *prolifca*, *Billings* (C. & H.)
14. " *spatiosa*, *Billings* (C.)
15. *Heliophyllum Canadense*, *Billings* (C.)
16. " *Colbornense*, *Nich.* (C.)
17. " *Cayugaense*, *Billings* (C.)
18. " *Halli*, *Edw. & H.* (C. & H.)
19. " *sub-cæspitosum*, *Nich.* (H.)
20. " *proliferum*, *Nich.* (C.)
21. " *Eriense*, *Billings* (C.)
22. " *colligatum*, *Billings* (C.)
23. " *exiguum*, *Billings* (C. & H.)
24. *Petraia Logani*, *Nich.* (C.)
25. *Amplexus Yandelli*, *Edw. & H.* (C.)
26. *Diphyphyllum arundinaceum*, *Billings* (C.)
27. " *stramineum*, *Billings* (C.)
28. " *gracile*, *McCoy* (C.)
29. *Eridophyllum Simcoense*, *Billings* (C.)
30. " *Verneuillanum*, *Edw. & H.* (C.)
31. *Cystiphyllum Senecaense*, *Billings* (C.)
32. " *grande*, *Billings* (C.)
33. " *Americanum*, *Edw. & H.* (C. & H.)
34. " *vesiculosum*, *Goldfuss* (C. & H.)
35. " *sulcatum*, *Billings* (C.)
36. *Microcyclus discus*, *Meek & Worthen* (H.)
37. *Haimeophyllum ordinatum*, *Billings* (C.)
38. *Syringopora nobilis*, *Billings* (C.)
39. " *intermedia*, *Nich.* (H.)
40. " *Hisingeri*, *Billings* (C.)
41. " *perelegans*, *Billings* (C.)
42. " *Maclurii*, *Billings* (C.)
43. " *la xata*, *Billings* (C.)
44. *Aulopora filiformis*, *Billings* (C. & H.)
45. " (?) *Canadensis*, *Nich.* (C. & H.)
46. " *cornuta*, *Billings* (C. & H.)
47. " *tubæformis*, *Goldfuss* (C.)
48. " *umbellifera*, *Billings* (C.)
49. *Favosites Gothlandica*, *Lam.* (C. & H.)
50. " *basaltica*, *Goldfuss?* (C.)
51. " *Forbesi*, *Edw. & H.* (C.)

52. *Favosites hemispherica*, *Yandell & Shumard* (C. & H.)
 53. " *turbinata*, *Billings* (C. & H.)
 54. " *polymorpha*, *Goldfuss* (C.)
 55. " *reticulata*, *De Blainville* (C.)
 56. " *dubia*, *De Blainville* (C.)
 57. " *cervicornis*, *De Blainville* (C.)
 58. " *Chapmani*, *Nich.* (C.)
 59. *Alveolites labiosa*, *Billings* (C.)
 60. " *Rœmeri*, *Billings* (C. & H.)
 61. " *cryptodens*, *Billings* (C.)
 62. " *conferta*, *Nich.* (C.)
 63. " (*Cœnites*?) *distans*, *Nich.* (C.)
 64. " *ramulosa*, *Nich.* (C.)
 65. " *Billingsi*, *Nich.* (C.)
 66. " *Selwynii*, *Nich.* (C.)
 67. " *Go'dfussi*, *Billings* (H.)
 68. " *Fischeri*, *Billings* (C. & H.)
 69. " *frondosa*, *Nich.* (H.)
 70. *Striatopora Linneana*, *Billings* (H.)
 71. *Trachypora elegantula*, *Billings* (H.)
 72. *Chaetetes moniliformis*, *Nich.* (H.)
 73. " *Barrandi*, *Nich.* (H.)
 74. " *quadrangularis*, *Nich.* (H.)
 75. *Callopora incrassata*, *Nich.* (C. & H.)
 76. *Fistulipora Canadensis*, *Billings* (C. & H.)
 77. *Michelinia convexa*, *D'Orbigny* (C.)

III. BRACHIOPODA.

The number of *Brachiopoda* in the Devonian Rocks of Western Ontario is very considerable, but good specimens are not obtainable in many parts of the Corniferous Limestone, and our collection of these fossils is not so complete as that of the Corals. On the other hand, the Brachiopods of the Hamilton Formation, though very rarely exhibiting the characters of the interior, usually occur in a state of beautiful preservation. Altogether, I have identified about forty-three species of *Brachiopoda* from the Devonian formations of Ontario; and these are distributed amongst eighteen genera, viz: *Strophomena*, *Streptorhynchus*, *Orthis*, *Chonetes*, *Productella*, *Spirifera*, *Cyrtina*, *Atrypa*, *Athyris*, *Leiorhynchus*, *Spirigera*, *Retzia*, *Amphigenia*, *Cœlospira*, *Centronella*, *Lingula*, *Pholidops*, and *Crania*. A few of the species (such as *Strophomena rhomboidalis*, *Spirifera mucronata*, and *Atrypa reticularis*) are well known European forms; and others are nearly allied to European species, if not absolutely

identical with them. The greater number, however, are peculiar to the American continent. The only two forms which I have felt myself justified in describing as new are *Productella Eriensis* and *Leiorhynchus Huronensis*.

LIST OF DEVONIAN BRACHIOPODA.

78. *Strophomena perplana*, Conrad (C.)
79. " *demissa*, Conrad (C. & H.)
80. " *inequistriata*, Conrad (C. & H.)
81. " *Patersoni*, Hall (C.)
82. " *ampla*, Hall (C.)
83. " *nacrea*, Hall (C.)
84. " *rhomboidalis*, Wahlenberg (C.)
85. *Streptorhynchus Pandora*, Billings (C.)
86. *Orthis Livia*, Billings (C.)
87. " *Vanuxemi*, Hall (H.)
88. *Chonetes lineata*, Vanuxem (C. & H.)
89. " *scitula*, Hall (H.)
90. " *lepida*, Hall (H.)
91. " *mucronata*, Hall (C.)
92. " *hemispherica*, Hall (C.)
93. " *arcuata*, Hall (C.)
94. " *acuti-radiata*, Hall (C.)
95. *Productella Eriensis*, Nich. (C.)
96. *Atrypa reticularis*, Linn. (C. & H.)
97. " *spinosa*, Hall (C.)
98. *Spirifera mucronata*, Conrad (C. & H.)
99. " *varicosa*, Hall (C.)
100. " *duodenaria*, Hall (C.)
101. " *varicosa*, Conrad (C.)
102. " *fimbriata*, Conrad (C.)
103. " (*Ambocelia*) *umbonata*, Hall (C.)
104. *Cyrtina Hamiltonensis*, Hall (H.)
105. *Spirigera spiriferoides*, Eaton (C & H.)
106. " *rostrata*, Hall (H.)
107. " *scitula*, Hall (C.)
108. *Athyris nasuta*, Conrad (C.)
109. " (?) *Mais*, Billings (C.)
110. *Retzia* (?) *Eugenia*, Billings (C.)
111. *Leiorhynchus multicosta*, Hall (H.)
112. " *Huronensis*, Nich. (H.)
113. *Amphigenia* (*Stricklandinia*) *elongata*, Billings (C.)
114. *Lingula squamiformis*, Phillips? (C.)
115. " *Maida*, Hall? (C.)
116. *Pholidops ovatus*, Hall (C.)

117. *Crania crenistriata*, Hall (H.)
 118. *Cœlospira concava*, Hall (C.)
 119. *Centronella glans-fagea*, Hall (C.)
 120. " *Hecate*, Billings (C.)

IV. POLYZOA.

The remains of *Polyzoa* in the Devonian Rocks of Western Ontario are very abundant, and they are of unusual interest in many ways. Unfortunately, however, they are for the most part fragmentary, and their study is thus attended with special difficulty, since there is no class of organisms requiring greater skill and patience in their interpretation. Altogether, I have been able to identify nineteen species of *Polyzoa*, of which, owing to the general neglect of this class by palæontologists, no less than fifteen appear to be new, whilst several forms have come to light belonging to new generic types. There remains, however, a considerable number of forms, of which the materials at present in my hands are too fragmentary to justify definitive description. The forms which I have considered myself warranted in describing belong to the following genera:—*Fenestella*, *Retepora*, *Polypora*, *Cryptopora*, *Carinopora*, *Taeniopora*, *Ceriopora* (1), *Botryllopora*, *Ptilodictya*, and *Cluthropora*. The first three of these genera are typical members of the family of the *Fenestellidæ*, and they comprise more than one-half of the total number of species identified. It is to these genera also that most of the undeterminable fragments belong, so that the *Fenestellidæ* must have had a very great development in the Devonian period in North America. The genera *Cryptopora* and *Carinopora*, now characterized for the first time, also belong to the *Fenestellidæ*; but they exhibit many extraordinary and, indeed, altogether unprecedented points of structure. The last two genera, as well as *Taeniopora* and *Botryllopora*, present many points of special interest; and as they are all new generic types, it may be as well that a brief diagnosis of each should be given here:—

1. **CRYPTOPORA**, gen. nov.—Polyzoary, forming a rigid, infundibuliform, calcareous expansion, springing from a strong, solid branching root-stock or rhizome. Exterior of the cœnœcium forming a continuous, non-perforated, thin, calcareous membrane, internal to which is a second or intermediate layer, the two being composed of the amalgamated and coalescent branches ("interstices"). The intermediate layer is marked by shallow, longitudinal, and bifurcating sulci, corresponding with the lines between the branches, and its

surface, where decorticated, exhibits reticulating lines which correspond with the bases or proximal ends of the cells. The internal surface of the intermediate layer carries the cells, which are flask-shaped, and are arranged in double rows, forming flexuous lines enclosing oval interspaces, just as in *Retepora*. The oval interspaces, however, instead of constituting so many "fenestrules," are the bases of so many pillars which proceed perpendicularly inwards, across a central space, to join with an internal calcareous membrane which forms the innermost lining of the funnel-shaped frond. It follows from the above that the mouths of the cells in *Cryptopora* neither open on the exterior of the frond, as in *Fenestella* and *Hemitrypa*, nor open on the interior of the polyzoary, as is the case in the infundibuliform species of *Retepora*. On the contrary, we have in this remarkable genus the unique arrangement that both the internal and external aspects of the funnel-shaped frond are to all appearance closed by a continuous calcareous membrane. The cells, therefore, are not placed upon either of the free surfaces of the polyzoary, but open into a central space between these two membranes. The limiting membranes of this space are kept apart by a system of pillars which are directed at right angles to the plane of growth of the frond, and correspond in position with the fenestrules of a *Retepora*. The water must have been admitted to this central space, and thus to the cells, by openings in the free edge of the infundibuliform polyzoary. The only species of this genus known to me occurs in the Corniferous Limestone, and I have named it *Cryptopora mirabilis*.

2. *CARINOPORA*, gen. nov.—Polyzoary infundibuliform, calcareous, and reticulated. The external layer of the cyathiform frond is composed of regularly undulated flexuous branches, which anastomose with one another after the manner of a *Retepora*, so as to form a series of oval fenestrules. Externally, the branches are angulated or sub-carinate, and are smooth and non-celluliferous. Internally, each branch gives origin to an enormously developed keel or vertical lamina, which corresponds in direction with the branch, and which is directed inwards towards the centre of the funnel. The inner face of the frond thus presents a series of narrow, elevated, parallel ridges, separated by deep grooves, at the bottom of which both the cells and the fenestrules open. In parts of the frond, however, these grooves appear to be rendered vesicular by means of a series of delicate calcareous laminæ, which connect together the opposing sides of contiguous

ridges or keels. In some cases, also, the inner ends of the keels are connected together by an apparently continuous calcareous membrane, so that the inner surface of the frond is completely closed. The cells are carried in alternating double rows upon the inner surface of each branch, their mouths appearing to be situated at the bottom of the grooves afore-mentioned, and at the base of the great keel which springs from each branch internally. No cells are carried on the areas formed by the anastomosis of contiguous branches.

I have only seen a single, very large, and well-preserved example of this genus, which occurs in the Corniferous Limestone. I have named it *Carinopora Hindei*, in honour of Mr. George Jennings Hinde, by whom it was discovered, and who placed it in my hands for examination.

3. *TAENIOPORA*, gen. nov.—Polyzoary calcareous, composed of a flattened linear expansion, which branches dichotomously and is celluliferous on both sides. Each side of the polyzoary is furnished with a strong median ridge or keel, which has a longitudinal direction, and separates the frond into two lateral halves. The cells have prominent mouths, and are arranged in from three to five longitudinal rows on each side of the central keel, the cells of contiguous rows alternating in such a manner as to produce a series of short, oblique rows of cells, which diverge from the keel like the barbs of a feather. The margins of the polyzoary are usually plain and non-celluliferous, and the cells are not separated by longitudinal striæ or elevated ridges. No fenestrules are present, and the entire frond forms a continuous expansion, within which the cells are immersed.

Taeniopora is distinguished from *Ptilodictya* by wanting the laminar axis of the latter, by the possession of a longitudinal mesial keel on each side, by having prominent cell-mouths, and by not having the cells arranged in rows enclosed by elevated longitudinal striæ.

Two species of the genus, *T. exigua* and *T. penniformis*, have come under my notice as occurring in the Hamilton Rocks of Western Ontario.

4. *BOTRYLLOPORA*, gen. nov.—Polyzoary calcareous, sessile and encrusting, forming systems of small circular discs, which, though social, are not organically connected or confluent. The upper surfaces of the discs are marked with prominent radiating ridges, which carry the cells. Each disc is attached by its entire lower surface,

slightly convex above, with a central non-poriferous space, round which the radiating poriferous ridges occupy an exterior slightly elevated zone. Cells forming a double row on each ridge, immersed, with rounded mouths which are not elevated in any part of their circumference above the general surface.

In some respects *Botryllopora* is allied to *Defrancia*; but the cells are not tubular, and are not free in any portion of their extent, whilst the latter genus does not appear to have ever been detected in rocks older than the Jurassic. I am only acquainted with a single species of the genus, which is found growing upon corals in the Hamilton Formation, and which I have named *Botryllopora socialis*.

LIST OF DEVONIAN POLYZOA.

121. *Botryllopora socialis*, *Nich.* (H.)
122. *Ceriodora*? *Hamiltonensis*, *Nich.* (H.)
123. *Ptilodictya Meeki*, *Nich.* (C. & H.)
124. *Polypora pulchella*, *Nich.* (C.)
125. " *Halliana*, *Prout* (C.)
126. " *tenella*, *Nich.* (C.)
127. " *tuberculata*, *Nich.* (H.)
128. *Retepora prisca*, *Goldfuss* (C. & H.)
129. " *Phillipsi*, *Nich.* (C.)
130. *Cryptopora mirabilis*, *Nich.* (C.)
131. *Fenestella magnifica*, *Nich.* (C.)
132. " *marginalis*, *Nich.* (C.)
133. " *cribrosa*, *Hall* (H.)
134. " *tenuiceps*, *Hall* (C. & H.)
135. " *filiformis*, *Nich.* (C.)
136. *Taeniopora exigua*, *Nich.* (H.)
137. " *penniformis*, *Nich.* (H.)
138. *Carinopora Hindei*, *Nich.* (C.)
139. *Clathropora intertexta*, *Nich.* (C.)

V. LAMELLIBRANCHIATA.

Mr. Billings states that he has met with about twenty species of *Lamellibranchiata* in the Corniferous Limestone of Western Ontario, and of these he describes and names one, viz., *Vanuxemia Tomkinsi* (*Canadian Journal*, New Series, vol. vi. p. 357). This species I have not seen, and the only Lamellibranch that I have met with either in the Corniferous Limestone or the Hamilton Group of Ontario is the well-known *Conocardium trigonale*, *Hall*, which is not of uncommon occurrence, though usually found in a very fragmentary condition.

VI. PTEROPODA.

The only Pteropod which is yielded, so far as I know, by the Corniferous and Hamilton formations of Ontario, is a species of *Tentaculites*, which occurs in great abundance in the latter. It is nearly allied to *T. annulatus*, Schloth., and *T. ornatus*, Sow., but does not appear to be quite identical with either; and I have in the meanwhile left it unidentified.

VII. GASTEROPODA.

The number of *Gasteropoda* in the Devonian Rocks of Western Canada is very considerable, and this is especially the case as regards the Corniferous Limestone. By far the majority of specimens, however, occur in the state of casts, with little or none of the original surface preserved, often crushed or mutilated in different ways; and it is thus often impossible to determine their true affinities, or to decide with certainty to what species they may belong. I have thus been compelled to leave altogether unnoticed a number of univalves, of which nothing definite can be made out with the materials that I possess at present; whilst the determinations actually recorded must be regarded as for the most part more or less doubtful. The only Gasteropod that has come under my notice from the Hamilton Formation is a small *Platyceras*, which may be a variety of *P. dumosum*. Other species of the same genus occur in the Corniferous Limestone, one of these being new, whilst another is the well-known *P. ventricosum*, Conrad, and the others are not determinable with certainty. The genus *Platyostoma* is represented by the familiar *P. ventricosa*, Conrad; and there are several apparently new forms which I have referred more or less doubtfully to *Strophostylus*, *Holopea*, and *Helicotoma*.

LIST OF DEVONIAN GASTEROPODA.

142. *Platyceras ventricosum*, Conrad (C.)
143. " *intermedium*, Hall? (C.)
144. " sp. (C.)
145. " sp. (C.)
146. " *uniseriale*, Nich. (C.)
147. " *dumosum*, var. *rarispinum*, Hall? (H.)
148. *Platyostoma ventricosa*, Conrad (C.)
149. *Strophostylus?* *sub-globosus*, Nich. (C.)
150. " ? *ovatus*, Nich. (C.)

- 151. *Strophostylus?* *obliquus*, *Nich.* (C.)
- 152. *Holopea Eriensis*, *Nich.* (C.)
- 153. *Helicotoma?* *serotina*, *Nich.* (C.)

VIII. ANNELIDA.

The remains of *Annelida*, though far from uncommon in the Devonian Rocks of Ontario, are entirely referable, so far as my observation has gone, to the genera *Spirorbis* and *Ortonia*; though there are not wanting indications of the occurrence of genuine *Serpulæ* or *Vermilicæ*. Of the two species of *Spirorbis* which have come under my notice, one is the *S. omphalodes* of Goldfuss, a form which occurs in the Devonian Rocks of Europe, whilst the other I cannot indentify at present with any recorded form, and have, therefore, described as new under the name of *S. Arkonensis*. The genus *Ortonia*, which I established for some Tubicular Annelides from the Lower Silurian Rocks, and which has since been detected in the Carboniferous Rocks of Scotland, is represented by a single new species.

LIST OF DEVONIAN ANNELIDA.

- 154. *Spirorbis omphalodes*, *Goldfuss* (H. & C.)
- 155. " *Arkonensis*, *Nich.* (H.)
- 156. *Ortonia intermedia*, *Nich.* (H.)

IX. CRUSTACEA.

The remains of Crustacea are by no means uncommon in both the Corniferous Limestone and the Hamilton group of Ontario; but they are for the most part ill-preserved and fragmentary, and I have only been able to identify with certainty the following species, already well-known from the Devonian Rocks of the State of New York. Besides these, our collections include fragments of some five or six additional species of Trilobites, which I am at present unable to satisfactorily identify.

LIST OF DEVONIAN CRUSTACEA.

- 157. *Proetus crassimarginatus*, *Hall* (C.)
- 158. *Dalmanites Boothii*, *Green* (H.)
- 159. *Phacops rana*, *Green* (C. & H.)
- 160. *Cythere* (?) *punctulifera*, *Hall* (H.)

NOTES ON THE FOSSILS
 OF THE
 CLINTON, NIAGARA AND GUELPH FORMATIONS
 OF ONTARIO,
 WITH DESCRIPTIONS OF NEW SPECIES.

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In the present communication we propose to note the different species of fossils which we have met with in our examination of the Clinton, Niagara and Guelph formations, as displayed in Western Ontario. Many of the localities in which these formations occur, have, as a matter of course, not been visited by us, and our lists are therefore necessarily imperfect, and are to be regarded as merely a preliminary contribution to a more complete and extended enumeration. Not a few indeed of the forms previously recorded from these formations by the Geological Survey of Canada have escaped our notice. On the other hand, we have a considerable number of species which have not until now been recognized as occurring in Canada, whilst we have a few which appear to be altogether new, and which we shall, therefore, describe in detail.

I.—FOSSILS OF THE CLINTON FORMATION.

1. BUTHOTREPHIS GRACILIS, Hall. (*Ref. Buthotrephis gracilis*, Hall, Pal. N.Y. Vol. II., pl. v. and v. bis). Specimens, in all essential respects identical with the obscure fossils figured by Hall under this name, are far from uncommon in the Clinton Group. They are chiefly referable to the forms described under the titles of var. *intermedia* and var. *crassa*, and present themselves as branching flexuous bodies, sometimes in the form of hollow moulds or casts, at other

times in the form of flattened impressions, differing in colour and texture from the matrix in which they occur. That these enigmatical bodies branch, after a more or less regular fashion, is indubitable, and it does not appear possible that they should have been produced by Annelides or other marine animals. If they are plants, however, their affinities are doubtful, and their mode of preservation very obscure.

Locality and Formation.—Clinton Group, Dundas and Hamilton.

2. *SCOLITHUS VERTICALIS*, Hall. (*Ref. Pal. N.Y. Vol. II., pl. iii. fig. 3.*) This species is founded upon vertical circular tubes, sometimes slightly curved, which penetrate the strata more or less in a perpendicular direction, and which open on the surfaces of the laminae of deposition by regular rounded apertures. The average diameter of the burrows is about one line, and their vertical extent is unknown. Often they are hollow; at other times they are more or less filled up with loose peroxide of iron; or they may be completely filled up with sediment, when they present themselves as smooth, rounded or cylindrical, vertical stems. That they are truly Annelide burrows can hardly be doubted. They differ from *Scolithus linearis*, Hall, in their smaller dimensions, and from *S. Canadensis*, Billings, in not having an expanded aperture, and in apparently not being curved towards their lower ends. The species is recorded by Hall from the thick-bedded sandstones of the Medina Group, of Monroe County, State of New York; but our examples are from a higher horizon.

Locality and Formation.—Clinton Group, Dundas.

3. *ARENICOLITES SPARSUS*, Salter. (*Ref. Quart. Journ. Geol. Soc. Vol. xiii. p. 203.*) Paired burrows, with circular and comparatively remote apertures, are not infrequent in the Clinton Group. They vary considerably in size; but they do not appear to be separable from *A. sparsus* of Salter, which commences in the Lower Cambrian Rocks of the Longmynd, and is also not very rare in the Skiddaw Slates of the North of England. The mouths of the burrows vary from half a line to rather more than a line in diameter, and they are usually placed about a line apart.

Locality and Formation.—Clinton Group, Dundas.

Genus *PLANOLITES*. (Nicholson).

(*Gr. planos*, a wanderer; *lithos*, stone.)

This name was formerly proposed by one of us (Nicholson, Contributions to the Study of the Errant Annelides of the Older Palaeozoic

Rocks : Abstract, Proceedings of the Royal Society, No. 144, 1873.) for a group of fossils of constant occurrence in the sandy and shaly sediments of the Palæozoic Rocks, and consisting of the filled-up burrows of marine Annelides, more or less nearly allied to the existing Lob-worms. These burrows are not vertical as in *Scolithus*, *Histiodermis*, *Arenicolites* and the like, but they are irregular in their course and direction, sometimes being more or less horizontal, then running obliquely, and then perhaps taking a vertical direction for a space. The actual burrows themselves are not now preserved to us, but we have in their stead the *fillings* of the burrows, consisting, in general if not universally, of the sand and silt which has actually been passed by the worm through its alimentary canal. The fossils referred to *Planolites* consist, therefore, of *casts* of the burrows of marine worms formed by the ejecta of the animal, and they appear usually in the form of cylindrical or flattened stem-like bodies, which are often more or less matted together, and which may cross one another in every imaginable direction. From the filled-up burrows of *Scolithus* (which have actually been "burrows of habitation"), the burrows of *Planolites* are readily distinguished by the fact, that though they often pass obliquely to the bedding so as to penetrate several layers of the rock, they are usually more or less nearly horizontal, and they are never vertical except for a short distance at some abrupt bend in their course.

The genus *Planolites* includes a large number of the supposed vegetable fossils from the Palæozoic Rocks which have been referred to the genera *Palæophycus* and *Chondrites*.

4. *PLANOLITES VULGARIS*, Nicholson. (*Ref. Proc. Roy. Soc. No. 144, 1873*). Fossil consisting of the casts of tortuous worm-tubes, which are usually of an irregularly cylindrical form, sometimes thickened in parts, and varying from a line to two or three lines in diameter. Surface smooth.

Specimens referable to this widely diffused and variable species are common in the Clinton Rocks. They agree doubtless with some of the species of *Palæophycus* described by Hall and Billings from the Silurian Rocks of North America ; but they are undoubtedly casts of the burrows of Annelides, and it seems better to abstain at present from any attempt to found separate species upon the innumerable varieties which they present.

Locality and Formation.—Clinton Group, Dundas.

5. *STROMATOPORA HINDEI*, Nicholson. (*Ref. Annals and Magazine of Natural History*, Jan., 1874.) The Clinton beds of Owen Sound yield examples of a *Stromatopora* which show no internal structure, but which exhibit large rounded oscula, and which thus appear to be referable to the above species, originally described from the Niagara Limestone of the same district.

6. *Zaphrentis Stokesi*, Edw. and Haime. (*Ref. Polypiers Foss. des Terr. Pal. pl. iii. fig. 9.*) Common in the Clinton Group at Owen Sound. Also, or a nearly allied but smaller form, at Dundas.

7. *FAVOSITES*, sp.—A small hemispheric mass, with remarkably round thick-walled tubes, which are of nearly equal size throughout, and have a diameter of about two-thirds of a line. Tabulæ flat and tolerably remote. Allied to *F. Gothlandica*, Lam., but apparently distinct.

Locality and Formation.—Clinton Group, Owen Sound.

8. *HELIOLITES*, sp.—Closely allied to and probably identical with *H. interstincta*, Wahl., but too much metamorphosed to permit of specific determination.

Locality and Formation.—Clinton Group, Owen Sound.

9. *CHÆTETES LYCOPERDON*, Say. (*Ref. Hall, Pal. N.Y., Vol. I., pl. xxiii., fig. 2 and pl. xxiv. fig. 1g, also Pal. N.Y., Vol. II., pl. xvii. figs. 1g-1k.*) The massive and convex examples of *Chætetes* which Hall places under *C. lycoperdon*, and which are now generally regarded as belonging to *C. petropolitanus*, Pander, have not come under our notice as occurring in the Clinton Group, though recorded in this position by Hall. On the other hand, the ramose examples which would appear properly to constitute *C. lycoperdon*, and which are probably identical with *Chætetes Fletcheri*, Edw. and H., are far from uncommon. They consist of cylindrical or sub-cylindrical branching or sub-palmate coralla, composed of numerous cylindrical or prismatic corallites which radiate obliquely from an imaginary central axis, and open on the surface by polygonal, oval, or circular calices. The walls of the corallites are thin, and there are about eight calices in the space of one line. The calices are for the most part of equal size, and there are no elevations or "mamelons" occupied by corallites of larger size than the average. The diameter of the branches varies from one to three lines.

Locality and Formation.—Clinton Group, Dundas.

10. *CHÆTETES*, sp.—A branching form nearly allied to the preceding, but differing in the much larger size of the corallites, of which only four or five occupy the space of one line. We are at present unable to identify this species, but it is nearly allied to a Devonian species (*C. Barrandi*, Nich.) and is certainly distinct from *C. lycoperdon*.

Locality and Formation.—Clinton Group, Dundas.

11. *GLYPTOCRINUS PLUMOSUS*, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xli., A, figs. 3a-g.) Owen Sound and Dundas.

12. *HELOPORA FRAGILIS*, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xviii., figs. 3a-f.) Polyzoary composed of cylindrical stems, which have a length of from a line and a half to three lines, and a diameter of from a third of a line to half a line. Usually the stems are quite straight or slightly curved proximally, very rarely branched, and very generally tapering towards the base and thickened into a swollen, rounded, or clavate distal extremity. Cells tubular, springing obliquely in a radiating manner from an imaginary central axis, and opening at the surface by oval or sub-angular mouths, the lower lips of which are, in perfect specimens, somewhat prominent. About ten or twelve cells in the space of a line measured vertically. The cells are arranged in longitudinal rows, those of contiguous rows alternating with one another, so as to give rise to a series of diagonally spiral rows. According to Hall, the cells are arranged between longitudinal lines which are elevated above the general surface, but this character does not appear to be universally recognisable.

In many respects this curious little form presents a close resemblance to the more slender examples of *Chætetes* or *Stenopora*, from which, indeed, it is chiefly separable by the absence of *tabulæ* and by its general form.

Locality and Formation.—Clinton Group, Dundas (exceedingly abundant).

13. *RHINOPORA VERRUCOSA*, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xix., figs. 1a-c.) Polyzoary forming laminar expansions, in some instances of a funnel-shaped form, which are celluliferous on the two sides, and have a thickness of from a hundredth of an inch to a third of a line. The surface is in general even, but is sometimes traversed by irregular anastomosing and reticulating ridges, and it exhibits

the mouths of the cells, which are quincuncially arranged. The cell mouths are strongly elevated above the surface, and have the form of rounded pustules, perforated centrally by a minute circular aperture surrounded by a thickened lip. About five cells occupy the space of one line, and they are separated from one another by about their own diameter:

Locality and Formation.—Abundant in the Clinton Group at Dundas.

14. *PILENOPORA ENSIFORMIS*, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xviii., figs. 8a-c.) Polyzoary forming a thin flattened expansion of an ensiform shape, curved and tapering towards the base, and varying in length from half an inch to one inch. Cells arranged in longitudinal rows, separated by elevated longitudinal thread-like lines, the number of rows increasing as we proceed from the base towards the proximal end. Apertures of the cells oval or oblong, alternating in contiguous rows, about seven in the space of one line measured longitudinally. No striated and non-celluliferous marginal zones appear to exist; but none of our specimens exhibit the internal structure; and we are therefore uncertain whether the species should not really be referred to *Ptilodictya*.

Locality and Formation.—Common, though usually fragmentary, in the Clinton Group at Dundas.

15. *PTILODICTYA CRASSA*, Hall. (*Ref. Stictopora crassa*, Hall, Pal. N.Y., Vol. II., pl. xviii., figs. 4a-c.) Polyzoary composed of linear flattened expansions which branch dichotomously at short intervals, and have a width of from a line to a line and a half. Cell mouths long-oval, arranged in longitudinal rows, about five in a line measured vertically, and seven or eight in the same space measured transversely. According to Hall, the margin of each cell-aperture is surrounded by a shallow groove, which gives the surface a striated appearance; but this feature has not been observed by us. The margins do not appear to exhibit a distinct striated and non-celluliferous border; and as the internal structure is still unknown, there is some doubt if the species is truly referable to *Ptilodictya*.

Locality and Formation.—Clinton Group, Dundas.

16. *PTILODICTYA (?) RARIPORA*, Hall. (*Ref. Stictopora raripora*, Hall, Pal. N.Y., pl. xviii., figs. 5a-c.) Polyzoary composed of small sub-cylindrical branching stems, about half a line in diameter. Cells

large, three rows occupying the width of the stem, the apertures oval, about four in the space of one line measured longitudinally, and six in the same space measured transversely. The cells are arranged in longitudinal alternating rows, and their apertures are surrounded by thick but not elevated margins. The rows of cells are not separated by elevated lines; there are certainly no non-celluliferous, striated marginal zones or borders to the frond, and there is no evidence as to the existence of a central laminar axis. It is thus more than doubtful if the species can be referred to *Ptilodictya*; but in the absence of any certain knowledge as to its internal structure, its generic affinities must remain uncertain.

Locality and Formation.—Rare in the Clinton Group at Dundas.

17. *FENESTELLA TENUIS*, Hall. (*Ref. Pal. N. Y.* Vol. II. pl. xix. 5a-c.) Fragments of this species are not uncommon in the Clinton group at Dundas, but they are ill-preserved, and their more minute characters can not be made out.

18. *PTILODICTYA PUNCTATA*, Nicholson and Hinde. Polyzoary forming a thin flattened expansion, or explanate frond, which probably had a circular form when perfect. Cells arranged in sub-alternate rows, separated by elevated thread-like ridges, which are curved in such a manner as to lead to the belief that the rows of cells were concentrically disposed of round a central point. Mouths of the cells nearly circular, from seven to eight in the space of one line measured across the rows, and about five in the same space measured longitudinally or in the direction of the rows. The cells are separated in a longitudinal direction by well marked spaces, which are occupied by from three to six minute rounded pores, the apertures of as many small cells. No such pores are to be detected on the longitudinal ridges which separate the rows of cells, or on the lateral aspects of them.



FIG. 1.—*Ptilodictya (?) punctata*, Nich. & Hinde. A, A fragment enlarged; B, Part of the same still further enlarged. From the Clinton Group.

The internal structure of this singular fossil cannot be made out, and its generic affinities are thus uncertain. Only one side of the

cœnœcium is known ; it is therefore uncertain whether both aspects were celluliferous or not. So far as can be judged, the fossil is a *Ptilodictya* belonging to the same group as *P. excellens* and *P. superba*, Billings, in which the ends of the cells are separated by minutely poriferous interspaces—a group which will probably be found to be of at least sub-generic value. It is, however, just possible that the larger openings in the cœnœcium are not the apertures of cells, but actual perforations passing through the whole thickness of the frond, in which case the fossil would be a very aberrant member of the *Fenestellidæ*. There is, however, no direct evidence to support this view ; and but for the porous or punctate intercellular spaces, the fossil has all the characters and appearance of one of the explanate *Ptilodictyæ*.

Locality and Formation.—Clinton Group, Dundas.

19. LEPTOCELIA PLANO-CONVEXA, Hall. (*Ref. Atrypa planoconvexa*, Pal. N.Y., Vol. II., pl. xxiii., figs. 11a-h.) Abundant in the Clinton Group at Dundas and Hamilton.

20. ATRYPA NAVIFORMIS, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xxiv., figs. 1a-k.) Dundas.

21. ATRYPA RETICULARIS, Linn. Dundas.

22. RHYNCHONELLA NEGLECTA, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xxiii., figs. 4a-f, and pl. lvii., figs. 1a-p.) Dundas.

23. ORTHIS ELEGANTULA, Dalman.—Dundas and Owen Sound.

24. ORTHIS CALLIGRAMMA var. DAVIDSONI, De Verneuil. Dundas.

25. ORTHIS FLABELLULUM, Sowerby (?). Dundas.

26. LEPTENA SERICEA, Sowerby. Dundas and Hamilton.

27. STROPHOMENA RHOMBOIDALIS, Wahlenberg. Owen Sound.

28. AVICULA ALATA, Hall. (*Ref. Posidonia(?) alata*. Hall. Pal. N.Y., Vol. II., pl. xxvii., fig. 4). Dundas.

29. MODIOLOPSIS ORTHONOTA, Conrad. (*Ref. Modiolopsis orthonota*, Hall. Pal. N.Y., Vol. II., pl. iv., figs. 1a-c). Dundas.

30. CTENODONTA, sp.—Casts of a small but undeterminable *Ctenodonta* are of common occurrence in the earthy hæmatite of the Clinton Group at Dundas.

31. TENTACULITES DISTANS, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xli. A. figs. 9a-c). Tube straight, conical, from six to eight lines in length, and about one line in diameter near the mouth. Annulations

remote, nearly or quite half a line apart near the mouth, and about a third of a line apart near the middle (from four to five in the space of one line and a half). Spaces between the annulations marked with close-set, sharp longitudinal striæ. This species is readily distinguished by the remoteness of the annulations, and the longitudinally-striated interspaces.

Locality and Formation.—Rare in the Clinton Group, Dundas.

32. *TENTACULITES NEGLECTUS*, Nicholson and Hinde. Tube straight, conical, about three lines in length, and two-thirds of a line in diameter at the mouth. Annulations five in the space of one line near the mouth, and nine in the same space at the small end of the tube. Spaces between the annulations marked by fine sharp longitudinal striæ.

This species is referable to the same section of *Tentaculites* as *T. distans*, Hall, and *T. Sterlingensis*, Meek & Worthen; but it is distinguished from the former by its smaller size and much more closely approximated annulations, and from the latter by its straight, not curved, form, its smaller size, and its closer annulations. The walls of the tube appear to have been of more than usual tenuity, as it generally is found in a crushed condition in its upper portion. The longitudinal striæ are confined to the spaces between the rings, and do not encroach upon the annulations themselves.

Locality and Formation.—Clinton Group, Dundas. Not very uncommon.

33. *MURCHISONIA SUBULATA*, Conrad. (*Ref. Murchisonia subulata*, Hall, Pal. N.Y., Vol. II., pl. xxviii., figs. 7a-d.) Dundas.

34. *PLATYOSTOMA NIAGARENSIS*, Hall. (*Ref. Pal. N.Y., Vol. II., pl. lx., figs. 1a-v.*) Dundas.

35. *CALYMENE BLUMENBACHII*, Brongniart. Dundas.

II.—FOSSILS OF THE NIAGARA FORMATION.

36. *STROMATOPORA STRIATELLA*; D'Orbigny. The species of *Stromatopora* which has usually been quoted from the Niagara Limestone is the *S. concentrica* of Goldfuss. Whilst not denying its possible occurrence on this horizon, all the examples which have come under our notice are referable to the *S. striatella*, D'Orbigny, a species which is nearly allied to *S. concentrica*, but is readily distinguished by its much more delicate and closely set laminae.

Locality and Formation.—Common in the Niagara Limestone of Thorold. Rare at Rockwood.

37. STROMATOPORA HINDEI, Nicholson. (*Ref. Annals of Natural History*, Jan., 1874.) Owen Sound.

38. HALYSITES CATENULARIA, Linnæus.—The Niagara Limestone yields this species in great abundance. Different examples vary immensely both as regards the size of the meshes of the network, and still more as to the size of the individual corallites. Thus, examples occur, on the one hand, in which the long diameter of the corallites is no more than one-third of a line, whilst others, on the other hand, have a long diameter of one line and three quarters, or more than five times as great. Nevertheless, too many intermediate forms occur to allow us to suppose these to be other than varieties of a single species. The examples here included under the above name comprise both *H. catenularia* and *H. escharoïdes*, as characterized by Milne Edwards and Haime.

Locality and Formation.—Owen Sound and Rockwood. Niagara Limestone.

39. HALYSITES AGGLOMERATA, Hall. (*Ref. Catenipora agglomerata*, Hall, Pal. N.Y., Vol. II., pl. xxxv., figs. 2a-g.) This form appears to us to be rightly separated from *H. catenularia*, with which it is united by Edwards and Haime. It is distinguished chiefly by the general form of the corallum, and by the fact that adjoining corallites are separated by transversely-septate interspaces.

Locality and Formation.—Niagara Limestone, Rockwood.

40. HELIOLITES INTERSTINCTA, Wahlenberg. (*Ref. Heliolites pyriformis?* Pal. N.Y., Vol. II., pl. xxxvi. A. figs. 1a-m.) Owen Sound.

41. FAVOSITES GOTHLANDICA, Lamarck. (*F. Niagarensis*, Hall. Pal. N.Y., Vol. II., pl. xxxiv. A. figs. 4a-i.) Specimens undistinguishable from this species are not uncommon in the Niagara Limestone, though not so abundant as *F. venusta*. The corallites usually average one line in diameter, though there are always smaller ones intercalated amongst the larger; and the septa are commonly represented by spiniform projections.

In the Niagara Limestone of Owen Sound occur specimens which attain much larger dimensions than is ordinarily the case with *F. Gothlandica*. In these examples, the corallites are hexagonal, with a normal diameter of from two and a-half to three lines, and in some instances with a long diameter of from four to five lines; the

average diameter in *F. Gothlandica* being about one line. The mural pores are of large size, in two or three rows, the third row sometimes occupying the prismatic angles of the corallites. The tabulæ are for the most part horizontal, not curved, about seven in the space of two lines. It is uncertain whether this form is new or not, and in the latter case whether it is to be regarded as an extremely large variety of *F. Gothlandica* or *F. favosa*, Goldf.

Locality and Formation.—Niagara Limestone, Rockwood, Thorold, Owen Sound.

42. FAVOSITES FAVOSA, Goldfuss. (*Ref. Calamopora favosa*, Goldfuss, Petref. Germ. pl. xxvi. figs. 2a-c.) The corallum in this species is massive and in all essential respects quite like *F. Gothlandica*, except for the fact that the tabulæ are strongly and uniformly curved, with their convexities directed upwards. The corallites are prismatic, from one line to one and a half lines in diameter; the tabulæ are about six in the space of two lines; the mural pores are in two alternating rows upon the faces of the corallites; and the septa are represented by spiniform projections. The very large examples above referred to may possibly be a variety of this species, though wanting the distinguishing feature that the tabulæ are curved.

Locality and Formation.—Niagara Limestone, Owen Sound.

43. FAVOSITES VENUSTA, Hall. (*Ref. Astrocerium venustum*, Hall, Pal. N.Y., Vol. II., pl. xxxiv., figs. 1a-i.) The genus *Astrocerium*, Hall, cannot be retained, as its distinguishing character, viz., the possession of spiniform septa, is shared by *Favosites*; but the present species appears nevertheless to be a valid one. It forms large hemispheric or spherical masses, which are usually composed of a succession of concentric layers. The corallites are slender and variable in size, prismatic or polygonal, rapidly increasing in number by fission. The larger corallites are usually about half a line across; but they have many smaller ones intercalated amongst them, the diameter of which varies from the fiftieth of an inch to half a line. The calices are hexagonal, polygonal, or sub-cylindrical, and our specimens show only rudimentary septa, in form of very short spiniform projections. The tabulæ are complete, straight or flexuous, four or six in the space of one line. The mural pores are not determinable.

There can be little doubt as to the distinctness of this species from *F. Gothlandica*, the much smaller size of the corallites alone constituting a good ground of separation. It most resembles the *F. hemi-*

spherica of the Devonian, but it is distinguished by its complete and more remote tabulæ and by its mode of growth.

Locality and Formation.—Common and attaining a large size, in the Niagara Limestone at Rockwood.

44. FAVOSITES (?) MULTIPORA, Hall. (*Ref. Cladopora multipora*, Hall, Pal. N.Y., Vol. II., pl. xxxix., figs. 1a-g; *non Favosites multipora*, Lonsdale.) The Niagara Limestone of Ontario yields various forms, which are referable to the genus founded by Hall under the name of *Cladopora*, and characterized by him as follows:

“Ramoses or reticulate; branches cylindrical or slightly compressed, terminations terete; coral composed of a series of tubes or cells radiating equally on all sides from the axis, and opening upon the surface in rounded or sub-angular expanded mouths; cells more or less closely arranged but not always contiguous, and apparently destitute of septa or rays.”

We are unable, so far as our specimens enable us to judge, to separate the forms referred to *Cladopora* from *Favosites*. The chief point relied upon by Hall in separating the two genera, is the supposed absence in the former of tabulæ and mural pores. This would be amply sufficient, if it could be proved that these structures are really wanting; but this is not the case. Thus, we have examined some hundreds of well preserved specimens of *Favosites dubia*, De Blain., *F. reticulata*, De Blain., and *F. polymorpha*, Gold., from the Corniferous Limestone, without meeting with more than two or three examples in which either the tabulæ or the mural pores could be detected. It is therefore quite possible, judging from their state of preservation, that the Niagara Limestone specimens referred to *Cladopora* also at one time possessed tabulæ and mural pores, and that these structures have simply been obliterated by the process of fossilization. The prominence of the lower lip of the calice is likewise a character common to the above quoted species of *Favosites*, and cannot be used to define *Cladopora*. So far, therefore, as our materials permit us to come to a decision, we are of opinion that most, if not all, of the species of Hall's genus *Cladopora* are truly to be regarded as ramoses species of *Favosites*.

If this view be established by more extended researches, the present species will have to change its name, since the specific title “multipora” has been already pre-occupied by Lonsdale for a different species of *Favosites*. In this case we would propose to call the present species *Favosites Halliana*.

The characters of the species are as follows:—Corallum ramose, the branches cylindrical, nearly a line and a half in diameter, dividing dichotomously at intervals of three lines and upwards, sometimes inosculating. Corallites oblique to the axis of the branches, moderately thick-walled, in contact with one another. Calices circular or polygonal, sometimes wider than long, from four to five in the space of a line measured vertically or diagonally, the lower lip of the aperture slightly or not at all prominent. For the most part the calices are of the same size, but sometimes smaller ones are intercalated amongst the others.

The species is distinguished from the more slender forms of *Favosites dubia*, De Blain., and *F. reticulata*, De Blain., by the much greater closeness of the calices and the comparatively thin walls of the corallites. In other respects no difference can be pointed out between our Niagara examples and specimens of the last mentioned forms from the Corniferous Limestone. From *Chaetetes* the species is separated by the thicker walls of the corallites and the form and aspect of the calices.

Milne Edwards and Haime identify *Cladopora multipora*, Hall, with *Alveolites* (?) *seriatoporoides*, Edw. and H., which is certainly not an *Alveolites*, and which is distinguished by its abundant cœnenchyma, its vertical corallites, and the arrangement of the calices in nearly vertical rows. We cannot, however, accept this identification, since our examples, as well as those figured and described by Hall, have no true cœnenchyma, have corallites with a slight but well marked obliquity, and have not got the cells arranged in vertical rows, but rather in obliquely transverse rows.

Locality and Formation.—Niagara Limestone, Rockwood and Thorold.

45. FAVOSITES (?) SERIATA, Hall. (*Ref. Cladopora seriata*, Hall, Pal. N.Y., Vol. II., pl. xxxviii., figs. 1a-m.) Two or three specimens in our collections have the mode of growth of this species, but in other respects differ little or not at all from the preceding. It is perhaps doubtful, indeed, if the distinctions between *Cladopora multipora*, *C. seriata*, *C. cœspitosa*, *C. cervicornis*, and *C. macrophora*, Hall, are of specific value; but as we have not access to authentic specimens, and as Hall only in the case of the first of these gives any measurements, we are unable to decide this point.

Milne Edwards and Haime identify *Cladopora seriata*, Hall, with *Alveolites repens*, which it much resembles in general form and mode of growth. We have not seen any authentic specimens of the latter, but, judging from their figures and description, its calices are entirely unlike those of the former in their characters.

Locality and Formation.—Niagara Limestone, Rockwood.

46. FAVOSITES DUBIA, De Blainville (!)—The Niagara Limestone of Rockwood yields examples of a form which may, perhaps, be referable to one of the species of Hall's genus *Cladopora*, but which appears to us to be altogether inseparable from certain slender branching corals which occur abundantly in the Corniferous Limestone, and which we have been in the habit of regarding as the young of *Favosites dubia*, De Blain. In this form the corallum is composed of slender cylindrical stems which have a diameter of from three quarters of a line to a line and a quarter, and which divide at short intervals without anastomosis. The corallites have thick walls, and the calices are polygonal, circular, or transversely oval, about three in the space of one line measured diagonally or vertically. In perfect specimens the lower lip of the calice is decidedly prominent, but the calices are nearly of equal size.

In the larger and more typical specimens of the *F. dubia*, such as occur in the Devonian Rocks, there are very small corallites interspersed amongst the larger ones. This character, however, is not conspicuous in the small specimens from the Corniferous Limestone which appear to be referable to this species, nor can it be detected in the Niagara examples. It hardly seems, in the absence of any other distinctive character, to be a point of specific value.

Locality and Formation.—Niagara Limestone, Rockwood.

Genus CŒNITES. (Eichwald.)

(= *Linaria*, Steudinger.)

Generic Characters.—Corallum encrusting, massive, or sometimes ramose, extremely like *Alveolites*, but having the corallites remote, embedded in a cœnenchyma, or with walls so thick and fused together as to simulate a cœnenchyma. Calices triangular, crescentic, or lunate, usually prominent, and generally furnished with one or more projecting teeth. Tabule distinct, mural pores large and few.

The Niagara Limestone of Ontario has yielded to our researches the following two species of *Cœnites*.

47. *CENITES LAMINATA*, Hall. (Ref. *Limaria laminata*, Hall, Pal. N.Y., Vol. II., pl. xxxix. figs. 6a-d.) Corallum encrusting or massive, the calices somewhat crescentic, with two prominent rounded teeth in the concave side of the crescent. (Fig. 2e.) Calices not prominent, about one-third of a line in their long diameter, and one-sixth of a line across, separated by about their length; six or seven in the space of two lines on an average.

The calices appear to be separated by a well developed cœnenchyma; but it is probable that this is only an appearance, and that it is really due to the great thickening of the walls of the corallites and their amalgamation with one another.

Locality and Formation.—Niagara Limestone, Rockwood.

48. *CENITES LUNATA*, Nicholson and Hinde. Corallum forming a thin crust, apparently about two-thirds of a line in thickness. Calices strongly curved, crescentic or lunate, their form being due to the projection into their cavity of a single strong rounded tooth developed from the concave lip. (Fig. 2, b and c.) Calices about one-fourth of a line in their long diameter, and one-eighth of a line across; eight in the space of two lines. Corallites perpendicular to the surface, appearing as if embedded in a dense cœnenchyma, though this is most probably due simply to the great thickening of their walls.



FIG. 2.—a, Fragment of *Cenites lunata*, Nich. and Hinde, natural size; b, Portion of the same enlarged; c, Single calice of the same still further enlarged; d, Fragments of *Cenites laminata*, Hall, natural size; e, Single corallite of the same enlarged. From the Niagara Limestone.

Of all the described species of the genus, *C. lunata* is most nearly allied to *C. laminata*, Hall; but it is distinguished by the smaller size of the calices, their more markedly crescentic form, and the possession of a single rounded calicine tooth instead of two such.

Locality and Formation.—Niagara Limestone, Owen Sound.

49. *STRIATOPORA FLEXUOSA*, Hall. (Ref. Pal. N.Y., Vol. II., pl. xl. B, figs. 1a-e.) Not uncommon in the Niagara Limestone of Thorold.

50. *ALVEOLITES FISCHERI*, Billings. (Ref. *Canadian Journal*, New Series, Vol. V., p. 256, fig. 6.) From the Niagara Limestone

of Owen Sound we have obtained several examples of an *Alveolites*, which in general characters and dimensions resembles *A. Fischeri*, Billings, of the Corniferous and Hamilton Formations, and which we are unable to separate specifically from this form. The corallum forms a thin laminar expansion about one line in thickness, celluliferous on the two sides, and either continuous or rarely partially reticulated. The calices are transversely oval or sub-triangular, usually with one curved and one straight side, sometimes with one curved and two straight sides. The long diameter of the calices is from one-third of a line to half a line, and they are separated from one another by about the same distance.

Locality and Formation.—Niagara Limestone, Owen Sound.

51. ALVEOLITES NIAGARENSIS, Nicholson and Hinde. Corallum dendroid, branches cylindrical, about two lines in diameter, dividing dichotomously. Calices small, distinctly triangular, with the apex of the triangle directed downwards, about six in the space of two lines. The upper side of each calice carries a single prominent septal tooth in the form of a vertical plate, which is placed in the median plane of the aperture, dividing it into equal halves and giving it an almost crescentic appearance.



FIG. 3.—*Alveolites Niagarensis*, Nich. and Hinde. *a*, Fragment, of the natural size; *b*, Small portion enlarged; *c*, Single calice still further enlarged.

We cannot identify this with any previously recorded form, though it bears a general resemblance to more than one known species. It is most nearly allied to *A. labiosa*, Billings, from the Corniferous Limestone. All the unquestionable examples of the latter which we have examined show, however, no septal teeth at all; whilst one or two specimens which we have doubtfully referred to *A. labiosa*, and which possess a single vertical septal ridge on the upper side of the calice, have this ridge placed altogether on one side instead of centrally.

Locality and Formation.—Niagara Limestone, Rockwood.

Genus ASTRÆOPHYLLUM. ((Nicholson and Hinde.)

Corallum aggregate, composed of slender cylindrical corallites united laterally by numerous successive mural expansions or hori

zontal outgrowths of the calice, which are placed at the same level in contiguous corallites and form a series of complete floors. Walls of the theca complete and well developed, meeting in the centre of the theca with a distinct and well developed columella. Costal radii prolonged over the successive exothecal floors. Tabulæ rudimentary or absent (†).

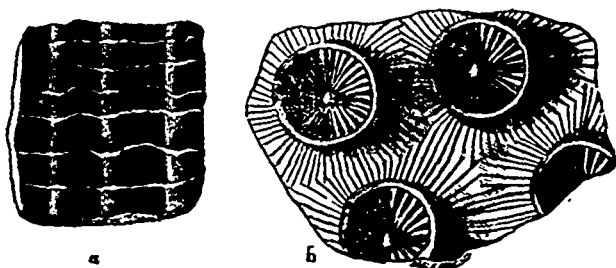


FIG. 4.—*Astræophyllum gracile*, Nich. and Hinde; a, Side view of a fragment, enlarged, shewing the mural expansions; b, Fragment viewed from above and greatly enlarged, showing the calices, the confluent mural expansions, and the costal radii.

There are some points in the structure of the corals here referred to which we cannot actually make out with the materials at present in our hands; and we are therefore uncertain whether they really constitute a new genus, though we cannot place them under any genus already described.

From *Smithia*, Edw. and H., the genus *Astræophyllum* is distinguished by the possession of a distinct columella, and by the fact that the corallites are united not only by costal radii, but by well developed exothecal floors.

From *Philipsastræa*, the present genus is distinguished by not having the corallites united laterally along their whole length, and in having the calices definitely circumscribed.

From *Haimæophyllum*, Billings, the genus is separated by the well developed, not rudimentary, septa, and by the fact that the latter possesses vesicular tabulæ.

From *Heliophyllum colligatum*, Billings, which probably forms the type of a separate group, *Astræophyllum* is distinguished by the possession of a distinct columella, and the apparent absence of septal pines or tabulæ.

From *Thecostegites*, Edw. and H., the genus is distinguished by its well developed septa and columella, and the apparently obsolete

tabulæ. Lastly, *Astreophyllum* is distinguished from *Cannapora*, Hall, by the possession of a columella, and the apparent absence of tabulæ.

52. *ASTREOPHYLLUM GRACILE*, Nicholson and Hinde. This being the only known species of the genus, the generic characters form part of the specific description. In addition to these characters, however, the corallites are cylindrical, and about three quarters of a line in diameter, placed at distances apart of two lines, less or more. The calices are expanded, about two lines in diameter, deep, with a prominent columella. The septa are from twenty-six to thirty in number, unequally developed, the greater number apparently reaching the centre. The mural expansions are nearly horizontal, from two to four in the space of two lines measured vertically, placed at the same levels throughout the mass. At the last formed surface, the calices project slightly above the layer formed by the coalescent mural expansions; and this layer is traversed by radiating ridges corresponding with the septa of the corallites. The calices, however, are circumscribed by very distinct and well developed walls.

The upper surface of the coral somewhat resembles, on a small scale, that of *Heliophyllum colligatum*, Billings; but the mural expansions and costal radii are confluent, and are not marked off for each corallite as they are in the latter. The mural expansions are variable in number, sometimes very close, at other times remote. Owing to the silicification of the specimens, it cannot be determined what are the characters of the free edges of the septa, nor whether rudimentary tabulæ may not be present, though no signs of the latter can be detected. In *Heliophyllum colligatum*, on the other hand, there is a well marked central tabulate area.

Locality and Formation.—Common in the Niagara Limestone. Owen Sound.

53. *CANNAPORA ANNULATA*, Nicholson and Hinde. Corallum aggregate, composed of numerous slender cylindrical corallites, which form flattened expansions or crusts, and are united together by exothecal growths. Corallites from half a line to nearly one line in diameter, usually the former, nearly in contact, about four or five in the space of two lines. The corallites are strongly annulated with close-set annulations, which are developed into so many mural expansions which unite together contiguous tubes. About four of these annulations and expansions in the space of one line. Tabulæ well developed

and close-set. Septa distinct but rudimentary, only extending a short distance into the theca, about twelve in number in each corallite.

Cannapora annulata is closely allied to *C. junciformis*, Hall, from the horizon of the Clinton Group. The latter species, however, has the mural expansions placed at intervals of about a tenth of an inch apart; so that there are only ten in the space of an inch, instead of between forty and fifty, as in the present species. Our examples, also, do not appear to have attained anything like the dimensions of *C. junciformis*, the corallites rarely exceeding half an inch in height.

Locality and Formation.—Niagara Limestone, Owen Sound.

54. SYRINGOPORA RETIFORMIS, Billings. (*Ref. Canadian Naturalist*, Vol. III., p. 424). This beautiful species is of common occurrence, and attains a large size in the Niagara Limestone of Owen Sound. Specimens often show the radiating septa very distinctly, much more so than is usually the case in this genus.

55. ZAPHRENTIS RŒMERI, Edw. and H. Niagara Limestone, Owen Sound.

56. ZAPHRENTIS STOKESI, Edw. and H. Niagara Limestone, Owen Sound.

57. ZAPHRENTIS (CANINIA) BILATERALIS, Hall. Niagara Limestone Owen Sound and Niagara River.

58. CYSTIPHYLLUM VESICULOSUM, Goldfuss. Transverse sections of a *Cystiphyllum*, probably referable to this species, are not uncommon in the Niagara Limestone at Thorold.

59. PETRAIA PYGMŒA, Billings. Niagara Limestone, Thorold.

60. DIPHYPHYLLUM (DIPLOPHYLLUM) CÆSPITOSUM, Hall. Common in the Niagara Limestone at Thorold.

61. CARYOCRINUS ORNATUS, Hall. Niagara Limestone, Thorold and Niagara River.

62. DICTYONEMA GRACILE, Hall. Niagara Limestone, Hamilton.

63. CLATHROPORA FRONDOSA, Hall. It seems certain that Prof. Hall has included under this name two quite distinct species. The one which we have met with in the Niagara Limestone has the frond perforated with rounded perforations of comparatively small size. (*See Pal. N.Y., Vol. II., pl. lx., B., fig 5b*). The perforations are not more than from half a line to three-fifths of a line in diameter,

and are placed at intervals of from a line and a quarter to a line and a half, about fourteen rows of cells occupying the space of one line measured transversely. The name of *C. frondosa* should be restricted to forms agreeing with the above measurements. On the other hand, the forms with perforations varying from one line to a line and a half in diameter (see Pal. N.Y., Vol. II., pl. xl., B., fig 5a) have elsewhere been described by one of us, from Devonian specimens, under the name of *Clathropora intertexta*.

Locality and Formation.—Niagara Limestone, Thorold. Not uncommon and attaining a large size.

64. *CLATHROPORA INTERMEDIA*, Nicholson and Hinde.—Polyzoary forming a spreading expansion which is celluliferous on the two sides, and is perforated by a series of rounded perforations which are arranged in regularly diagonal lines. Perforations somewhat irregular in size, oval or circular, usually from two-thirds of a line to a line in diameter. Intervals between the perforations rather more than half a line. Cells oblong, not so wide as long, about six or seven rows in the space of half a line measured transversely; so that seven or eight rows of cells occupy the space between any consecutive pair of perforations.

Clathropora intermedia (fig. 5) in some respects approaches the

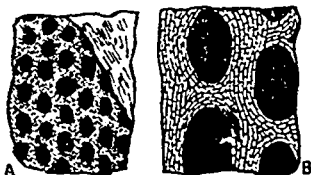


FIG. 5.—*Clathropora intermedia*, Nich. and Hinde. a, Fragment of the natural size; b, Portion of the same greatly enlarged.

genus *Retepora*, and is intermediate in its characters between *C. frondosa*, Hall, and *C. intertexta*, Nich. The differences will be most clearly brought out between these nearly allied species by the following summary of their respective characters.

1. *Clathropora frondosa*, Hall.—Perforations minute, averaging one half line in diameter, placed at intervals of one and one quarter to one and one half lines, about fourteen rows of cells in one line measured transversely.

2. *Clathropora intermedia*, Nich. and Hinde. Perforations moderately large, from two thirds to one line in diameter, placed at

intervals of rather more than half line, six or seven rows of cells in half line, and seven or eight rows between any two perforations.

3. *Clathropora intertexta*, Nich. Perforations large, usually about a line and a half in diameter, placed at intervals of from one and one third to one and one half lines, about five or six rows of cells in one line, or about eight rows between any two perforations.

Locality and Formation.—Niagara Limestone, Thorold.

65. RETEPORA ASPERATO-STRIATA, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xl. C, figs. 2a-h.) Niagara Limestone, Thorold.

66. TREMATOPORA OSTIOLATA, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xl. A, figs. 5a-n.) Niagara Limestone, Niagara River.

67. FENESTELLA TENUICEPS, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. xl. D, figs. 2a-h.)

68. ATRYPA RETICULARIS, Linn. Abundant in the Niagara Limestone at Thorold.

69. PENTAMERUS OBLONGUS, Sowerby. Abundant at the base of the Niagara Limestone, Thorold.

70. ATHYRIS INTERMEDIA, Hall. (*Ref. Atrypa intermedia*, Hall, *Pal. N.Y.*, Vol. II., pl. xxiv., figs. 3a-f, and 4a-d.) A species apparently undistinguishable from this occurs commonly in the Niagara Limestone at Thorold.

71. ATHYRIS (ATRYPA) NAVIFORMIS, Hall. Niagara Limestone, Dundas.

72. RHYNCHONELLA (ATRYPA) NEGLECTA, Hall. Niagara Limestone, Thorold.

73. ORTHIS ELEGANTULA, Dalman. Niagara Limestone, Rockwood.

74. STROPHOMENA RHOMBOIDALIS, Wahlenberg. Niagara Limestone, Owen Sound and Thorold.

75. STROPHOMENA SUB-PLANA, Conrad. Niagara Limestone, Thorold.

76. STROPHOMENA, sp.—A form very similar to, if not absolutely identical with, *S. punctulifera*, Conrad, from the Lower Helderberg. Not only is the general form and aspect of the shell the same, but the specimen exhibits precisely similar punctations.

Locality and Formation.—Niagara Limestone, Thorold.

77. *LEPTÆNA TRANSVERSALIS*, Dalman. Niagara Limestone, Niagara River.

78. *DISCINA TENUILAMELLATA*. (Ref. *Orbicula tenuilamellata*, Hall, Pal. N.Y., Vol. II., pl. liii., fig. 3.) Niagara Limestone, Rockwood.

79. *DISCINA (ORBICULOIDEA) FORBESII*, Davidson. A form very nearly allied to this, if not identical with it. Niagara Limestone, Hamilton.

80. *LINGULA LAMELLATA*, Hall. Niagara Limestone, Hamilton.

81. *SPIRIFERA NIAGARENSIS*, Conrad. Niagara Limestone, Niagara River.

82. *ORTHIS BIFORATA*, Schlotheim. Niagara Limestone, Thorold.

83. *PHACOPS CAUDATUS*, Brongniart. Niagara Limestone, Hamilton.

84. *CALYMENE BLUMENBACHII*, Brongniart. Niagara Limestone, Niagara River and Thorold.

III. FOSSILS OF THE GUELPH FORMATION.

85. *STROMATOPORA CONCENTRICA*, Goldfuss. Very abundant and widely distributed, as well as attaining to a large size; but so badly preserved as to render it impossible to determine whether it really is this species or not.

Locality and Formation.—Guelph Formation, Elora, Guelph, Hespeler, Galt.

86. *STROMATOPORA OSTIOLATA*, Nicholson. (Ref. *Annals of Natural History*, August, 1873). Guelph Formation, Guelph.

87. *FAVOSITES POLYMORPHA*, Goldfuss. Guelph Formation, Hespeler.

88. *FAVOSITES VENUSTA*, Hall, (Ref. *Astrocerium venustum*, Hall, Pal. N.Y., Vol. II., pl. xxxiv. figs. 1*a-i*). Common in the Guelph Formation at Hespeler and Elora.

89. *AMPLEXUS YANDELLI*, Edw. and Haime. Specimens of an *Amplexus* which we cannot separate from the Devonian *A. Yandelli*, occur, not infrequently, in the Guelph Formation at Hespeler and Guelph.

90. *AMPLEXUS*, sp. An *Amplexus* of a slender, cylindrical, and elongated form is very common in the Guelph Formation at Hespeler, Guelph and Elora. We have not been able to determine to what species it belongs; but the same form occurs in the Niagara Limestone at Thorold.

91. *PENTAMERUS OCCIDENTALIS*, Hall. Guelph Formation, Hespeler, Guelph and Elora.

92. *TRIMERELLA GRANDIS*, Billings. Guelph Formation, Hespeler.

93. *TRIMERELLA ACUMINATA*, Billings. Guelph Formation, Hespeler.

94. *DINOBOLUS GALTENSIS*, Billings. Guelph Formation, Hespeler.

95. *DINOBOLUS*, sp. Casts of a *Dinobolus* which is clearly distinct from the preceding occur at Hespeler and Elora in the Guelph Formation.

96. *MEGALOMUS CANADENSIS*, Hall. (*Ref. Pal. N.Y.*, Vol. II., pl. lxxx. figs. 1a-e, pl. lxxx. figs. 1a-f, and pl. lxxxii. figs. 1a-i.) Casts of this singular shell are not very rare in the Guelph Formation at Hespeler, Guelph, Galt and Elora.

97. *MEGALOMUS COMPRESSUS*, Nicholson and Hinde. Shell equi-valve, valves compressed, the depth of both valves being little more than one-third of the width. Form elliptical, the length nearly one-third greater than the width. Umbones anterior, incrassated, with apparently one cardinal and two lateral teeth. A single, deep, concentrically-striated muscular impression placed just in front of and beneath the umbones, with a small circular pit above it. Pallial line simple. Surface of the shell unknown.

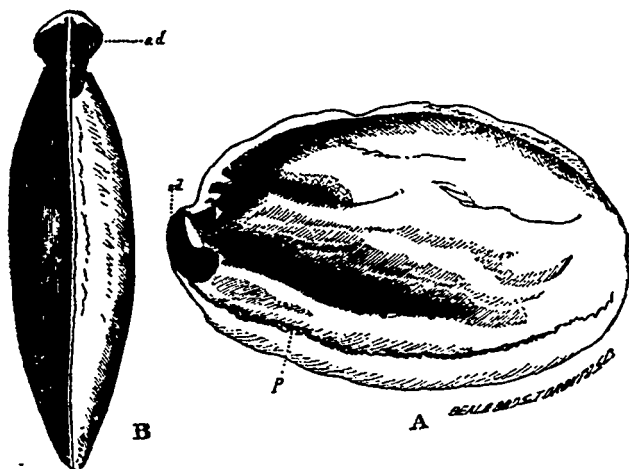


FIG. 6.—*Megalomus compressus*, Nich. and Hinde. *A*, Side view of the cast of the shell, natural size. *B*, The same viewed from above. *ad*, Cast of the adductor impression; *p*, Pallial line.

In many respects this singular species agrees with *M. Canadensis*. Hall; from which, however, it is clearly distinct. It is only known to us by the cast, which is entirely free from distortion, and may therefore be relied upon as giving the true characters of the interior of the shell. The cast forms an almost complete ellipse, which is very much compressed laterally, and has a length of twenty-eight lines, a width of nineteen lines, and a depth of seven lines. In *M. Canadensis*, on the other hand, the depth of the valves is nearly or quite equal to the width. Our species, therefore, entirely wants the great ventricosity of the dorsal portion of the shell which so distinguishes *M. Canadensis*. In the latter species the beaks are enormously thickened, and the cast exhibits a great contraction or excavation situated anteriorly above the casts of the muscular impressions. In *M. compressus*, on the contrary, the thickening of the anterior portion of the shell must have been much less, and this contraction of the cast is wanting. In both species alike, the ventral portion of the cast is the thinnest, and a well marked shallow depression or groove extends backwards from the muscular impression, parallel with the margin of the shell and ultimately becoming obsolete posteriorly. This indicates a corresponding ridge or elevation on the interior of the shell.

Locality and Formation.—Guelph Formation, Hespeler.

98. MURCHISONIA BIVITTATA, Hall. Guelph Formation, Hespeler.

99. MURCHISONIA LOGANI, Hall. Guelph Formation, Hespeler and Elora.

100. MURCHISONIA LONGISPIRA, Hall. Guelph Formation, Elora.

101. PLEUROTOMARIA DEIOPEIA, Billings. Guelph Formation, Hespeler.

102. HOLOPEA GRACIA, Billings. Guelph Formation, Guelph.

103. STRAPAROLLUS HIPPOLYTA, Billings. Guelph Formation, Hespeler.

104. SUBULITES VENTRICOSA, Hall. Guelph Formation, Hespeler.

REVIEW.

INSCRIPTIONES BRITANNIÆ LATINÆ.*

More than fourteen hundred years have passed away since the Romans abandoned Britain, and still relics of their period of rule are often being found; so that the remains of that time include temples, villas, baths, altars, grave-stones, commemorative slabs, pottery, objects made of gold, silver, lead, tin and brass, a large and miscellaneous collection of various articles required in domestic or personal use, &c., &c. Of these the most interesting, at least to the classical student, are those memorials that bear inscriptions. And yet but little attention has been given in the island to these most interesting records of the past as a branch of Latin Epigraphy. Numerous and valuable volumes have, indeed, been published illustrating and explaining local antiquities, in many of which incidental notices, more or less full, are given of inscriptions. Of this class are Stukeley's *Itinerarium Curiosum*; Gordon's *Itinerarium Septentrionale*; Hodgson's "Northumberland" and other County Histories; *Eburacum*, by Rev. C. Wellbeloved; *Isca Silurum*, by J. E. Lee; *Aquæ Solis*, by Rev. H. M. Scarth; "The Roman Wall," by Rev. Dr. Bruce; Smith's "Roman London;" Stuart's *Caledonia Romana*; Wilson's "Prehistoric Annals of Scotland;" and especially the *Lapidarium Septentrionale*—a splendid work in course of publication by the Society of Antiquaries of Newcastle-upon-Tyne, which, when completed, will form the best authority for the monuments of Roman rule that have been found in Northumberland, Cumberland, Durham and Westmoreland. Not one of these works, however, is limited to the inscribed relics even of the localities to which they are restricted, whilst some of them are suited, in their treatment of such inscriptions as are given, rather for the Antiquary than for the Epigraphist.

* *Inscriptiones Britannicæ Latinæ consilio et auctoritate Academicæ Litterarum Regiæ Borussicæ edidit Æmilius Hubner. Adjecta est tabula Geographica. Berolini apud Georgium Reimerum, MDCCLXXIII. Folio, pp. xii. 345.*

Lysons' costly volumes, entitled *Reliquiæ Britannico-Romanæ*, contain no few but not all the inscriptions found in different parts of the island, and they are chiefly valuable for the representations of the remains of ancient art, such as pavements, &c. In Smith's *Collectanea Antiqua*, and Wright's "Celt, Roman and Saxon," we have also some *tituli* that have been selected without regard to locality; but they are introduced merely amidst notices of other Roman remains. In the Latin Inscriptions given in *Monumenta Historica Britannica* there is no limitation as to the parts of the island in which they were found, but the selection is not extensive (nor valuable to the student), and "is expressly confined to those only which bear upon general and not upon particular history," whilst in "Britanno-Roman Inscriptions," although not restricted to any particular locality, those alone are treated, of which previous readings or interpretations were regarded as unsatisfactory. The only general collections of Latin Inscriptions found in the island that have been published there or in any part of the British Empire, so far as we are aware, are Horsley's *Britannia Romana* in 1732, and Camden's *Britannia*, (originally published by him 1586 to 1607,) translated and enlarged by Gough in 1806; but these works, however excellent, are not exclusively devoted to Epigraphy, so that in Professor Hübner's volume we have, for the first time collected, all the Latin inscriptions found in Britain, on all the varieties of material on which they were cut or stamped or scratched. The work is designated "*Inscriptiones Britannicæ Latinæ*," and forms the seventh volume of the *Corpus Inscriptionum Latinarum*, published at Berlin under the auspices of the Prussian Royal Academy of Letters. It is edited by Professor Hübner, already well known to all engaged in Epigraphic studies, especially by his most valuable "*Indices*" to the first volume of the *Corpus*, containing *Inscriptiones Latinæ antiquissimæ*, and also by his edition of the *Inscriptiones Hispaniæ Latinæ*. In the preparation of his work, this laborious scholar has spared neither time nor trouble, and twice visited various parts of the island with the object of examining for himself the originals. It is very gratifying to observe in his prefatory observations the kindly remembrance that he cherishes of the courtesies extended to him during his stay in Great Britain by "Babington, Bruce, Clayton, Coxe, Dixon, Franks, Kenrick, Lee, Lottner, Mayor, Müller, Munro, Murray, Nettleship, Newton, Patison, Pollexfen, Scarth, Stuart, Thompson, Way, Woodford, Wright,

and Yates," some of whose names are favourably known on this side of the Atlantic. Nor must we omit mentioning the pleasing reference by the German savant to the hospitality of His Grace the Duke of Northumberland, whose liberality has placed antiquarian investigators under so many obligations. Even since his return to Germany he has had the advantage of communications on the subject of his volume from "Bruce, Kenrick, Murray, Thompson, Wright and Yates," so that the book contains information almost up to the time of publication—the month of June in the year just ended. In addition to these appliances, the learned Editor has had the opportunity of referring to the works of a remarkably large number of authors, forming in his list about five hundred items; nor in all the authorities there cited are there more than four marked by the asterisk that indicates that he had not seen them. In addition to these he drew information from various periodicals, including Transactions, Journals, &c., and also from some anonymous publications. The result has been that we find in the work such a collection of *varia lectiones* of Britanno-Roman inscriptions as has never before appeared. His readings of the text are consequently of the utmost value, and his expansions are generally satisfactory. In very many of these, however, he has been anticipated in the pages of this Journal,* a fact of which he seems not to have been aware, as, in several instances, he does not make the usual acknowledgment of priority on the part of another writer.

We subjoin a few examples, in which this omission is especially marked.

In n. 420 we have the following inscription as read by him:—

D	M
CONDATI	
ATTONIVS	
QVINTIANVS	
MEN EX CC IMP	
EX IVSSO LL·M	

At the close of his remarks on this he observes: "*Rectam explicationem proposuit Mommsenus 'D(eo) M(arti) Condati Attonius Quintianus men(sor) ex cc (ducenario) imp(eratoris) ex jussu l(aetus) l(ibens) m(erito).'*" In the tenth volume of this Journal, p. 96,

* In Dr. McCaul's articles on "Latin Inscriptions found in Britain."

1865, this same inscription, as read by Horsley, was discussed, and the same solutions of the principal difficulties were suggested:—

“EX CC evidently stand for *ex ducenario*, and IMP most probably for *Imperatoris*. It does not appear that any explanation of MEN has been attempted: I regard it as standing for *Mensor*. If there be a point after IV as well as after S, then Horsley’s expansion—*ex jussu susceptum*—is correct, but I am inclined to think that there was none after IV, so that IVS stand for *Jussu*. But what of *Condati*? I think that the reference to *Condate* of the Itinerary is highly probable, and would expand the word in the inscription into *Condatianis* or *Condatinis*, i.e., *Quintianus mensor ex ducenario Imperatoris ex jussu solvit libens animo.*”

See also *Canadian Journal*, xii., p. 126, where Muratori’s and Marini’s expansions of the fifth line are noticed:—

“The first proposes *Mensor ex castris*, or *castrensibus Imperatoris*, and the latter *Mensor ex Circuitoribus* (*Circitoribus*). I adhere to my own suggestion [i.e., *ex duccnario*] as the most probable.” We may also remark that we prefer *Deabus Matribus Condatianis* to Mommsen’s *Deo Marti Condati*.

In n. 481 he gives the following inscription found at Hexham:—

LEG. A
Q. CALPVRNIVS
CONCESSINI
VS· PRAEF· EQ
CAESA· CORI
ONOTOTAR
VM MANV PR
AESSENTISSIMI
NVMINIS DEI VS

This he expands—*Leg(ati) A[ugusti pro prætore] Q. Calpurnius Concessinius, præfectus eq(uitum), cæsa Corionototarum manu, præsentissimi numinis de[o] v(otum) s(olvit)*, and remarks—*Explicationem vv. 5-9, Mommsenus repperit*. In the *Canadian Journal*, vol. iv., p. 175, 1859, this inscription, as read by Horsley, was discussed, and the same solution of the difficulty, in vv. 5-9, proposed scil. *cæsa Corionototarum manu*, with the explanatory observations:

“Calpurnius Concessinius, before going into action with a band of Corionototares, vowed to some god that, if successful, he would erect an altar to him. Having cut them to pieces, he performed his vow

in acknowledgment of the aid of that deity, who had manifested on this occasion his characteristic of giving most timely and effectual assistance."

"If my interpretation be correct, this stone possesses unique interest, as the inscription is, so far as I am aware, the only one extant which records an engagement between the Romans and the Britons." See also "Britanno-Roman Inscriptions," p. 142.

In n. 498 two inscriptions are given :—

- | | |
|-----|---|
| (a) | DIFFVSIS
PROVINC
BRITANNIA AD
VTRVMQVE· O
EXERCITVS M |
| (b) | OMNIVM· FIL
HADR
A· NECESSITAT
VATIS NORP
F INC |

Hübner regards the two fragments—which were found in the same place, Jarrow Church—as parts of the same stone, and remarks :—
"Probabile est commemoratos esse exercitus magnos, diffusos per castru in provincia Britannia collocata inter utrumque oceani litus, fortasse propter res gestas, quæ omnium fidem et virtutem probaverunt, ab imperatore Hadriano collaudatos dira tantum necessitate coactos abstinuisse ab ultimo orbis noti limite subjiciendo, conservatis tunc reipublicæ finibus vel quæ sunt similia." In his preface on the *Vallum Hadriani*, he says of the same stone :—*"Certum est eum operis alicujus ab Hadriano inter utrumque oceanum perfecti memoriam continere, quod opus pæne necessario statuendum est fuisse ipsum vallum."*

In the *Canadian Journal*, vol. xii., p. 112, 1868, a similar view is taken : not, indeed, as to the two fragments being parts of the same stone—for the lettering as represented in Dr. Bruce's woodcuts, p. 309, 3rd Ed., is so different as to preclude that opinion—but as to the great importance of the first as "marking the completion of some important enterprise," and that enterprise is subsequently stated as "the completion of the occupation of the isthmus between Solway Firth and the mouth of the Tyne by a chain of military posts." In the note the conjecture is offered that "there may have been [on the upper portion of the stone], for anything that we know to the

contrary, some such terms as MVRO PERFECTO PRAESIDIISQVE."

In nn. 1072, 1073 are copies of two inscriptions found at Birrens, *Blatum Bulgium*:—

- | | |
|-----|---|
| (a) | DEAE RICAGM
BEDAE PAGVS
VELLAVS MILIT
COH II TVNG
VSLM |
| (b) | DEAE VIRADES
THI PAGVS CON
DRVSTIS MILIT
IN COH II TVN
GRO SVB SILV(i)O
AVSPICE PR
AEF. |

Hübner expands the first—*Deæ Ricagambedæ pagus Vellaus milit(ans) coh(orte) ii Tun(grorum) v(otum) s(olvit) l(ibens) m(erito)*, and the second—*Deæ Viradesthi pagus Condrustis milit(ans) in coh(orte) ii Tungror(um) sub Silv(i)o (A)uspice praef(ecto) [fecit]*. On the second and third lines of (a), he remarks:—*Pagus Vellaus militans positus est cum aliqua audacia pro paganis Vellavis militantibus in cohorte. Cf. n. 1073. Ricagambeda tutelararis potest fuisse pagi ejus Tungrorum.* On the second and third lines of (b) he also remarks:—*Cum pago Condrusti contulit Germanos ex Cæsare notos (bell. Gall. 2, 4, 10. 4, 6, 4. 6, 32, 1), C. F. Hermannus. Götting. gel. Anz. 1846, p. 1415.* In these expansions and remarks we concur, but Hübner was not the first that proposed the explanations.

In the *Canadian Journal*, vol. iii., p. 14, 1858, the same views are taken, with the sole exception of *Ricagmabeda* for *Ricogumbeda*, and the following translations in accordance with them are given:—

(a) "To the goddess Ricagmabeda the Vellavian district (*i.e.*, the men from that district) serving in the second Cohort of the Tungrians," &c.

(b) "To the goddess Viradesthi (or Viradethi) the Condrusian district (*i.e.*, the men from that district) serving in the second Cohort of the Tungrians, under the command of Silvius Auspex Præfect."

In the two examples that we subjoin, there is in addition a remarkable misstatement of fact. In n. S30 we have a copy of an inscription found at Birdoswald, *Amboglanna*:—

DEO SANCTO
SILVANO VE
NATORES
BANNIES· S

Hübner expands BANNIES* *Bannieses*, and remarks:—"Ceterum Bruce recte observavit venatores a ludis circensibus vel arenæ fuisse, ut collegium venatorum Deensium qui ministerio arenario fungunt apud Henzenum, n. 7209."

In the *Canadian Journal*, vol. xii., p. 112, are the following observations on the same inscription:—

"I suspect that the word intended was *Bannescs* for *Bannenses*, and that the *Venatores* were not mere sportsmen, but that they belonged to the class of men that contended with wild beasts in amphitheatres, such as we know were in various parts of Roman Britain, e. gr. at Chesters, at Housesteads, at Caerleon, &c. Thus we have in Henzen's n. 7209:—*Coll. Venator Deensium qui ministerio arenario fungunt*, where *Deensium* is the adjective formed from *Dea*, for the name of the place was *Dea Augusta*." Nor has Dr. Bruce in any of his publications, so far as we are aware, made this observation.

In n. 964 we have a copy of an inscription, in which the words in the fifth and sixth lines are given as

SVB CVRA MO
DI IVLI LEG·AVG·

Hübner remarks—*ut dedi fere etiam Bruce, qui recte comparavit Modium Julium legatum Augusti incerti tituli Amboglannensis*, n. 838.

In the *Canadian Journal*, vol. x., p. 317, 1865, this same inscription is discussed, and the following observations are offered:—

"I am not satisfied as to the name of the Legate. The M is separated in the copy [in *Monumenta Historica Britannica*] by an interval from CVRA, so that we may not read CVRAM, and this is, besides, unusual. Nor is it probable that it stands for *Marci*. It has occurred to me that, perhaps, there was an O after it, and that IVNII was a misreading for IVLII. We shall thus get MOD·IVLII, i.e., *Modii Julii*, the same Legate named on a stone, without date, found at Birdoswald." To this is subjoined the note:—"In *Brit. Rom. Inscip.*, p. 30, I have offered a different conjecture." The conjecture to which reference is made, was that "the injured

* Hübner was the first that discovered I (i.e., *Bannieses* not *Bannescs*) on the stone.

letters" (in that inscription found at Birdoswald) "are ST, and that the *Modius Justus* named here is the same who, at a different time, was LEG· AVG· PR· PR of Numidia. He is mentioned in the inscription given by Renier, *Inscriptions de l'Algérie*, n. 44." It is remarkable that in this conjecture Dr. McCaul was anticipated by Hübner in *Mus. Rhein.* 14, 1859, p. 360. Similarly also in n. 1003, the *nomen* of the *procurator* there mentioned, which had been seriously misstated, was given in the *Canadian Journal*, vol. iv., p. 356, 1859, (and reprinted in "Britanno-Roman Inscriptions," p. 147,) as *Oclatinus*, and the person identified with *Oclatinus Adventus*, the colleague of Elagabalus in the Consulship, whilst Hübner refers to *Rhein. Mus.* 14, 1859, p. 68, and 11, 1857, p. 44, for the same conjecture. On this subject we may mention that the only copy of any number of the *Rheinische Museum* that we have seen, or that most probably is to be found in any part of Canada, is No. 1 for 1856, containing an article by Hübner on the Roman army in Britain, which is referred to in the notes or P.SS. of "Britanno-Roman Inscriptions," and in the *Canadian Journal*, vol. xiii., p. 139, 1871. Under such circumstances, it appears that these two conjectures were formed independently by the two inquirers separated by the Atlantic. It also is evident that the *Canadian Journal* (although occasionally referred to by the German Editor) is as little known in Berlin as the *Rheinische Museum* is in Toronto. Indeed, our periodical is not included in the list of *Ephemerides et Similia*, given on p. xii. of "*Inscriptiones Britannicæ Latinæ*." The volume published in Toronto, entitled "Britanno-Roman Inscriptions," however, is mentioned among the works consulted by the Editor, who in some places notices explanations or readings as first offered in that volume, with references to the pages. Whilst we claim then, as we justly may, due credit for those readings or explanations that were first published in our Canadian works, we doubt not that Professor Hübner, if he had been aware of them, would have readily acknowledged priority, as he has courteously done in other instances.*

* Such, for example, as in n. 63—"Clarum Apollinem, non clarum, ut olim verterant, intellegendum esse perspexit McCaul, *Brit. Rom. inscr.* p. 154;" n. 732—"Consules a. 225 latere vidit McCaul, qui etiam litteras singulares v. 5 in fine recte solvit primus;" and in n. 794—"Hoc recte primus monuit McCaul, *Brit. Rom. inscr.* p. 159."

We now proceed to give some examples of solutions or remarks offered by Professor Hübner that we regard as unsatisfactory.

In n. 324 we have a copy of an inscription found at Plumpton Wall:—

II·GAL.... AMPI
SVB CALVISIO· RV....
CVRANTE AVRELIO.

Hübner remarks on the second line, "*Calvisius Ru[us?] videtur esse legatus provinciæ aliunde non notus.*" We arrived independently at the same conclusion as to the rank of the officer, but we are disposed to supply SONE as the missing letters after RV, i.e., *sub Calvisio Rusone*, for it is possible that he may be the *Calvisius Ruso*, mentioned in Gruter's lxiv., 9, as colleague of *L. Cæsennius [Cæsonius] Pætus*. Thus he may be regarded as *suffectus* in place of *Petronius Turpilianus*, who had resigned his Consulship, and was subsequently sent as legate to Britain. If this identification be correct, his administration of the government of the island may be placed immediately before or after *Sullustius Lucullus*, noticed in Suetonius' *Domitian*, c. 10. AMPI (on which Hübner offers no remark) we regard as part of TAMPIANA (or TAMPIANAE) *scil. ala Tempiana* mentioned in Trajan's diploma of A.D. 104.

In n. 97 is a copy of an inscription, on which there has been much discussion. Hübner reads it thus:—

for TVNE ET BONO EVE
NTO CORNELI· CASTVSETIVL
BELISMIVS· CONIVGES
PO *sue* R

i.e., [*For*]tune et Bono Evento Corneli(us) Custus et Jul(ia) Belis-mius conjuges pos(ue)r(unt). His view is that *Belis-mius* is the name of a female as *Vallaunius* in another inscription found in the same place, and he remarks:—*nam quanquam formam in—us pro feminino usurpari alibi nondum quod scim repertum est, tamen nec de formis per compendium scriptis Belis-mius(a) Vallaunius(a) cogitari potest neque alia suppetit explicatio certa.*" Hübner seems to have forgotten that Marini, *Atti de fratelli Arvali*, i., p. 331, (cited in "Britanno-Roman Inscriptions," p. 129,) gives the following examples of masculine *cognomina* of females:—"*Aelia* Demetrus, *Cassia* Mus, *Julia* Barachus, *Mucia* Antiochus, *Calidia* Antiochus, *Clodia* Optatus, *Acilia* Carnus, *Sullustia* Helpidus, *Flavia* Chrysophorus." No

explanation of the above inscription that has been offered seems to us satisfactory, nor is Hübner's suggestion an exception. We are now inclined to propose the view, that *Castus* and *Belisnius* were *conjuges* of one wife, the divorced of one, or possibly of both of them. See in Orelli, n. 2660, an epitaph by two husbands to a deceased wife.

In n. 731 we have a copy of an inscription found at Great Chesters, in which the titles *Parthici* and *Medici* are found, evidently denoting *M. Aurelius* and *Verus*. Hübner from this infers that the date is 162–168, A.D. It is impossible that 162 can be one of the *cancelli* of the date, for these two Emperors did not take these two titles until 166 A.D. Again, in n. 513 the date 205–208 is given, but if we assume that the *Victoria Augustorum* (AVGG) refers to the expedition of *Severus* and *Caracalla* into Caledonia, as it most probably does, we may assign the inscription to 208, or 209 before *Geta* was made *Augustus* in the latter year.

In n. 1222 the inscription on a tile found at Caerleon is given, in which the letters II AVG are certain, but they are followed by a monogram, on the reading and meaning of which different opinions have been proposed. On this Hübner remarks:—"Lee, *delineations*, p. 21, *Isca*, p. 43, *adn.*, *ubi nexum aut MVT aut MAT aut MANT significari statuitur.*" On reference to Lee's *Isca*, pp. 43, 44, we find the following note on this inscription:—

"The Rev. J. McCaul, LL.D., of Toronto, kindly communicated the following note, which doubtless is the correct reading of the stamp:—"Read LEG II AVG ANT, *i.e.*, *Antoniniana*. From Orelli, n. 2129, we learn that the title *Antoniniana* was borne by the LEG II A P F *scil. adjutrix, pia, fidelis*, the same mentioned in one of the Bath and one of the Lincoln Inscriptions."

In n. 759 there is a copy of the inscription in Iambic verse found at Carvoran. The only difficulty in it is in the words

" *Militans*
Tribunus in præfecto dono principis."

Hübner remarks:—"Tribunus militans in præfecto dono principis *propter metrum positum est pro tribuno cohortis (fortasse 1 Hamiorum) qui beneficio imperatoris honorem tribunatus obtinuit, cum præerat cohorti illi, quam præfecti regere solebant.*" He then refers to articles in periodicals on the subject by Henzen, Grotfend, and himself. We have no opportunity to consult the articles to which he refers, but we

do not concur in this view of the meaning of the words. We understand them as denoting that Donatianus, by the favour of the Emperor, held the office of *Legionary* tribune whilst he was *Præfect* of an *ala*. Of this we can produce two examples in Britain. In Orelli's n. 5017 we find that *M. Silaccius Coranus* was *Tribunus militum* Legionis II. Aug. *Præfectus equitum alæ Hispanorum in Britannia*, and in n. 504 *Inscrip. Brit. Latinæ*, *Tineius Longus* is stated as—in *præfectura equitum lato clavo exornatus*, i.e., whilst *Præfect* of an *ala* he was also *tribunus laticlavius*, not improbably of the 20th Legion. See Suetonius, *Claudius*, c. 25, *Vegetius*, ii., 7, *Brit. Rom. Inscip.*, p. 287, and *Canadian Journal*, vol. xii., pp. 114, 115, 1868.

Chapter lxi. of the work is devoted to the inscriptions found at Risingham, the ancient name of which is believed by some to have been *Habitancum*, which Hübner emends into *Habitancium*. The great objection to the proposed ancient name is that it is not found in any ancient author, *nisi forte latet* (as Hübner ingeniously suggests) in *Evidensca Ravennatis*. The sole authority for the name is an inscription on an altar found at the place, of which we subjoin a copy from *Inscip. Brit. Latinæ*, n. 996:—

DEO

 MOGONTI CAD
 ET·N·D·N· AVG
 M· G· SECVNDINVS
 BF· COS· HABITA
 NCI PRIMA· STAT
 PRO· SE· ET· SVIS· POS

The chief difficulty in this inscription is in the words *HABITANCI PRIMA STAT*. The received opinion is that *NCI* should be connected with *HABITA*, thus forming *HABITANCI*, and that this is the ancient name of Risingham; also that *PRIMA· STAT* should be expanded *PRIMA· STATIONE*, but the word *prima* is differently interpreted as first from the Wall going north, or first from the boundary of the province going south. In the *Canadian Journal*, vol. xii., p. 125, this inscription is fully discussed, and the expansion *Habita nomine ducenarii prima statione* is proposed. But this expansion was based on the faith of the accuracy of an improved woodcut in the 3rd Ed. of Dr. Bruce's "Roman Wall," in which the letters before *HABITA* are clearly given as *NCCI*, not

NCI. It now appears from evidence, which Dr. Bruce regards as satisfactory, that the copy as given in that woodcut is erroneous, and accordingly the second C does not appear in the impressions as given in the *Lapidarium Septentrionale*. Hübner also saw only one C. Assuming, then, on these authorities, that the letters are NCI, we now propose *nomine centenarii* instead of *nomine ducentarii*, and further justify the phrase *habita statione* by the following inscription, n. 3944, in Mommsen's *Inscrip. Asiæ, Provinc. Europæ Græc., Illyrici Latine* :--

I O M
C· IVLIVS
FLAVus B
COS· ITER
STAT· HAB

The learned Editor expands the last line—*stationem habens*. As to the expansion *centenarii*, it may be supported by n. 1919 of Mommsen's same work, in which we have PROC· CENTENARIO· PROVINCIAE. See also n. 6155. It can be proved, indeed, that at one time the Procurator of Britain was *ducentarius*, for the father of Elagabalus held that office at that salary, as appears from Orelli's n. 946, but there are reasons for thinking that the pay was not always the same, or that in this case it was special. It is proper to add that the *Beneficiarii Consulares* were under the *Procurator* of the Province. There are various other points on which we cannot accept the views given in this work; but, after all necessary deductions, however, we are of opinion that it should be regarded as a very valuable contribution to British Epigraphy. In it alone, so far as we are aware, is a full collection of all the known Latin and Greek inscriptions of the island, including those on *Massæ argenti æris plumbi, Tegulæ, Tessera, Plumbo nigro et albo inscripta, Vascula vitrea, Pondera, exagia, statera, supellex ex auro et argento, supellex ex ære et ferro, anuli, sigilla medicorum oculariorum, &c., &c.* And, as we have already noticed, it supplies a want that has been hitherto much felt of the *variae lectiones*. To these claims on attention, we must add that there are admirable "Indices," arranged under the heads—*Prænomina, Nomina, Agnomina, Geographica et Topographica, Res sacra, Respublica Romana, Res Militaris, Res Municipalis, Res Epigraphica*. Indeed, we regard this last portion of the volume as the most valuable to the Student, for, as an aid in interpreting the chief difficulties, the work is of little use, and cannot be regarded as adding

to the reputation of the Editor. As it is, however, it is an excellent specimen of what conscientious and painstaking labour can effect; and we cannot refrain from expressing our regret that the credit of collecting and elucidating the Epigraphic remains of the Roman period in Britain is not due to a native of the island. Neither learning, nor wealth, nor patriotism, nor other requisites, one would suppose, were wanting in Great Britain; and yet the honour of initiating and accomplishing a great work for the illustration of a very important part of the national antiquities of England and Scotland must be given, in the first place, to the encouragement and patronage of the Prussian Academy of Letters, and in the second, to the industry and self-denial of a German scholar. It is with some satisfaction, however, that we are able to add, that if Berlin is entitled to the credit of issuing the first collection of all the Latin inscriptions found in Britain, Toronto may justly claim the merit of having anticipated even the mother country* in the production of a work exclusively devoted to Britanno-Roman Epigraphy, and in the first publication of a volume in which some of the chief difficulties of such records of the Roman occupation of the island are critically treated.

* We gladly bear testimony to the remarkable interest in the collection and elucidation of national antiquities, as evinced by the many Archæological Societies established throughout the kingdom, and the numerous articles on such subjects contributed to Journals or Transactions. And yet, so far as we have been able to ascertain, it is an undeniable fact that no separate work on general Latin Epigraphy has been published in any part of the British Empire since Fleetwood's *Sylloge* in 1691. Nor can we call to mind any scholarly publication even on branches of it except the little books—Wordsworth's *Pompeian Inscriptions* and Kenrick's *Roman Sepulchral Inscriptions*; and both of these are of late date in the present century, a century,—not to speak of the preceding hundred years—which, on the continent of Europe, has enriched Classical and Christian Archæology by the learned labours of such scholars as Borghesi, De Rossi, Cardinali, Garrucci, and Henzen in Italy, Orelli in Switzerland, Mommsen, Hübner, Arneht, Zumpt, and Zell in Germany, and Egger, Renier and Le Blant in France.



THE SHEPHERD KINGS OF EGYPT.

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I.—INTRODUCTION.

I have given the above title to this article, not because I propose to confine myself to the individuals or families for whom the name of Shepherd Kings has been reserved, but because the Asshurites, whose history I intend to trace, include the Hyksos and the ancient stocks with which they are most closely connected. In my last paper on "the Horites" I directed attention to a Shethite line, which appeared in the annals of Egypt, Arabia and India as inimical to the descendants of Seir. This line I there stated to be that of Asshur, the father of Tekoa. Further researches in connection with the family of Asshur have led me to the discovery of certain errors of identification of which I was guilty in the article on the Horites; and notably that of the Persian Gilshah with Alvan, the son of Shobal. Much confusion must also necessarily exist in the connections of Jahath, the son of Alvan, and Abuzam, the son of Asshur, different as these names may at first sight appear. The magnitude of the task of tracing even a single ancient line through the various histories and mythologies of the world, in which its members appear under many disguises and strangely entangled, must be my excuse should similar errors of judgment be found in the present article.

The families of Asshur are given in 1 Chron. iv. 5, 6, 7, and are mentioned nowhere else in the Bible. Asshur himself is spoken of, however, in the second chapter of the same book at the twenty-fourth verse, where he is represented as a posthumous child of Hezron, the grandson of Judah, by his wife Abiah. By other wives, Hezron, we read, was the father of Jerahmeel, Ram and Chelubai, and of Segub. In no other part of Scripture is Asshur alluded to, and no other genealogy of the sons of Judah, except that which gives the descent of David from Ram, the father of Amminadab, brings us down farther than the mention of the Hezronites. The short story of his birth and

descent is plain and circumstantial. It is not difficult to believe that such a son might have been born to Hezron, and have been the head of a Tekoite family, although his name and those of his children never again occur in the annals of the Jews. But how (1 Chron. ii. 24,) did Hezron, who (Genesis xlvi. 12,) went down with his brethren into Egypt, and (1 Chron. ii. 21,) married a daughter of Machir, the grandson of Joseph, there, come to die in Caleb Ephratah, which was situated in Palestine? The question at once arises, "Is this the same Hezron?" I think not. I would even question that the father of Asshur bore the name of Hezron, and see in this verse a corruption of the text, of which there are, unhappily, too many in the books of Chronicles. I am compelled, indeed, to regard the appearance of the grandson of Judah in connection with the father of Tekoa as an instance of Rabbinical interpolation or tampering with the original of the genealogies here recorded. Hezron, the son of Pharez, cannot have been in any sense the father of Asshur, although he may have entered upon the domain which was once the possession of this ancient hero.

I need not apologize for finding Gentile names in the early chapters of the first book of Chronicles. Lord Arthur Hervey has already found that the Kenezites of chapter iv. 13 are not Israelites, and Professor Plumptre has expressed himself in a similar way even in regard to Temeni, one of the sons of Asshur, whom he connects with the Edomites. There is, as I have shewn in my last paper, mention made of professedly Gentile families in different parts of the second and fourth chapters, and the whole argument of that paper has been deemed conclusive for the non-Gentile character of the majority of the genealogies of both of these. The Jeralmeelites, called descendants of a son of Hezron, I have proved to be distinct as a people, not only from the Hezronites, but from the tribe of Judah itself. Turning to the genealogies of Caleb or Chelubai, which is certainly not a Jewish name, we find such Midianite appellations as Rekem and Zur (1 Chron. ii. 43, 45; comp. Numbers xxxi. 8). Among them also we find Maon, a name applied to no Israelite in any part of the Bible, but designating (Judges x. 12, 2 Chron. xxvi. 7,) an inimical tribe allied with Sidonians and Amalekites, Philistines and Arabians. In 1 Chron. iv. 41, the word erroneously rendered "habitations" in our English version is clearly the name of this tribe, as many writers have indicated. It is true that we have (Ezra ii. 50, Nehem. vii. 52,) Meunim and Mehunim, which are the same word,

but the peoples so named are of the Nethinims, who were no Israelites but Gibeonites and other so-called Canaanites admitted to the temple service in the days of Solomon. A glance at the families of the Nethinims is in itself instructive in connection with the subject of the non-Israelite character of the genealogies of the first book of Chronicles. Besides the Mehunims we find the children of Reaiah (Ezra ii. 47) and the children of Paseah (ii. 49) answering to similar names in 1 Chron. iv. 2, 12; while others are apparently later forms of old names mentioned in the same genealogies; and some, as Sisera, necessarily recall ancient enemies of the Israelites. If it be true that the lines of Jerahmeel and Chelubai are Gentile, it is not at all unlikely that the family of Asshur will be found to follow the same rule. This presumption is rendered still more probable by the fact that the family of Asshur is mentioned shortly after the Horite line of Shobal; that it immediately follows the families of Etam, whose name gives us the Egyptian Athom; and immediately precedes that of Coz, the Choos of Eusebius, whose son Ouenephes or Anubis is the Anub of 1 Chron. iv. 8, and with whom is connected the shepherd king Archles, the Acharchel of the same verse. I need hardly say that in the last mentioned family we also find Bacchus, CEnopion, and Hercules of the Greek mythology. A divine purpose gave to the sacred writers these important Gentile genealogies, and a human hand was permitted by an all-wise Providence to connect them at a certain period of Israelitish history with the genealogies of the twelve tribes.

In 1 Chron. ii. 24, Abiah is given as the name of the mother of Asshur. In the fourth chapter of the same book and at the fifth verse we read: "And Asshur, the father of Tekoa, had two wives, Helah and Naarah. And Naarah bare him Ahuzam, and Hopher, and Temeni, and Haahashtari. These were the sons of Naarah. And the sons of Helah were Zereth, and Jezoar, and Ethnan." The two former of these names, giving to the Hebrew *cheth* the power of *ch* and to *ayin* that of *g*, would be Ashchur, Achuzam, Achashtari. Tekoag, Nagarah, Tzereth, Tzochar, Chelah. I may mention that the *Kri* of the Book of Chronicles replaces the *yod* which gives the initial letter of Jezoar, or, as it should be, Jezohar, by a *vav*, which is the conjunction *and*, so that Zohar or Tzochar is the correct rendering of the Hebrew. In the Septuagint version we meet with important variations. Thus in 1 Chron. ii. 24 we read: "And after the death of Ezron Caleb went to Ephratah; and the wife of Ezron was Abia;

and she bare to him Ascho, the father of Thekoe." In the fourth chapter at the fifth verse also we read: "And to Asour, the father of Thekoe, were two wives, Aoda and Thoada. And Aoda bore to him Ochaia, and Ephal, and Thaiman, and Aasther; all these were the sons of Aoda. And the sons of Thoada, Sereth, and Saar, and Esthanam."

Gesenius looks upon the word Ashchur as identical with Shachar, to become black, with a prosthetic aleph. It is certainly strange that the black Asshurites should be in such verbal opposition to the white Horites. Tekoa, the region of which he is called the father, is not mentioned in the earlier books of the Bible, but the name occurs in 2 Samucl, xiv. 4, and in later books, as well as in the first book of Maccabees. It lies a few miles south of Bethlehem on the borders of the desert. We need not be surprised to find a great name, that of Ashchur, connected with a comparatively small place, since Shobal, whom we have recognized as a chief divinity among many peoples, is spoken of as the father of Kirjath Jearim. It is impossible to reconcile the Hebrew and Greek names of the two wives of Ashchur, nor can any reason be given for the apparent reversion of the order in the mention of their children which appears in the Hebrew. Helah or Chelah is a word almost identical with the geographical names, Halah, designating (2 Kings xvii. 6,) a province of Assyria, and Hali (Joshua xix. 25,) a town in the tribe of Asher. Naarah is plainly the original of the name Naarath or Naaran, by which (Joshua xvi. 7; 1 Chron. vii. 28,) a town on the border of Ephraim was called, and probably of the kindred form Maarath applied to a place in the tribe of Judah (Joshua xv. 59).¹ Achuzam, the eldest son of Naarah, at once recalls the Philistine Achuzzath (Genesis xxvi. 26), the final letter being the sole distinction of the respective names.² In Hopher we find the eponym of an important town and region in Judah (Joshua xii. 17; 1 Kings iv. 10). He likewise connects with the Philistine stock in the town of Zebulon called (Joshua xix. 13; 2 Kings xiv. 25,) Gath Hopher. Temeni, the third son of Naarah, may easily have been the father of the family to which Husham, the king of Edom (Genesis xxxvi. 34), and Eliphaz, the friend of Job (Job ii. 11), belonged, and from which the

¹ Mearah, beside the Sidonians (Joshua xiii. 4), is a name that may geographically as well as philologically connect with that of the wife of Ashchur.

² Azem or Ezem (Joshua xv. 29; 1 Chron. iv. 29), and Azmon (Numbers xxxiv. 4, 5,) agree in situation with the region which we shall find to contain reminiscences of Achuzam.

Edomite Teman may have gained his name through the alliance of his father Eliphaz, or his grandfather Esau, with a Hittite wife. I shall yet show a complete connection of the Ashchurites with the Hittites. But in this Temeni we also find the eponym of the well known city of Timnath (Genesis xxxviii. 12), existing under that name in the time of Jacob. It belonged to the tribe of Judah (Joshua xv. 10, 57), or to Dan (Joshua xix. 43), but was also recognised as a town of the Philistines (Judges xiv. 1, &c.; 2 Chron. xxviii. 18). The youngest son of Naarah was Achashtari. This remarkable name, for which no Hebrew derivation can be found, is by Gesenius referred to the Persian language, and connected with the Persian *ekhshter* (Sanskrit *açwata*), meaning "mule," but also with an analogous form, *khshetra*, signifying "king." I have no hesitation in associating the name of Achashtari with the city of Bashan calle. (Genesis xiv. 5; Deut. i. 4; Joshua xiii. 12, 31; xxi. 27,) Ashtaroth Karnaim, Ashtaroth, and, with the coptic prefix, Beeshterah, as also with the goddess Ashtoreth (Judges ii. 13; x. 6, &c., &c.) The initial letter of the latter word is *ay n*, which is the most fitting representative of the somewhat neutral *cheth* of Achashtari. Ashtaroth is, like Achuzam, Hopher and Temeni, a Philistine name, as appears plainly in 1 Samuel, xxxi. 10.

The Bible connections of the sons of Helah are equally striking. Zereth is the first mentioned. A town of the Reubenites bears the name of this son of the Tekoite, together with that of his father as Zereth Hashachar, equivalent in meaning to Zereth the Ashchurite, or Zereth of Ashchur (Joshua xiii. 19). He is at the same time the eponym of Zarthan, a town of the Manassites (Joshua iii. 16; 1 Kings iv. 12; vii. 46). I would also be disposed to derive Kartan and Kiriathaim of the same region from the name of Zereth, as we find instances of *Tzade* changing to *Koph*, such as Zabar and Kabar, meaning to *heap up, bury*.³ Still more numerous instances of the change of *Tzade* to *Caph* lead me to identify some of the descendants of Zereth with the Cherethites (1 Samuel xxx. 14; Ezekiel xxv. 16, &c., &c.), who are spoken of together with the Philistines. This identification is in part justified by the fact that the brook Cherith

³ Keriath in the south of Judah (Joshua xv. 25), and a place of the same name in Moab (Jeremiah xlviil. 24), also represent Zereth. The Hadattah with which the first Keriath is united at once recalls the derivation of the name of Carthage given by Bochart. In treating of the Phœnician and Punic relationships of the Ashchurites, I shall clearly prove the connection of Carthage with the family of Zereth.

(1 Kings xvii. 3, 5,) flows into the Jordan near the Zereth region proper. Zohar, who comes next in order, gives no difficulty. He is (Genesis xxiii. 8,) the father of Ephron, who dwelt among the children of Heth at Kirjath Arba or Hebron, and who is himself called a Hittite. His son gives their names to at least two places in Palestine (Joshua xv. 9 ; 2 Chron. xiii. 19), but I have not so far found any geographical equivalent for himself. Ithnan (Joshua xv. 23), a town of Judah, may probably be the same word as Ethnan, the name of the last son of Ashchur.

With the family of Ashchur I hope to be able to show that a part, if not the whole, of the great Philistine stock is ethnically connected. I find, therefore, a descendant of Ashchur in the Abimelech who first ruled over a people of this name in the land of Gerar, at the time of the patriarch Abraham (Genesis xx. 2), the successor, or one of the successors of whom numbered Achuzzath among his friends. This first Abimelech was, I think, the Jehaleleel of 1 Chron. iv. 16, whose children are given as Ziph, Ziphah, Tiria, and Asareel. The evidence, altogether ethnic as distinguished from Biblical, points him out as a son of Achuzam, although occasionally it seems to indicate a similar relationship to Zereth. The name Jehaleleel occurs (2 Chron. xxix. 12,) as that of a Levite, and the cognate Mabaleleel, which designates an antediluvian patriarch of the line of Seth, is also found (Nehem. xi. 4,) among the descendants of Pharez, the son of Judah. Similar to these is Nabalol, a town of Zebulon (Joshua xix. 15 ; Judges i. 30), out of which the original inhabitants could not be driven by the Israelites. Equally near is the form Nechaliel (Numbers xxi. 19), a station of the Israelites in their wanderings situated within the territory of Moab. The river which bears the name is identified by Burckhardt with the Waleh, and by Robinson with the Enkheileh or Lejum. Seetzen terms it the Alvale. It is worth observing that the root of Nahaliel, like that of Ahuzam, signifies "possession," and that the word Nahal also denotes a stream or river. The well established connection of the Sanscrit Cali and the Egyptian Nile shows that *n* forms no integral part of this root. Halhul (Joshua xv. 58,) may probably be a reminiscence of Jehaleleel in the south, especially as we find it in the region of Maarath and Ziph. Whatever the Bible term may be which indicated the first abode of this son of Achuzam, his name survives in the mountains of the south known now as Helal and Dhallal, while the Azazimeh

tribes and mountains preserve that of his father.⁴ It is also found in the Wady Khalil with which Khulasa or Elusa must necessarily be associated, these being simply modified and softened forms of the word. This wady is in the region of Gerar and Beersheba where Abimelech dwelt, and the name of Elusa is substituted in the Arabic version of the book of Genesis for Gerar.⁵ It is most natural to find a river bearing the name Khalil, as it corresponds with the application of Nahaliel in the land of Moab to a stream of like character, and as it appears that the name of Nahalol in Zebulun was applied to a tributary of the Kishon, which flowed past it. Zebulun himself seems to have married into a Philistine family, for two of his sons, Elon and Jahleel, have Philistine names, the latter being derived from Jehaleleel. Dimnah also, with Elon and Nahalol in Zebulun (Joshua xxi. 34,) show some analogy to Elon, Timnath, Halhul and Timnah (Joshua xix. 43; xv. 57, 58,) in Dan and Judah. A still better connection, however, for Jehaleleel is found in the Hebrew of Isaiah xiv. 12, where the expression "Lucifer, son of the morning," is Helel, son of Shachar, the latter word being the same as that united with the name of Zereth. Reasons will yet appear to justify the supposition that the prophet made use of historical fact to illustrate the fall of Babylon, or that the name employed by him had at one time historical significance.

Ziph, the eldest son of Jehaleleel, gave his name,—which means "flowing," and is akin to Zepheth, *pitch* or *naphtha* (the latter words being identical),—to a town in Judah, mentioned in Joshua xv. 55, 1 Samuel xxiii. 14, &c., 2 Chron. xi. 8, and to another town in the south (Joshua xv. 24). The former Ziph is a place of caves. The forms of this root, in which *Tzade* takes the place of *Zain* and which retain the same primary meaning, are worthy of attention. Such are Zephath and Zephathah, the latter near Mareshah. Now (1 Chron. ii. 42,) Mesha, another father of Ziph, and Mareshah, the father of Hebron, are united. The name Mesha only occurs once again in Scripture as that of a Moabite king (2 Kings iii. 4,) to whose history the recent discovery of the Moabite stone has turned the attention of the Christian world. Other connecting terms are Achzib, now Dsib, which designates a town in Asher (Joshua xix. 29; Judges i. 31),

⁴ Vide Palmer's Desert of the Exodus and article on "The desert of the Tih and the country of Moab" in the Quarterly Statement (January, 1871,) of the Palestine Exploration Fund.

⁵ Robinson's Biblical Researches, i. 202.

and one in Judah (Joshua xv. 44; Micah i. 14), united with Mareshah, and a place called Nezib. The town of Judah is probably the same as that known as Chezib and Chozeba (Genesis xxxviii. 5; 1 Chron. iv. 22), which, in the latter reference, shows Moabite relationships, thus confirming what has already more than once presented itself—the ethnical identity of Moab's earliest population with those of parts of Judæa and the region to the north of Carmel. We do not find any Ziph in Moab, but Zophim is the name of the place to which Balak brought Balaam that he might curse Israel, and to the north in the land of Gilead is Zaphon (Numbers xxiii. 14; Joshua xiii. 27). This last named town is situated to the west of a wide district called Mizpeh, a name applied to two regions at least beyond Jordan, in Gad and Reuben or of Gilead and of Moab, (Judges xi. 29; 1 Samuel xxii. 3). There is a Mizpeh (Joshua xi. 3,) farther to the north under Hermon; another (Joshua xv. 38,) in Judah; and a still more famous one than any yet mentioned (Joshua xviii. 26,) in Benjamin. With the latter, Gilgal is associated, and this word, with Galilee, is but a form of the name Jehaleleel. Galilee of the Philistines occurs in Joshua xiii. 2, Joel iii. 4, and in the apocryphal 1 Maccabees v. 15. The Septuagint agrees with our English version in translating the Geliloth of Joshua by "borders," but renders the same expression in Joel "Galilæa." A king of the nations of Gilgal fell before the arms of Joshua (Joshua xii. 23), and his territory seems to have been not far from Carmel. With Ziph, since *Za'in* and *Samech* are often interchanged, we may also possibly connect Suph (Deut. i. 1), a name of the Red Sea as it is supposed, and intimately related to Baal Zephon (Exodus xiv. 2). A similar form is presented in Saph or Sippai (2 Samuel xxi. 18; 1 Chron. xx. 4), the name of a Philistine giant spoken of together with Goliath of Gath. All that has been said in regard to Ziph applies to the name of the daughter of Jehaleleel, Ziphah, which differs only by the addition of a final *he*. Tiria is very hard to identify geographically. It is possible that Atharim in the south country (Numbers xxi. 1,) and Jattir in Judah (Joshua xv. 48,) may be reminiscences of this brother of Ziph. Beyond Jordan the regions called Bithron (2 Samuel ii. 29,) and Edrei (Numbers xxi. 33,) may give corruptions of this name. Even Tirzah (Joshua xii. 24,) and the place from which the Tirathites of 1 Chron. ii. 55 came, should not be disregarded, although I am far from asserting that these, or

any of the names mentioned, had their origin in that of Tiria. There are, however, geographical names still surviving in the south, such as Dhahariyeh and Datraiyeih near the Khalil, with Hadhira, Taraibeh, Madherah and Tarfa not far off, which, along with Azazimeh, Sufah and Shahabiyeh, give us what, I think, are good indications of the whole family of Achuzam having once resided there. Tell Zif, Wady Khashebeh, Kescifeh and the Jehallin Arabs, all in the same region, lend additional weight to the opinion.* Asareel is the fourth of the grandsons of Achuzam, and his name keeps up, to a certain extent, the remembrance of Ashchur. Two Israelite names connect with his,—those of Asriel (Numbers xxvi. 31), a son of Gilead or (1 Chron. vii. 14,) of Manasseh, and of Asarelah (1 Chron. xxv. 2, 14), a son of Asaph. Another Levite is called Assir, a word of the same meaning and form (Exodus vi. 24). In 2 Samuel ii. 9 we find the Ashurites mentioned as a people dwelling near Gilead. They are not Israelites, and may be of this Asareel or of his ancestor Ashchur. Gesenius has shown that the word Asherah, generally translated "grove," is the name of a god, as appears from 2 Kings xxiii. 6, and other passages in which it occurs. It may, perhaps, be associated with the Ashchur line, and possibly with Asareel. Azareel (1 Chron. xii. 6) is, like Asarelah and Assir, a Levitical name. It appears also in 1 Chron. xxv. 18 and Nehem. xi. 13, in connection with the same family; but in 1 Chron. xxvii. 22, it belongs to the tribe of Dan, and in Ezra x. 41 to an Israelite whose line is not mentioned. Azriel agrees with Asriel in pertaining to the tribe of Manasseh (1 Chron. v. 24), although (1 Chron. xxvii. 19,) it also belongs to Naphtali. It is worthy of note that with Azareel among the Levites we find Milalai, Gilalai (Nehem. xii. 36), Galal (1 Chron. ix. 15, 16), Zuph, Zophai or Ziph (1 Chron. vi. 26, 35). The patriarch Levi may have married into the family of Asareel. Since we find that Asareel and Azareel, although words of different form, are related, it is not impossible that the Ezra of 1 Chron. iv. 17, instead of being, as many commentators suppose, a son of Asareel, is the same person. A station of the Israelites named Mosera or Moseroth, without doing any violence to etymology as in former cases, may fitly be a memorial of the youngest son of Jehaleleel. It is mentioned (Numbers xxxiii. 30,) very soon after Tarah. From this place the Mishraitcs (1 Chron.

* Vide Note 4; also Ritter's Comparative Geography of Palestine.

ii. 53,) might have derived their name, the Ithrites of the same verse coming from Tiria. It is true these are names of families connected with the Horite Shobal, but the connection may have been by marriage and not by descent. The Philistine valley of Sorek (Judges xvi. 4) may follow the same rule as Sebek, which is the equivalent of Shobal, and exhibit an abbreviated form of Azrikam, a Levitical name (1 Chron. ix. 14; 2 Chron. xxviii. 7), like Azareel and Asarelah.

I cannot doubt that the family of Ezra (1 Chron. iv. 17,) belongs to the line of Ashchur, but it has also certain connections with the family of Etam in Penuel, the father of Gedor, and Ezer the father of Hushah (1 Chron. iv. 4), the latter of whom may indeed be the same person as Ezra, so that it may have come into the Ashchur genealogies by marriage. In Gilead we find Jazer, which is Ezra, Gadara, Succoth and Moorad. Jered's memorial is the Jordan itself, and Joktheel commemorates Jekuthiel. I reserve the full consideration of this family for another paper, although I may occasionally refer to it in passing when its names shed light upon the story of the main line. I may mention, however, that there is a Jehudijeh (1 Chron. iv. 18,) in the valley of Sorek and another in Moab.

In 1 Chron. iv. 13 we read of Kenaz and his descendants. In them I think I have found the posterity of Hopher, the second son of Ashchur,—Kenaz being probably his son. The name designates a tribe of great antiquity (Genesis xv. 19), the abode of which seems to have been east of Jordan, and is doubtless the same as Kenath, a town lying to the east of Hermon, now called Kanneytra. This name, with other Hittite or Philistine appellations, was adopted into the family of Esau, for it is borne by a son of Eliphaz. We find it, however, as the patronymic of Caleb the son of Jephunneh (Numbers xxxii. 12), and accordingly he is mentioned in the genealogy of the Kenezite stock (1 Chron. iv. 15). Ashkenaz (Genesis x. 3; Jeremiah li. 27,) may, by its connection with this name, point out the ancestor of the whole Ashchurite line. Gimzo (2 Chron. xxviii. 18), taken by the Philistines with Timnah in the days of Ahaz, and the Gamma-dims (Ezekiel xxvii. 11), soldiers of Tyre, may be corruptions of the same word. Jokneam (Joshua xii. 22; xix. 11), near Carmel, from its proximity to Hopher, may also present us with a disguised form of Kenaz. Michmash (1 Samuel xiii. 2), a city of Benjamin, and Michmetha (Joshua xvi. 16), on the borders of Ephraim and Manasseh,—

the latter being situated upon the river Kanah (Joshua xvi. 8), corresponding in name with a Kanah (Joshua xix. 28) not far from Tyre,—can be derived from it without any etymological difficulty. The sons of this Kenaz are Othniel and Seraiah. The former name continued in the family, and (Joshua xv. 17,) designates the son of another Kenaz, who is the brother of Caleb, the son of Jephunneh. From Judges i. 13; iii. 9, we learn that Kenaz was the younger brother of Caleb, and he certainly is not the Kenaz of 1 Chron. iv. 13. I have not found any place in Palestine named after him, with the exception of Sitnah, which may perhaps, like other places mentioned in the history of the patriarchs, have been used (the name being previously in existence) to denote the circumstances connected with its history in the days of Isaac (Genesis xxvi. 21). He may, however, have been the first to name this locality. My reason for supposing it possible that Sitnah might be a reminiscence of the elder Othniel, is that his name in the Septuagint, Godoniel, is the Greek Sthenelus, the Irish O'Donnell, the Scotch Donald, the Slavonic Stanislas and the Gnostic Sathanael, which gives us the Hebrew Satan without the final *el*. Reasons will yet appear for this remarkable application of a name belonging to the family of one of the most perfect characters of Bible story. In the meantime I may simply premise by stating that the Adonis river of Phœnicia likewise commemorates the elder Othniel and the Tammuz whose worship was abhorred. With Othniel are connected as his descendants Hathath, Meonothai and Ophrah. The first of these is the same word as Heth or Cheth, with reduplication of the final letter. Meonothai is of the same root as Maon, which has appeared as the name of a descendant of an older Caleb, the brother of Jerahmeel. In Ophrah, however, we find something distinctive, and by which we are enabled in a measure to trace the history of his descendants. His name is mentioned (Joshua xviii. 23; 1 Samuel xiii. 17,) as that of a town in Benjamin, for which, in Micah i. 10, we read Beth Leophrah. It also appears (Judges vi. 11; viii. 32,) designating a town of the Abiezrites. The brother of Othniel is Seraiah, and his name is by no means an uncommon one. It may, perhaps, connect geographically with Sirion, the Sidonian name for Hermon. His son was Joab, who was the father of the valley of the Charashim. In Nehem. xi. 35, this valley of the craftsmen is joined with Lod and Ono. Its name occurs again (Judges iv. 2,) as Harosheth of the Gentiles. The wood of Hareth (1 Samuel xxii. 5),

in Judah is identical in form with the Harash of 1 Chron. iv. 14. Joab, who is called the father of the valley of the craftsmen or Charashim, may have left its title to the Ataroth Beth Joab of 1 Chron. ii. 54. In Gad, or the region of Moab, there were two places called Ataroth (Numbers xxxii. 34,) and Ataroth Shophan (v. 35.) In Ephraim lay another Ataroth, sometimes called Ataroth Adar (Joshua xvi. 5, 7, &c.) It is possible that Ataroth Beth Joab was in the territory of Judah. Ataroth itself as a proper name first appears in Atarah (1 Chron. ii. 26,) who was the wife of Jerahmeel and the mother of Onam either by him or by Shobal the Horite (Genesis xxxvi. 23). The fact of Ono lying in the vicinity of Ataroth and the valley of the craftsmen may indicate some real relationship between this branch of the line of Kenaz and that of Onam. It is worthy of note that Lod and Ono, with the towns thereof, were built by Eber, Misham and Shamed, sons of Elpaal and grandsons of one Shaharaim (an Ashchurite name), who begat Elpaal and other sons in the country of Moab (1 Chron. viii. 8, 12).

There is another family which naturally connects itself with the Ashchurite line. It is that of Arba. This was the name of the city in which Ephron the son of Zohar dwelt, for we learn that Hebron is Kirjath Arba (Genesis xxiii. 2). The only Arba of whom we read is the father of Anak, who was himself the father of Sheshai, Ahiman and Talmai, whom Caleb drove out of Hebron (Joshua xv. 13, 14). Aruboth (1 Kings iv. 10), connected with the land of Hopher, is probably another place which takes its name from this ancient hero. His son Anak gives name to the Anakim spoken of in many parts of the Pentateuch, a remnant of whom survived in Philistia (Joshua xi. 21, 22). These Anakim seem to have descended from the Rephaim who dwelt originally in Ashteroth Karnaim (Genesis xiv. 5), and of whom (Deut. iii. 11,) Og is said to have been the last in that land. There was a valley of the Rephaim south-west of Jerusalem (Joshua xv. 8, xviii. 16; 2 Samuel v. 18, 22; Isaiah xvii. 5), and it is this valley which Jeremiah (xlvii. 5,) connects with Ashkelon. The Philistine family to which Saph belonged is that of the Rephaim (1 Chron. xx. 4). Beth Rapha is mentioned (1 Chron. iv. 12,) as a house descended from Eshton, the son of Mehir, the son of Chelub who is brother of a certain Shuah. Another Rapha (1 Chron. viii. 2,) is given in a remarkable genealogy as a son of Benjamin. We do not find the Anakim positively connected with the Rephaim, but

both of these names designate portions of the great Philistine stock. Geographical connections have already been found for the father of Anak. His own name survived in Taanach in the region of Carmel (Joshua xii. 21), the king of which fell before Joshua, but out of which the inhabitants were not expelled by the Israelites (Judges i. 27). In the last passage quoted and in 1 Kings iv. 12, Taanach is joined with Beth Shean, as also in Joshua xvii. 11. The latter town was in the possession of the Philistines (1 Samuel xxxi. 10), and in the Septuagint version, at Judges i. 27, is called Scythopolis. In Jeremiah xlvi. 45, which contains a quotation of the same song that appears in Numbers xxi. 27, united with the prophecy of Balaam (Numbers xxiv. 16), the "sons of Sheth" (Numbers xxiv. 17) is rendered "sons of Shac." and is translated in our English version "the tumultuous ones." The preceding expression "crown of the head," or "Kadkod," should, I think, plainly be Karkor, the name of a place east of Jordan (Judges viii. 10), with which Kir of Moab, Kircheres or Kerrek, as it is now called, may connect. The sons of Sheth are the Philistines or Phili-Sheth, as the Hebrew gives it, and the land of Moab where they first dwelt contained a region called the valley of Shittim (Numbers xxv. 1; Joshua ii. 1; iii. 1; Joel iii. 18; Micah vi. 5). The fact of the Shittah being the acacia by no means interferes with this ethnic connection, for the acacia ever remained the sacred tree of the Shethites, and in its very name of acacia commemorates the eldest son of Ashchur. I may mention in passing that Sheth and Baal are found as convertible terms, as in the case of Jerubbaal (Judges vi. 32), Eshbaal (1 Chron. viii. 33), and Meribbaal, who are also named Jerubbesheth (2 Samuel xi. 21), Ishbosheth and Mephibosheth (2 Samuel ii. 8; iv. 4). To return to the Arbathites, we find no reminiscence of Sheshai, the eldest son of Anak; but Achiman may be the progenitor of the Hachmonites (1 Chron. xi. 11), and some unknown city derived from him may have furnished the Tachmonites (2 Samuel xxiii. 8). Talmal appears again as the name of a king of Geshur (2 Samuel iii. 3; xiii. 37). There is a Geshur connected with the Philistines (Joshua xiii. 2; 1 Samuel xxvii. 8), but with which the latter were sometimes at war. The Geshur of which the Talmals were kings was in the north at the foot of Hermon, near Maachah (Deut. iii. 14; Joshua xiii. 13; 1 Chron. ii. 23). It is rather remarkable that the names of Ahiman and Talmon appear among the porters of the tabernacle (1 Chron. ix.

17). The form of the name which we find in Talmon at once leads to Telem or Telaim (Joshua xv. 24 ; 1 Samuel xv. 4), in the south of Palestine near or in the region of the Geshurites. The connection of the remnant of the valley with Ashkelon (Jeremiah xlvi. 5), the fact of Eschol being near Hebron or Kirjath Arba (Numbers xiii. 22, 23,) and of its earliest name being Mamre (Genesis xiii. 18), together with the identity of Aner and Taanach (Joshua xxi. 25 ; comp. 1 Chron. vi. 70), would almost lead to a suspicion that the Amorites, Aner, Eschol and Mamre (Genesis xiv. 24,) had contributed to the Philistine stock.

Still another sub-family, more important however in some respects than any yet under consideration, is that of Coz (1 Chron. iv. 8), the mention of which immediately follows the notice of the sons of Ashchur. This Coz was not a son of any Ashchurite, but a grandson of one of them, his father being Ammon, the son of Lot, who married a Hittite wife. There seems to be evidence that Coz himself married Ziphah the daughter of Jehaleleel, from which connection the name of his own daughter Zobebah may have arisen, his son being Anub, or, giving to the *ayin* its full value, Ganub. From him also are derived the families of Aharhel or Acharchel, the son of Harum, and in all probability the Jabez of the ninth verse, who alone is deemed worthy of special commendation. The name of Koz survived in the tribe of Levi (1 Chron. xxiv. 10 ; Ezra ii. 61, &c.), and there was a valley of Keziz in Benjamin (Joshua xviii. 21). We may also find it in Hukkuk (Joshua xix. 34), a town of Naphtali or Asher, along with which occurs Hammon (1 Chron. vi. 76). More natural, however, is the connection with Eth or Ittah-Kazin, a town of Zebulun. Kattath (Joshua xix. 15), another town of Zebulun may simply present a different form of the same root. There is a Kirjath Chuzoth in Moab (Numbers xxii. 39), which might possibly be a reminiscence of the son of Ammon, and a Makaz in Dan (1 Kings iv. 9). Many recently discovered names in Palestine and the country of Ammon present points of resemblance more or less complete with that of Coz. His son Anub gave its name to a town in the mountains of Judah, inhabited at one time by the Anakim (Joshua xi. 21 ; xv. 50). The nearest name of a person is that of a son of Hadad the Edomite, by Tahpenes the daughter of Pharaoh (1 Kings xi. 20,) called Genubath. I think it not impossible that Nebo of Moab (Numbers xxxii. 3 ; Isaiah xv. 2 ; xli. 1,) and Nebo

of Judah (Ezra ii. 29 ; Nehemiah vii. 33,) may come from the same word, having lost the initial *ayin*. Nibhaz, the idol of the Avites (2 Kings xvii. 31), which the Jewish interpreters imagine to have borne the figure of a dog, is no doubt this Anub, corresponding with the Egyptian Anubis. A city of Benjamin called Nob is mentioned (1 Samuel xxi. 1 ; Nehemiah xi. 32 ; Isaiah x. 32), which, like Nebo, especially from its connection with a Judean Madmannah, in the latter reference answering to Madmen of Moab, may be a corruption of the name of the son of Coz. Even Ishbi-benob, the son of the giant (2 Samuel xxi. 16), may have taken his name from the Replhaim or Anakim who were expelled from Anub. The sister of Anub was Zobebah. I have not discovered any Bible connection for this name, unless it survive in Baal-Zebub, the god of Ekron ; but Kubeibeh near Ziklag and Sukkariyeh (an Ashchurite form), Kubab not far from Enab and Nuba, and many similar names in Palestine, commemorate this Ammonian princess.⁷ Haruni suggests Hermon and many similar names, as well as the Greek Hermes. His son Acharchel bears a name akin to that of Aharah, a son of Benjamin (1 Chron. viii. 1), or rather, as it seems to me, of Jamin, son of Ram (hence Ha-ram), mentioned in 1 Chron. ii. 27 ; vii. 6, the connection being by marriage, perhaps with Zobebah. A similar name, which, like the majority of those mentioned in Scripture, is susceptible of a Hebrew meaning, although it by no means follows that such was its interpretation, is that of Barachel the Buzite, of the kindred of Ram (Job xxxii. 2), who has been unnecessarily supposed to descend from Buz, the uncle of Aram (Genesis xxii. 21), because Huz, the brother of this Buz, may have given his name to the place in which Job dwelt. There is also a Berachah among the mighty men of David (1 Chron. xii. 3). There are several reasons for connecting with the name of Aharhel that of Barzillai the Gileadite (2 Samuel xvii. 27, &c.) The root of this name is Barzil, signifying "iron," and the same metal was sacred to the Assyrian Bar-il or Hercules, who is united with Ninip or Anub.⁸ The region inhabited by Barzillai was (2 Samuel xix. 31,) Rogelim in Gilead, a name which connects at once with Acharchel. In Ezra ii. 61, the children of Coz and those of Barzillai are spoken of together, the Levites bearing these names having married into the

⁷ Ritter, iii. 248 ; iv. 235.

⁸ Rawlinson's Herodotus ; appendix, Book i ; Essay x.

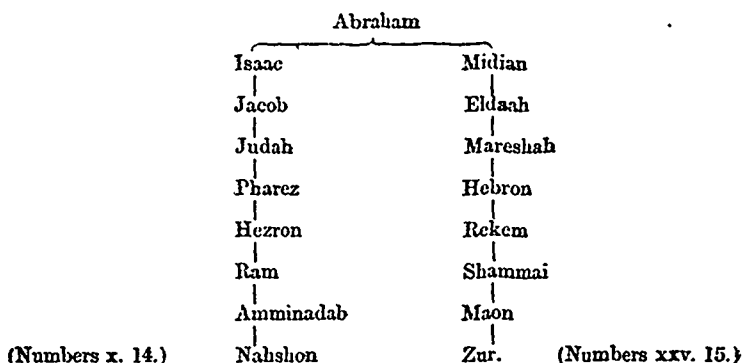
Gentile families which originally bore them. It is possible that Barachel the Buzite may be descended from the Buz of 1 Chron. v. 14, who is reckoned among the Gadites, and who dwelt in the land of Gilead. Karkor in the same region, already connected with the family of Sheth, and Karkaa in the south of Palestine (Joshua xv. 3), may not unreasonably be supposed to relate to this distinguished name as well as the Kirs of Moab. Maralah in Zebulun (Joshua xix. 11,) strengthens the evidence already afforded by the presence of Cozite names in the territory of that tribe. Nergal, the god of the Cuthites (2 Kings xvii. 30), is appropriately mentioned in that part of Scripture, together with his near relative Nibhaz of the Avites. The Cuthites are themselves not improbably the descendants of Coz. David sent presents of his spoil to the people of Rachal, a town in the south of Judah, who are distinguished from the Israelites equally with the Jerahmeelites and Kenites. Taralah of Benjamin (Joshua xviii. 27), mentioned together with the valley of Keziz, may be a later form of the name of Aharhel. It has the local prefix which we find in Taanach and other names of places derived from proper names, and which may be the remnant of the Coptic *Eit*. The only other member of the family of Coz, or whom we may presume to be of his family, is Jabez. In the last verse of 1 Chron. ii. we read of a place called Jabez, inhabited by three families of Kenite scribes. This place is mentioned nowhere else in the Bible. There is, however, a Thebez (Judges ix. 50,) near Shechem, which is of the same form. I am convinced, however, that the Jabez mentioned in 1 Chron. ii. 55 is Thebes in Egypt, which is read in hieroglyphic without the T prefix, and which is the city of Ammon, the father of Coz, and ancestor of him who was more honourable than his brethren, the Palestinian Thebez being a mere reminiscence of the earlier Egyptian city. A shortened and corrupted form of the name of Jabez is found in the Jabesh by which a portion of Gilead was distinguished from other portions (Judges xxi. 8, &c). Abes in Issachar (Joshua xix. 20,) is a nearer and more natural variation of Jabez. Many names in Jiph, such as Jiphah, may be derived from this word. A hardened form of Jabez, with the common affix *el*, would furnish us with Kabzeel or Jekabzeel (Joshua xv. 21; 2 Samuel xxiii. 20; Nehem. xi. 25). This is the more probable, since in Ephraim near Thebez, if it be not identical with it, there was a Kibzaim (Joshua xxi. 22). Magbish, mentioned along with Nebo (Ezra ii. 30), has the

same meaning, that of collecting or congregating, as the former words, and is no doubt of the same origin.

The family which follows that of Coz I have already alluded to in connection with the Rephaim. That it is also Ammonian appears from the mention of Ir Nahash or the city of Nahash, a place found in no part of Judah, and all the relations of which are Ammonian (1 Samuel xi. 1; 2 Samuel x. 2). In 2 Samuel xvii. 27, Shobi, the son of Nahash, and Barzillai the Gileadite, with a certain Machir whose name may have come from Mehir the father of Eshton (1 Chron. iv. 11), are spoken of together as friends of David in his time of adversity when he passed over Jordan. It is hard to say who the Shuah is that is here mentioned (1 Chron. iv. 11). Judah married the daughter of a Canaanite whose name is almost identical with his (Genesis xxxviii. 2), and Chelub may have been his brother; but if an Ammonian, why should he be called a Canaanite? The name Chelub occurs again (1 Chron. xxvii. 26,) as that of the father of one of David's servants. Now David had Ammonites in his service (1 Chron. xi. 39), and Chelub may have remained an Ammonite name. Gilboa in Issachar may possibly relate to this word, with Chelbah and Achlab in Asher (Judges i. 31), and Chelbon in Syria (Ezekiel xxvii. 18). Mehir does not occur again in the Bible, but a closely related word is Machir, the name of a son of Manasseh. We have already met with another Machir of Lo-debar in Gilead, who is mentioned along with Barzillai and Shobi, the son of Nahash. To his family and that of Mehir or Mechir must have belonged Hephher the Mecherathite (1 Chron. xi. 36). It is not improbable that Maharai the Netophathite, mentioned together with Cheleb, another Netophathite (2 Samuel xxiii. 28, 29), his name being in meaning identical with that of Mehir, may be of the same line. I have not yet found any name of person or place that will represent Eshton. Eshtaol and Eshtemoa are similar forms, but do not appear to be more than philologically connected. For Beth Rapha I have already suggested a Philistine relationship. Paseah is a name that occurs not unfrequently. It is remarkable that in the family of Asher (1 Chron. vii. 33), which contains more than one Shua, there should be a Pasach and an Ashvath. The appearance of Paseach among the Nethinim has already been noted. Tiph-sach (1 Kings iv. 24,) or Thapsacus on the Euphrates, and a place of the same name (2 Kings xv. 16), spoken of in connection with Tirzah and Samaria,

are derived from Paseach. It is also very likely that Pisgah of Moab (Numbers xxi. 20, &c.) comes from the same word, and that Ashdoth prefixed to it is a form of Eshton. With Paseach as a son of Eshton we find Tehinnah, the father or founder of the unknown Ir-Nahash. In Numbers xxvi. 35 and 1 Chron. vii. 25 we have a Tahan given as a descendant of Ephraim, who, strange to say, descends from a Replah. Tochen, a town of the Simeonites (1 Chron. iv. 32), may have taken its name from Tehinnah. Taanath Shiloh (Joshua xvi. 6), a region in Ephraim, might possibly be a reminiscence of Tahan or Tochen in the south. It is said concerning this family, "these are the men of Rechah." The word Rechah may be the same as Archi, a town's name in Ephraim (Joshua xvi. 2), from which, or from the family represented by which, Hushai the friend of David came (2 Samuel xv. 32). Since Thapsacus is derived from Paseach, it is not improbable that the Archevites of Ezra iv. 9 are also the men of Rechah.

The only other family to which I at present direct attention is one that is twice mentioned in the Book of Chronicles, that of Mareshah. In 1 Chron. iv. 21 he is made the son of Laadah, and represented as a grandson of Shelah, the son of Judah, by the daughter of Shuah, the Canaanite. In 1 Chron. ii. 42 his children are counted to Caleb, the brother of Jerahmeel, along with Mesha, the father of Ziph, who has already been under consideration. The only son who is definitely given him is Hebron, but from this son came Korah, Tappuah, Rekem and Shema. Three generations are reckoned from Rekem,—Shammai, Maon and Beth-Zur. Two are reckoned from Shema,—Raham and Jorkoam. The name Laadah does not occur again, but Laadan is a son of Tahan, the Ephraimite (1 Chron. vii. 26), and appears also among the Levites (1 Chron. xxiii. 7, &c.) Similar names in the family of Ephraim are Eladah and Elead (1 Chron. vii. 20, 21). Merodach Baladan in the second part of his title agrees somewhat in form with Laadah, the first part being a corruption of Mareshah. Eldaah, a son of Midian, bears a somewhat similar name, and the Midianite character of Rekem and Zur have already been alluded to. It is quite possible that the Zur here given as a son of Maon might be the Zur of Numbers xxv. 15, taking Laadah as the same person with Eldaah.



As I shall yet prove that Mareshah was the contemporary of Joseph, though somewhat older than he, this identification of Laadah and Eldaah is rendered more probable. However, I do not by any means positively assert that they are the same. There are philological difficulties in the way which I would not, without the strongest reasons, overstep. The name of Mareshah appears frequently in the Bible, denoting a town in Judah (Joshua xv. 44 ; 2 Chron. xi. 8, &c.,) connecting with the Ziph region, and a place where Micah the prophet was born, termed Moreseth-Gath (Micah i. 14). Merodach, in its Arabic form of Mirrikh, may, as I have already stated, easily be a corruption of this word. Mars, the Latin form of the name of the same god, is nearer still, and Ares of the Greek is simply Mareshah without the prefix M. The son of Mareshah possessed one of the most noted of all regions in Palestine, that of Hebron. It is as difficult to say at what particular time the city of Mamre (Genesis xxiii. 19) became Hebron, as it is to tell when it acquired the name of Kirjath Arba, or what relations existed between the families represented by these names. To decide these questions we would require a full history of the time during which the Israelites sojourned in Canaan and dwelt in Egypt, which I trust will soon be ours. The only other Hebron of whom I find mention is a son of Kohath, the Levite (Exodus vi. 18, &c). Of the sons of Hebron, son of Mareshah, Korah bears the same name as a son of Esau by Aholi'amah. Also (Exodus vi. 21,) there is a Korah who is a nephew of Hebron the Levite. I have already queried Kerrek of Moab for Karkor of the Philistines and Acharchel. The meaning of the word as it appears in other languages (*e.g.* Gargarus, the snowy) would rather justify its

connection with this Korah, whose name signifies *ice*. Tappuah named at least two towns, one in Judah (Joshua xii. 17 ; xv. 34,) and another on the borders of Ephraim and Manasseh (Joshua xvi. 8). We have already found Rekem as the name of a Midianite king (Joshua xiii. 21), but he was much later than the son of Hebron. There is a Rakem in the line of Manasseh (1 Chron. vii. 16), as there are Landah-like names in the family of Ephraim, suggesting some relationship between the houses of Joseph and Mareshah. In Benjamin (Joshua xviii. 27,) we find a town called Rekem. The son of Rekem was Shammai. Many persons bore this name; among others a son of Onam mentioned in the same chapter (1 Chron. ii. 28), and a descendant of Ezra (1 Chron. iv. 17). Little, therefore, can be gleaned from it but the possibility of some connection among the families in which it is found. Maon has already been under consideration. Beth Zur is mentioned (Joshua xv. 38) as not far from Hebron, Beth-Tappuah and Maon. It was one of the cities rebuilt or fortified by Rehoboam (2 Chron. xi. 7), Mareshah and Hebron being two others. Shema, the brother of Rekem, may, from the form of his name, containing as it does a final *ayin*, have been the progenitor of the Shimeathites of 1 Chron. ii. 55 ; but this honour he must at present share in hope with Shema of Joel (1 Chron. v. 8,) and Shema of Elpaal (1 Chron. viii. 13). There was a town of this name in the south of Judah (Joshua xv. 26). He was the father of Raham, a form that appears once more in the Rehun who ruled under Artaxerxes in Samaria (Ezra iv. 8), with whose name it may or may not have relations. But Jorkoam, the son of Raham, in all likelihood gave Rakkon and Mejarkon to the territory of Dan, and perhaps Rakkath to Naphtali (Joshua xix. 46, 35). The Zerka river of travellers in the Holy Land, which they place between Joppa and Dor, must be a reminiscence of the "yellow" stream which Jorkoam named, and a still more perfect form of which is presented in the Zerka Main of the land of Moab that flows into the Dead Sea.

The eight families passed in review are intimately connected in the history of Egypt and of the so-called Shepherd Kings, both in that land and in Palestine and the surrounding countries. Those of Jerahmeel and Etan (1 Chron. ii. 25 ; iv. 3,) also appear in the history, but more obscurely and in a manner that does not warrant the complications which would necessarily arise from their introduction at this time.

It is tiresome to be compelled continually to explain and defend one's mode of procedure in connection with any discovery; but as there are many who, granting much of what I have already stated, will refuse to listen to more satisfactory evidence for ethnical identity, because it unites sacred and profane narratives or records, and embraces the antiquities of a great part of the civilized world in its comparison, I find it necessary again to state as briefly as possible the grounds on which my inductive argument proceeds, and the reasons which justify its mode of procedure. These grounds are as follow :

I. *In regard to the Bible.*—That although, in the postdiluvian period of which it treats, it deals principally with the history of the Israelites and their progenitors, it nowhere ignores surrounding peoples and Gentile families with whom they came into contact in Palestine and other lands; that it gives genuine historical notices of these, and, at times, genealogies more or less complete, such as those of the Horites; that it expressly asserts the Egyptian origin or derivation of certain nations inhabiting Palestine, as the Philistines and Caphtorim; that it mentions peoples as inhabiting Palestine who have been proved to be of Japhetic or Indo-European origin, e.g. the Cherethites or Cretans; that it indicates the presence in Palestine of many nationalities as late, at least, as the time of David, which are not of Israelitish origin, and which are not necessarily Hamitic or Shemitic, e.g. the captains or chief men of David's army; that the first chapters of the First Book of Chronicles contain many Gentile genealogies, giving presumptive evidence that most of these genealogies are Gentile; that the line of Asshur, the father of Tekoa, there mentioned, exhibits clear relationship with the Philistine stock; that the geographical names of the Bible, designating places in Philistia and in the whole of Palestine are, as Dr. Hyde Clarke has shewn, equally the property of the classical areas of Greece, Italy, Asia Minor, &c.; that it affords no evidence, but rather the contrary, of the Japhetic or Indo-European families having passed beyond the bounds of the region with which its early history is concerned.

II. *In regard to Egyptian history.*—That, spite of the records which have been handed down from antiquity, the ancient monuments recently deciphered, and the vast amount of labour expended upon the elucidation of both of these, the history of Egypt is almost a *terra incog-*

nita—the greatest uncertainty prevailing as to its chronology, the order and succession of its dynasties and sovereigns, as well as to the origin of its varied population ; that its most intimate relations were with Palestine, and anything tending to throw light upon the history of the latter country must necessarily be of value to the Egyptologist ; that its ruling families from the beginning of monarchy were Caucasian, and came into Egypt from the north-east ; that the first of these families in point of order and importance was that of the Auritæ or Horites ; that the Shepherd Kings shew intimate connections with the tribes which, after their expulsion, waged constant wars with the Pharaohs, and whose residence was found principally in Philistia and the land of Moab ; that there is presumptive evidence of no ordinary character for the identity of the Philistines and the Shepherd line ; that the records of Egyptian monarchy show many remarkable analogies with the order and character of the names in the fourth chapter of the First Book of Chronicles, some of which (those of the Horites) have been proved to belong to Egypt ; that there was in Egypt a family of Shethites persistently opposed to the Horite dynasties.

III. *In regard to other histories and mythologies.*—That, while the ancient records of historical peoples (Phœnicians, Assyrians and Babylonians, Arabians, Persians, Indians, stocks of Asia Minor, Greece, Italy, &c.) do contain names and traditions which the Neo-Platonic school of mythologists can torture into solar allegories and elaborate systems of nature worship, there is no evidence that such was the origin of these names and traditions, and there remains, after the utmost efforts of their ingenuity have been put forth upon them, an immeasurably larger residuum of unresolvable facts bearing all the marks of historical origin ; that the history of these various peoples is so indissolubly bound up with their mythology that it is impossible to tell where one ends and the other begins, and that he who allegorizes the one is logically obliged to do the same with the other ; that the mythologies and early histories of all these peoples have well established points of connection one with another, extending to identity of names, genealogies and related circumstances, so that Faber's conclusion, which refers this to the fact of their having dwelt at one time in intimate contact, is the only possible solution of the problem presented by comparative mythology ; that all these mythologies, or corrupted fragments of history, refer to Egypt,

Palestine and neighbouring regions as the earliest home of the nations among whom they are found ; that the recent discoveries in Nineveh, Babylon and parts of Chaldea have established the historical character of many so-called myths ; that the monuments of Asia Minor, Greece, Italy, India, &c., are more recent by many ages than those of Egypt, Assyria and the intervening countries, which, however, they more or less resemble, not because the civilization of the former was later in developing itself, but because the home of the peoples who afterwards occupied these lands was for those many ages within the latter area, and their national existence was during that time merged in that of these eastern empires ; that, however, the geographical names and ethnical designations of these peoples are found upon the ancient monuments of Egypt, Assyria, &c., not referring to tribes dwelling at a great distance but within an area bounded by Taurus and Anti-Taurus on the north, a line drawn from the Caspian to the Persian Gulf on the east, the Mediterranean and Libya on the west.

As to my mode of procedure in making and stating the discovery with which this paper is concerned, it may be termed philological, inasmuch as it is based upon a comparison of names of men and places mentioned in different histories and mythologies and found in different parts of the world. Such a comparison of names has always been lawful for the student of history. More than that, it has often been the only process possible, both in regard to ancient documentary evidence and the comparison of it with that which is monumental. In pursuing such a plan I simply tread in the footsteps of the most distinguished and safe of ancient and modern historians. If, however, it be objected that I treat mythological records as historical, I call for proof, which has never yet been given, that they do not contain historical fact, and marshal as authorities for the opinion I hold of them almost every historian, ancient and modern, who deserves the name. Bournouf was permitted to establish the original unity of Aryan Persia and India in his proof that Djemschid and Yama are one and the same. This connection of the Veda and Zendavesta in these and related names has been fitly termed a most brilliant discovery. Yet it was of the same character as that which I have already published in my essay on "the Horites," and as that to which I now direct attention. The value of his identification lay in this, that not one but several related names were found by him in the same order and sustaining the same

relationships in the two records. I propose to exhibit a comparison far greater, extending to many records, not of a few but of a perfect network of names historical and geographical, vouched for not by mere doubtful documents but, along with such, by the truthful statements of the Bible, and by the evidence of existing monuments in Egypt and neighbouring lands. Much has already been achieved by partial historical induction from names within limited areas, but false notions in ethnology and philology have hindered that fuller induction to which I have devoted my leisure, and the result of which must be the correction of these cherished opinions, based as they are on hasty generalization and traditional prejudice. I have not rested in mere similarity or identity of nomenclature, but have used these as a necessary introduction to wider and more satisfactory harmonies, which together bring the foundations of a cosmos into the chaos of the past. My method is that of science, and the result at which I aim, simple historical truth, not the establishment of any system whatsoever. Hence I seek the fullest investigation into the problems which have sought their solution at my hands, and will gladly welcome the correction of errors of judgment or any new light which may be shed upon the facts or other materials with which I deal. But I dare not allow any unsettled philology, which takes no account of the Semitic languages on the one hand or the Indo-European on the other, to dictate in regard to connections that lie beyond its sphere, an allegorizing system of mythology to bar the way to truth which it rejects, or a false chronology to check the progress of a work that will yet establish the true. In setting forth the story of the Ashchurites I propose, first of all, to show that it is connected with that of Egypt, afterwards to collect from the legends of other peoples all that may shed light upon their national and individual history, and, finally, returning to the record which supplies us with a reliable account of their families, to recover from it their true position among the races of antiquity.

II. THE SHEPHERD KINGS IN EGYPT.

In my former paper on the Horites I endeavoured to show that these original dwellers in the land which afterwards fell to Esau and his descendants were the Auritae and the *Ægypti* of the Old Chronicle. The *Ægypti* I identified in part with the Caphtorim, which Mr. Poole had done long before. Between these two dynasties, if we may so call them, the Old Chronicle mentions the Mestraci. These are no Bible

Mizraites, but the representatives of the Philistines who also came out of Egypt. There were eight of them according to the Chronicle, and these are the seven Cabiri with Eshmoon. The Old Chronicle is not far from the truth. Whoever Eshmoon, the eighth, may be, the seven who preceded him are the seven sons of Ashchur, the father of Tekoa, the name Mestraei coming from that of Ahashtari, the fourth son of the family of Naarah.

The name of Ashchur could hardly be better preserved than it is in Egyptian story. He is Osochor, or Hercules.⁹ As the god of Hermopolis, he occurs under a form similar to that presented in Zereth-Shahar. He is Sahor, and with him are there united Thoth, whose name we will yet find to connect with Achuzam, and Timan-hor, his son Temeni.¹⁰ Let me premise so far for the sake of explaining another name of this famous hero. The Cabiri, of whom he is the head, are also the Dioscuri and Tyndaridæ, and these names find their Egyptian equivalents in Dashour (Sakkarah with the feminine pronoun) and Tentyra. Peschir Teuthur is accordingly the protecting deity of the latter city, the masculine article changing Ashchur to Peschir.¹¹ Maceris, another name for the Egyptian Hercules,¹² may have come from a form like Moscheris, the seventeenth of the Theban Kings of Eratosthenes, and is useful as exhibiting the prefix M which we find in the designation Mestraean and in the Misor of Sanchoniatho, who is the father of Taaut. It likewise connects with Mysara, a name of Egypt, and is perhaps some such word as the Am of Amalek, meaning "people." I have no hesitation in referring the Isaiacus whom Plutarch gives as the father of Typhon to Ashchur.¹³ The form Peschir and the Bushur Ashurs of Assyria lead at once to the well known classical name Busiris. Osiris, we are told, made him king of the maritime region bordering on Phœnicia. To him in a time of national danger the prophet Phrasius, from Cyprus, recommended the slaughter of strangers, and for this he was slain by Hercules together with his son Amphidamas and his herald Chalbes.¹⁴ He is connected with Antæus, who is the Nechaoth of

⁹ This name was known to the ancients. Banier's *Mythology and Fables of the Ancients*. London, 1740, Vol. iv. p. 123.

¹⁰ Osburn's *Monumental History of Egypt*, ii. 22, 24.

¹¹ Lepsius' *Letters from Egypt*, 124.

¹² Guignaut, *Religions de l'Antiquité*, ii. 243.

¹³ De Isid. et Osirid. xxix.

¹⁴ For particulars regarding Busiris see *Diod. Sic.*, *Apollodorus*, *Plutarch*, *Isocrates*, or the collected facts in Guignaut, i. pt. ii.

Theophilus, and the Horite Manahath, who ruled either at Zoan or Mendes over the Mendesian nome.¹⁵ To the Rev. W. B. Galloway is due the credit of finding the name Asshur in that of Busiris.¹⁶ Busiris is found in many classical authors. Diodorus gives eight of that name, the last of whom he makes the founder of Thebes.¹⁷ He is also the Vexoris of Justin,¹⁸ and the Aiskus of Bar Hebræus, who is plainly the head of the shepherds, since he is followed by Susunus, Tricus, Satis and Apaphus.¹⁹ Manetho must of necessity mention this early monarch of the land whose dynasties he has recorded at such length. We find his name accordingly, although I believe that here it denotes his son Ahashtari or Sesostris, in the Sesochris who appears eighth in the second dynasty. A similar form, designating probably his great grandson Asareel, is Mesochris of the third. It is, however, in the Usercheres of the fifth dynasty that we discover the name of the ancient Hercules, and him Lepsius has found at Gizeh.²⁰ He is the first, the ancestor, of the so-called Sesortasens, the latter part of the word being perhaps a form of Tekoa, like the *tiyach* of Shagarak, king of Assyria, and the *tasi* of the Arabs. Thus Usecheres (for this is the true form of the name) is no mythical character, but probably a sovereign, at all events the ancestor or father of several sovereigns in Lower Egypt. Osburn errs in supposing that he is Sesostris, but the error is not great, inasmuch as he is the father of Sesostris, who, if Osirtasen III., has left traces at Dashour, a most fitting place, since it commemorates his father's name. Not only is he associated with Sesostris or Ahashtari, and, as we have seen, with Temeni or Timan-hor, but as Usercheres of the fifth Manethonian dynasty, he precedes Sefhres or Hephher, and at Gizeh appears with Aseskef or Achuzam. Gizeh, which is a corruption or abbreviation of the name of his eldest son by Naarah, and Saccarah, a form of his own, are the regions in which mention is specially made of him. He is spoken of as a highly distinguished monarch and the erector of a pyramid. It is also worthy of note, as

¹⁵ Ad Autolyceum, ii. 31. It is interesting to find Antæus and Mendes connected by Jablonsky (Guigniaut i. 423). Nechaoth or Antæus of Mendes, who, as the first ruler of Egypt is the same as Menes, is undoubtedly Manahath the Horite, and must have been a contemporary of Ashchur.

¹⁶ Egypt's Record of Time to the Exodus of Israel.

¹⁷ Diod. Sic. i.

¹⁸ Justin i. i. 6; ii. iii. 8.

¹⁹ Bar Hebræus in Cory's Ancient Fragments.

²⁰ Bunsen ii. 180.

we have found him in mythical story connected with Manahath, that he was worshipped together with Onam or Onnos, the Horite, like Manahath, a son of Shobal. The Busirite nome lay immediately to the west of the Mendesian, so that geography aids tradition in uniting the father of Tekoa with the son of Shobal.²¹ There were several cities of the name of Busiris in Egypt, and in regard to all of them it must be observed that they were sepulchral towns. It is quite unnecessary to derive Busiris from Taphosiris, inasmuch as the person whom the name represents with the simple prefix of the masculine article is also called Ptah Soccari, and appropriately connects with Sakkarah.²² I do not think that he is Osiris, who I would be inclined to believe is the eldest son of Atmoo or Etam, although the family of Ashchur has relations with that in which Jezreel occurs.²³ The whole funereal system of the Egyptians connects with Ashchur and his line. I am not sure that Ptah gives us a form of Tekoa with the Coptic article, although the Phœnician Pataikoi, who are identical with the Cabiri, are of that god, and the Greek *theke*, the sepulchre, is not without Coptic relations.²⁴ The Pataikoi likewise are the pygmies who were on the side of Antæus and Busiris. I do not doubt, however, that the hall of the Taser,²⁵ whither the dead wend their way, is the happy abode of the Scandinavian Aesir, or the resting-place of the Ashchurites. This will appear more clearly in the sequel.

Ashchur, who gave the name Mysara to all Egypt, also for a time left the Nile as his memorial, till his grandson Jehaleleel superseded him. That river was anciently called Siris, and this word is the same as the Bible Shichor (Jeremiah ii. 18, &c.), in which it is impossible not to recognize the name of Ashchur.²⁶ Besides the places called Busiris, Sakkarah and Dashour, the Beni Asser of D'Anville may be

²¹ Osburn, l. 400.

²² Typhon and Ptah Soccari are the same. Kenrick's Ancient Egypt under the Pharaohs, New York, 1852, i. 14.

²³ Jezreel, the sown of God, whose name was afterwards given to an important tract in Palestine, and who is mentioned in 1 Chron. iv. 3 as a son of Etam, is the god of seed among the ancients, the Osiris of Egypt, his name being the explanation of the Greek legend of the Spartoi and others of like character.

²⁴ The very Hebrew expression "Father of Tekoa" (Abi Tekoa) may be the original of the word Pataikoi, which is intimately related to Soccari and which reappears in the Indian Apitaka.

²⁵ Dr. Birch on a remarkable inscription of the twelfth dynasty. Transactions of the Royal Society of Literature, Vol. v., New Series.

²⁶ Schol. Apollon. Rhod. iv. 391.

a reminiscence of his family.²⁷ Tasacarta or Tacasarta may memorialize him or his son Achashtari, but Mount Ascar preserves his name to the present day. Djebel Attaka does not meet us in the ancient geographies of Egypt, but, lying as it does over against Sakkarah, I cannot but think that it is an old name revived, as is so frequently the case in the east, being a Tekoa with a mere vowel prefix. The other names borne by this range are, as we shall see, all connected with Ashchur's family. I have not found any memorial of Helah, the wife of this distinguished monarch, but the fame of Naarah or Nagarah, who left her name to Naarath or Nagarath of Palestine, survives in the well-known city Naucratis, which, appropriately enough, lay in the Saitic nome. I should mention that the Aphthitic nome must, however unlikely it may appear, be derived from the very Hebrew expression *Abi Tekoa*, being identical with the Bible geographical name *Jiphthach*.

I have already indicated that the Bible appellation of the eldest son of Ashchur presents difficulties in its connection with Egyptian and other equivalents. The root *Achuz*, without the terminations in *am* or *ath*, occurs most frequently, but there are cases in which the *zam* forms an important part of the word, while in others *z* is naturally changed to *d* and the final *m* made an initial letter, thus completely disguising the original name. From *Achuzam* is derived the word *hak*, signifying "a leader," and also the more complete expression *Hyksos*, which Josephus writes Ἰχθυόσως. The name *Hyksos* was thus originally confined to the family of Ashchur's first son. He likewise gave their names to the mountain and region of Casium, and to the place of the shepherds called *Sachisu*. His father and he fitly appear in company, leaving their seal of nomenclature on Sakkarah and Gizeh respectively, as well as on Mount Ascar and Mahazeh, which lies to the south of it. The name of *Achuzam* was carried (doubtless long after his death) into Upper Egypt, and survives in the Mt. Aias and Wady Jasoos in the region of Cosseir. After the expulsion of the Shepherds, mention is made of his line on the Statistical Table of Karnak, in which Tothmes III. speaks of *Jukasa* in the land of the *Tahae* or *Taochi*.²⁸ Mr. Cox has identified the Indian *Ahi* with the Sphinx of Grecian and Egyptian story.²⁹ The Egyptian Sphinx proper is at Gizeh, and bears the

²⁷ D'Anville Geog. Anc. 211.

²⁸ Kenrick, ii 192.

²⁹ Mythology of the Aryan Nations, ii. 326, &c.

name of Sefhres, or Hephher the brother of Achuzam, but connects with the latter, of whom it was probably a monument, in the Greek name Phix, whence Phacussa and Tell Phakus (the Phikean hill) in the neighbourhood of Tacasarta. Phix, Phacussa, &c., are simply Ahi or Achuzam with the prefix of the article, and Chabrias near Tell Phakus explains the relations of Sefhres and the Sphinx. The Sphinx, although it bears the name of Sefhres, is sacred to Athom or Atmoo. This, I think, arises from the fact that Achuzam married his daughter Zeleponi. Certain it is that he did marry into the family of Etam, but whether his union was with this princess or with a daughter of Jezreel I cannot well decide. As the myth of the horsemen which connects the Dioscuri and the Asvius is related to that of the Sphinx, I may note here the connection of *ses* the horse and *shos* the shepherds, Achuzam being pre-eminently the horseman of antiquity. This, however, I merely throw out as a hint to the student of Egyptology, and for the sake of future identifications and ethnological connections. The forms in which we find the final *zam* of the name of Ashchur's eldest son are Sem Hercules, Sumes Hermes, Smu, a name of Typhon, all of whom are identical with Hercules Assis. Sem, like his father Ashchur, is said to have been made a governor of part of Egypt by Osiris, and in him we recognize the Macedon, whom Diodorus makes, together with Anubis, a son of that monarch.²⁰ In Macedon we find the *z* of Achuzam changed to *d* and *m* prefixed as in the case of Mysara, Mestrai, &c. The word survives to the present day in the Mokattam mountains, belonging appropriately to the range of Attaka. A more difficult disguise to penetrate is that which is presented by the name Thoth. Indeed I do not yet feel altogether sure that it represents Achuzam himself, but it is most probable that it does. In the two lists of Syncellus, Menes, who heads each, is followed by Athothes and Curudes respectively. Curudes I shall yet show to be Zereth, the eldest son of Ashchur by Helah, and the rival of Achuzam, who, taking the connected name of Achuzzath, would be known as Ahutath among the Egyptians. In the genealogies of Sanchoniatho, Misor, who is Ashchur, is the father of Taauth.²¹ In Hermopolis also Thoth accompanies Sahor, who is Ashchur, and Timan-hor, who is Temeni, while he is also recognized as the head of the Cabiri, who

²⁰ Guigniaut, i. 433.

²¹ Sanchoniatho's Phœn. Hist., by Cumberland. London, 1720, 26.

take their name from Hepher or Chepher. In Agathodæmon, which is the Greek name of Tat or Thoth, we have but a lengthened form of Achutam or Achuzam.³² Manetho's first dynasty places Athothes at Memphis in the region of Gizeh, Busiris and Sakkarah, and gives Oueneplies, or the Anubis, who in Diodorus accompanies Macedon, as the second from him. But there is no doubt that he is the same as the Boethos or Boehus, who heads the second dynasty, an earthquake in both reigns helping to mark the identity. In Boehus, as Eusebius gives it, we find a form the same as that which appears in Phacussa. Once more we discover him, though sadly out of place, in the third dynasty, where, as Aches, he immediately precedes Sefhouris or his brother Hepher. He may be the Sesonchosis who stands first in the twelfth dynasty, Sesostris, or his brother Achashtari, being the second from him. Josephus mentions an Asses as the last of the Shepherd line. That there was one of this name at the end of the dynasty of the Mestreaens is not to be denied, but the most famous monarch who bore it is to be found at the commencement. He is also no doubt the Susunus of Bar Hebraeus, who follows Aiskus or Ashchur. To come to what rests on a more solid foundation, the name of Achuzam has been found on the monuments. At Gizeh and Sakkarah he appropriately appears as Assa Tatkerah or Aches or Aseskaf, the son and immediate successor of Usecheres, and in company with Sefhouris or Sefhres and Sesostris. In the chamber of Karnak and on the Tablet of Abydos the names of Ashchur as Usecheres, his three sons, Achuzam as Aches, Hepher as Sefhres, and Achashtari as Sesostris or Nesteres, together with the Horite Onam as Onnos, occurring in regular order with all the marks of contemporaneousness, present such a proof of the correctness of my inductive process from what were at first mere mythological data as cannot be lightly called in question.³³

I have no direct monumental evidence that Jehaleleel is the son of Achuzam or Aches. Geographical facts show striking analogies between southern Palestine and the land of the Pharaohs. Sile, Sele or Selahieh, connecting with Tell Phakus, gives promise of

³² That Agathodæmon is no Greek word appears from its being mentioned in the Book of Nabathean Agriculture as Aghathadimnu.

³³ The Scriptural and Monumental lists thus coincide :

Ashchur,	Achuzam,	Hepher,	Temeni,	Achashtari,
Usecheres,	Aches,	Sefhres,	Timan-bor,	Nesteres, or
Sabor,	Thoth,	Kheper,		Sesostris.

the fuller form *Silsilis* in the *Thebaid*, but nearer than all to the original is *Mt. Kalil* lying south of *Mahazel*, as that reminiscence of *Achuzam* lies below *Mt. Ascar*. The mountains called *Silsilis* and those termed *Kalil* commemorate the same person as those in the neighbourhood of the *Azazimel* named *Helal* and *Dhallal*. The Coptic name of *Silsilis* is *Golgel*, reminding us of the *Gilgals* of *Palestine* already associated with *Jehalaleel*. It will be remembered that the *Shittim* or *Acacia* was in both these names connected with the line under consideration, representing *Sheth* and *Achuzam*. It is the *Gilgil*, *Sealeh* or *Sayal*, and under these forms unites *Jehaleleel* with *Achuzam* and the *Shethites*. But we have found the words *Khalil*, *Nahaliel*, &c., to be variations of the same name, designating rivers; and, most appropriately, at *Silsilis* the river *Nilo* is known to have been an object of worship. It is an easy matter to say that *Nilus* is a Greek term for that river, but not so easy to account for the origin of what is no Greek word. *Hecateus* tells of a town *Neilos*, and the *Niloea*, or festivals of the river, are mentioned by many writers. It was likewise known to the ancient *Hindoos* as the *Cali*. The ancient *Neilos* or *Nilopolis*, which was situated in the *Fayoum*, is no doubt the present *Illahoun*, about which traces of *Nile* worship are conspicuous. As *r* and *l* are interchangeable in Coptic, we may find the same name in the *Phruron* or *Nilus* of *Eratosthenes*, answering to the *Nileus* of *Diodorus*, who appropriately precedes *Chembes*. Similar pairs of words are *Aeolus* and *Perieres*, *Aila* and *Paruravas*, *Khulasa* and *Gerar*. *Jehaleleel* by this process would become *Jeharereer* or perhaps *Haroeris*. The *l* and *r* are interchangeable in the word *Ahalu* or *Aahru*, denoting the heaven of the *Egyptians*; and this word is simply the name of the son of *Achuzam*. I may premise so far as to give its equivalents in different languages for the sake of establishing the identity. It is the *Palestinian* *Khulil*, *Khulasa* or *Elusa*, the *Greek* *Elysium* and *Eleusis* of the mysteries, the *Latin* *Colum*, the *Sanscrit* *Kailasa*, the *Germanic* *Valhalla* and the *Celtic* *Avilion*. The funereal ritual of the *Egyptians* furnishes us with the original of the *Eleusinian* mysteries, *Jehaleleel*, as a prominent member of the sepulchral family, giving name to the region of which they chiefly treat. The valley of *Ahalu*, or *Aahru*, or *Balot*—for it is known by these three names—is the region, first of all, whence *Jehaleleel*, who received the patriarch *Abraham*, having mustered his forces and made with him and other

neighbours treaties of peace, descended upon the valley of the Nile. As Balot he is Pluto and Philitis the shepherd, and Salatis. His town is Pelusium, whence he advanced to Salahieh, thence to Illahoun, and afterwards perhaps, although this is doubtful, to Silsilis. How he came to reside in Palestine when his father and uncles ruled in Egypt I leave for future consideration. His name is not unknown in classical story, for there he is Belus, King of Egypt, whose son Cepheus ruled in Ethiopia. The song of Linus, which so much excited the astonishment of Herodotus in Egypt, and which Sir Gardner Wilkinson has found in the "ya laylee! ya layl!" of the modern Copts, belongs undoubtedly to the memory of this ancient monarch. Already we have met with traces of Jehaleleel in Belus, Nilus, Salatis and Philitis, but no such name appears on the monuments. The reason no doubt is that the letter *l* has been persistently rendered by *r*, so that we must look for the invader under some such form as Aahru or Haroeris. In such a search it cannot be supposed that I should meet with any great measure of success, situated as I have been in a country unfurnished not only with original sources of information, but also to a great extent deficient as regards its libraries in works on Egyptology. I cannot doubt, however, that the Soris who precedes Suphis at the head of the fourth dynasty of Manetho corresponds to the Nileus who precedes the Chembes of Diodorus; Belus and Cepheus, Philitis and Cheops, Jehaleleel and Ziph answering to these. He is, I believe, the Ousrenre or Ranseser of the pyramid of Reega in the very region where Jehaleleel should be found, and whom Dr. Birch, to whom we owe the discovery of his name, will, I have little doubt, identify with the shepherd Hak. Osirkef, Aseskef, Ousrenre and Shufu are appropriately found together representing four generations of the line of Ashchur, the father of Tekoa. My authority for connecting Salatis and Ases or Jehaleleel and Achuzam as father and son has not yet appeared, but will be found satisfactory when I come to treat of the Persian and other traditions concerning this line.²⁴ If, as Mr. Osburn has stated, Salatis is the son of Othoes, the latter name must present an abbreviation of the Thoth form of Achuzam. Another name for Jehaleleel may be Thoules.²⁵

²⁴ The Persian Gilshah, who is also Ulul Muluk and Uboo Busheer, is the son of Yessun Ajam; the Arabian Ilyas is son of Yasin; the Greek Plutus is son of Jasion: and Yessun Ajam, Yasin and Jasion, are forms of Achuzam.

²⁵ It is not improbable that the legendary Egyptian name Melol or Meror given to the Pharaoh of the Exodus in the Book of Jasher is a reminiscence of Jehaleleel, corresponding with the Arabic Mahlayel, the f^zher of Kabiyeh, Cepheus or Ziph.

A link by means of which the somewhat obscure traces of Jehaleleel are referred to him, is found in the name of his eldest son Ziph. Ziph is Typhœus and Typhon, as geographers have agreed in the case of the region of caves bearing the name in Palestine. As the name of an Egyptian Pharaoh it appears little changed in Suphis, while the character of the initial letter is seen in the fact that it may equally be rendered Khufu or Cheops. In Manetho's third dynasty, a Souphis follows Mesochris after Tyreis, being himself followed by Tosertasis, but, in Eratosthenes, Moscheris, a name like Mesochris, comes after Sensaophis, who is preceded by Saophis. These connect at once with Manetho's fourth dynasty, in which, after Soris, we meet with two kings in succession of the name of Suphis. There was one great Pharaoh of the name of Suphis or Cheops, to whom Herodotus and others attributed the erection of the great pyramid. The justice of the tradition has been shown in the discovery of the monarch's name by Colonel Vyse. He is Ziph, the son of Jehaleleel or Philition, Cepheus son of Belus, Chembes who follows Nileus. He belongs to the long-haired Shepherd line, and with them his memory was hated, he being, indeed, the personification of the race that opposed the family of Horus, and the Typhon of classical story. Accordingly Suphis is execrated while Mencheres or Manahath is blessed.²⁶ He fights the Anu, who descended from Onam or Onnos, another Horite, and stands in opposition to the family of Khem or Achumai, the founder of Coptos, with which in my last paper I improperly connected the Cheops of Herodotus.²⁷ Cheops and Chemmis are two very different persons. He also shows intimate relationship with the Ashchur line, in being mentioned together with Usecheres, as at Isbayda near Hermopolis.²⁸ Siouph or Seffeh, which appropriately lies in the Saitic name, is a geographical memorial of this monarch. The incense called Kupbi or Gef, which seems to have been partaken of by the dead on their arrival at Ahalu, connects this son of Jehaleleel with the funereal ritual that was first composed under his grandfather Achuzam or Assa Tatkera. The Kufa of Palestine, mentioned upon a tomb at Qoorneh, are probably the descendants of Ziph, after their expulsion from Egypt.²⁹ The title Sophi, which has been elaborately

²⁶ Osburn, i. 324.

²⁷ Lenormant and Chevalier, *Manual of the Ancient History of the East*. London, 1869. Vol. i. 205.

²⁸ Eawlinson's *Herodotus*, App. Bk. II. ch. 5.

²⁹ Kenrick's *Egypt*, ii. 156.

treated of by the Rev. W. B. Galloway, must refer to the same distinguished person.⁴⁰

We have seen that the next individual in the family of Jehaleleel is a female named Ziphah. I do not think that she is the second Suphis or Sensaophis or Kneph Chufu. She is no doubt Nephthys (a word like Naptha already connected with Ziph in its form Zepheth), who is called the wife of Typhon and mother of Anubis. She was, in fact, the sister of Typhon and the mother of Anubis, who is Kneph, hence the title Kneph Chufu; but her husband was Coz, the son of Ammon, whose son Anub or Ganub furnishes the names Anubis, Kneph, Canobus,⁴¹ &c. If the Kufa descended from Ziph, it can hardly be that he died childless; nevertheless he appears to have been succeeded by his sister's son. The consideration of the family of Coz, however, must be left for the present.

Two younger brothers of Ziph remain. These are Tiria and Asareel. Tiria may be Tyreis of Manetho's third dynasty, and Asareel the Mesochris who follows him, both of these being mentioned out of their true order. Yet on this point I am far from insisting. Certain it is that the former left his name to part of the mountain range connected altogether with the family of Ashchur, in its appellation of Troicus; the Troja of Egypt, with its kindred names of Illahoun and Assareel or Assaracus, with Ziph or Capys, giving us the originals of those which at a later period arose in the geography and traditions of Asia Minor.⁴² Not that I believe the siege of Troy took place in Asia Minor, but, as I trust soon to be able to prove, in Palestine, and upon the eastern shore of the Dead Sea. This may appear startling and improbable, but so is the whole truth concerning the early history of Egypt and the world.⁴³ It is not to be denied that the Trojans assisted the Hittites in their wars with Rameses II.⁴⁴ To return, however, to the geography of Egypt, we find the limestone hills of Tourrah and Masarah, or of Tiria and Asareel, furnishing appropriately the materials for the erection of their brother Ziph's

⁴⁰ Egypt's Record, 545.

⁴¹ Canopus and the Dioscuri are associated (Guignaut). Anubis holds a prominent place in the Egyptian mysteries.

⁴² In Jehaleleel I find Ilus, the eponym of Ilium: Ziph, Tiria and Asareel are Capys, Troas and Assaracus. The Troja of Egypt was as much older than that of Asia Minor as the Thebes of the same country exceeds in antiquity the similarly named city of Bœotia.

⁴³ As I differ from other investigators in regard to the locality of Troy, so am I compelled to differ in the date I assign to the Trojan war, which I think must have taken place during the wandering of Israel in the desert.

⁴⁴ Lenormant and Chevalier, i. 249.

great pyramid and those of succeeding monarchs. It would swell this paper to an unnecessary degree were I to state the many conjectures which the history and geography of Egypt give rise to in connection with the names of the sons of Jehaleleel, or were I even to state the many arguments by which the identity of Ziph, Suphis and Typhon may be supported. I write for students of Egyptian history who have the facts before them, and to whom what I have briefly indicated will be amply sufficient to bring conviction of the truth.

Having traced the line of Achuzam as far as Anub, the son of Ziphah, we may return to investigate the relations of his brother Hepher with Egypt. Looking first at that part of the history which is termed mythological and accounted most uncertain, we may find some indications of his presence in the prophet Phrasius from Cyprus,⁴⁵ a supposition which I found more on the name of the place whence he came than on that which he bears, for Cyprus, I have little doubt, took its name from Chepher. He is certainly the god Kheper, one of the eight, and the head of the Cabiri, who are of Ptah Sokkari, his father. Pococke has correctly united the name Cabir with the geographical appellation Cyprus.⁴⁶ Cabar is an Egyptian name for Venus; Astarte is called Kabir; and the legends place the birthplace of the Venus of the Greeks, who must not be dissociated from them, in Cyprus.⁴⁷ We shall yet find the name of Astarte intimately connected with the family of Ashchur. Another mythical character relating to Egypt is Hyperion, whose city was Heliopolis or On.⁴⁸ He is Hepher and the Sephres who has already been before us, the latter name being the Egyptian equivalent of the Chaldean Sippara and Kirjath Sepher of Palestine, the city of the book. On, the city of this Sephres, Hepher or Hyperion, was appropriately the university of Egypt.⁴⁹ He has left many geographical monuments. Abaris of the Sethroitic nome is the unaspirated form of Hepher, and need not have given much trouble to the student of Josephus, for it is simply Chabrias, which Strabo places near Pelusium, a word presenting the aspirated form of the same name. All its surroundings are Ashchurite, such as Casium and Phacussa,

⁴⁵ He is connected with the story of Busiris as the adviser of that monarch in the matter of human sacrifices.

⁴⁶ Pococke, *India in Greece*, 220, &c.

⁴⁷ Guignaut, i. 833; Rawlinson's *Herodotus*, ii. 51, note.

⁴⁸ The whole story of Hyperion, Cycnus, Phaethon, &c., is Egyptian, and belongs to the line of Hepher.

⁴⁹ Rawlinson's *Herodotus*, ii. 3, note.

Pelusium and Salahieh, Sethrum, &c. There are other towns of the same name in the land of the Pharaohs. Diodorus makes Chabruis the son and successor of his Chemmis and the same person as Cephreu, called his brother. Herodotus mentions Cephren also as the successor of Cheops. Now Cheops or Suphis had no brother of this name, and his nephew who succeeded him was Kneph Suphis or Anub, son of Ziphah. Manetho nowhere makes mention of a Chabrias or Cephren immediately after Suphis, but records several names which relate to the person so called. In the third dynasty there is a Sefhouris, who rightly comes next to Aches or Achuzam, but is wrongly placed with him after a Suphis, Tosertasis only intervening. Sefhres, who I think is the same monarch, is the second of the fifth dynasty, Usercheres being the first. It is worthy of note that Sefhouris is said to have reigned thirty years and Sefhres thirteen.⁵⁰ Not till the eighteenth dynasty do we meet with a similar name; and then, in the second and twelfth places according to Africanus, we find Chebros and Chebres with a reign of thirteen and twelve years respectively. He is, I am persuaded, the same person as Sefhres or Sefhuris and the eponym of Chabrias and Avaris. Sefburis has been found at Gizeh, the region of Achuzam. At Karnak he appears on the same line with Aches. Like others of his race, he fights the Anu, or people of Ouam the Horite. He has a tablet in the Sinaitic peninsula, where, I doubt not, he gave his name to *copper* in many languages, as he did to the *cypress* among trees. Sefhres, again, has been rightly placed third after Menes by Lepsius, Achuzam being the second, under his name of Athothes. He has been seen to connect with the family or line of Usecheres or Ashchur, and to him is imputed the Sphinx, which immortalized his elder brother. His identity with Hyperion and relations with the places called Sippara and Kirjath Sepher are also fully established by the frequent mention made of the "Library of Sefhres."⁵¹ Mr. Galloway, quoting Abydenus and other writers after Berosus, conclusively proves that Sippara and Heliopolis, the town of Hyperion or Hephher, are the same.⁵² The relations that subsisted between this place and Xisuthrus or Sesostris or Achashtari will yet make the fact irrefutable. I have connected Sefhres and Chebros, although the latter occurs in the

⁵⁰ The "thirty years" allotted to Sefhouris is I think a mistake, thirteen being the true number.

⁵¹ Osburn, i. 310.

⁵² Egypt's Record, 159.

eighteenth dynasty, which is inimical to the Shepherds. It is certainly one of the last places in which, had I been forming mere hypotheses, I should have been disposed to look for a son of Ashchur. He is mentioned here as one of the ancestors of the line that took part in the expulsion of the Hyksos proper, and not as one who actually participated in that expulsion. The similarity in name and length of reign are points in favour of the connection, but it is by means of his descendants that we are enabled to decide that the Sefhres of the fifth and the Chebres of the eighteenth dynasty are the same individual.

I have already stated my present belief that the Kenaz of 1 Chron. iv. 13 was the son of Hephher, Sefhres or Chebros. The name of Kenaz connects with three lines, although I need not say that it only refers to one. It is the Pachnan or Pachnas of the Shepherds, the Bakkan of the Stranger Kings, and the Akencheres of the eighteenth dynasty.⁵³ Sir Gardner Wilkinson and other eminent Egyptologists have already suggested the correspondence of these names.⁵⁴ Mr. Perring has referred the Stranger Kings to the Hyksos line, and Lepsius connects them with the eighteenth dynasty. The father of Akencheres is Chebros, and the father of Bakkan is the same, although the title of Amenophis is generally prefixed. As for Pachnan, he merely follows Bnon, an unknown king. With the line of *Stranger Kings who worshipped the sun's disc we find the female name Taia connected, a name which at once calls to mind the wife of Hyperion, who was Thea.* The character which Diodorus gives this monarch as a great astronomer agrees with the scientific pursuits of Sefhres. If, however, Pachnan and the other names mentioned give us Kenaz, we should find his descendants. His eldest son was Othniel. Now, the final *el* we must not expect.⁵⁵ Atni, Gothon or some such form must represent him.⁵⁶ Accordingly he is the Atin-re or Toonh, who is intimately associated with Bakkan at Psinaula, which is simply Othniel with the prefix of the Coptic article and the change of *t* to *s*. He is also the Danaus, a Greek form like Donald,

⁵³ We also find Kenaz with the *ra* affix in the Cheneres or Kai-en-ra who, with a reign of thirty years, closes the second dynasty following Sesochris, who is Sesostris, or his uncle Achnashtari.

⁵⁴ Rawlinson's Herodotus, App. Bk. ii. ch. 8.

⁵⁵ This final syllable is peculiarly Hebrew, and rarely occurs in names transported beyond the Semitic area. Thus Shobal appears as Seb, Siva, Sabus.

⁵⁶ Atin would represent the unaspirated and Gothon the aspirated form of the name, the Septuagint rendering of Othniel being Godoniel.

Daniel, and similar words derived from Othniel, who fittingly follows Akencheres. Again he appears among the Shepherds in a truncated form of the Greek Sthenelus (Sthenis), as Staun after Pachnan. He is likewise the Phæthon whose claims were disputed by Epaphus (Apophis), the friend of Cycnus (Kenaz), and, as I have already indicated, the Adonis of Phœnicia and Cyprus, where the Cinyrads kept up his father's memory. Hathath, who is of Othniel, may be a daughter, which the feminine termination would justify, and the Athotis, Teti or Tati of this line who married Skhai, whoever he may be, and became the ancestress of the Ramessid dynasty. Meonothai, who follows and may be her son, is, I think, Mene-phthah; and Ophrah probably gives Miphres or Misaphris, from whom came the great enemy of the Hyksos. Seraiah, the second son of Kenaz, may be an Egyptian Soris, Sisires, Sirois, or Sirius. As the dog-star he unites his father's name (Canis) with his own. The student of the lists and monuments has now his materials before him in almost, if not perfectly, infallible order, and may supplement these initial labours without much trouble. I may mention before passing from the family of Hephher that his wife Taia was probably a daughter of Onam, her father being given as Ainin, and he himself connecting intimately with On, the city of this Horite king. From their mother also Bakkan or Kenaz and Atin or Othniel may have adopted the Horite *ra* into the nomenclature of the family. The connection with Onam may also explain the union of his mother's name Atarah with the Joab who appears as a son of Seraiah, and great-grandson of Hephher, in Ataroth Beth Joab. The name of Kenaz remains in Conosso, the Wady Beni Kensi, Pachnamuis, and other places, in the neighbourhood of which the memory of his descendants is similarly embalmed.

I have not much to say about the third son of Ashchur, Temeni. We have already found him associated with Sheth and Sabor as a god of Hermopolis, and the geographical name Damanhour in the Delta, not far from Naucratis, which commemorated his mother, preserves his memory. He may be found with the article as some early Phthamen, and is, perhaps, the so-called Mencheres, Timan-hor without the initial and important T, who immediately follows Sepheres, and whose standard is of the same character as those of Usecheres, Aches, Sephres and Sesostris. The true Mencheres or Monthra is the son of Shobal, and this Mencheres cannot be the same

man. Sephres had no Mencheres among his sons, nor had Aches.⁵⁷ Temeni may be Tancheres of the fifth dynasty or the Stamenemes of Syncellus. I know nothing certainly about him; but from the fact of his being a god and giving name to a town, it is probable that he exercised sovereignty, and may yet be found occupying no mean position among the Pharaohs. It does not, however, follow because the name of an Ashchurite appears on the monuments and in the lists of Manetho and others, or as the designation of a town, that he therefore exercised sovereignty in Egypt or even lived there. Sons and brothers would naturally preserve the memory of their nearest relatives and hand them down to posterity along with their own, although these might dwell in distant regions. Temeni may never have been out of Palestine, or may have returned there, not temporarily, as Jehaleleel, but for permanent residence. Elon, the father of Esau's wives Bashemath and Adah, Husham who ruled in Edom, and Eliphaz the friend of Job, were doubtless of his family, and the first of these was probably a grandson; so that some of his descendants early made Palestine their home.

The fourth of Ashchur's sons by Naarah is Achashtari. He was the greatest of the Shepherd line. His name occurs with and without the final *ri*. As the god of the Hyksos he is Sheth or Ashtar, the latter name giving us the Ahashtari of Chronicles. Astarte is the goddess joined with him, the eponym of Ashtaroth Karnaim. He named Sethrum and the Sethroitic nome, with other places in Egypt, all in the vicinity of Ashchurite designations. He is the Satis of Bar Hebræus, the Sethos and Saïtes of other chroniclers. As Sheth, he divided the opprobrium of the new race with Smu or Achuzam, Babys or Apophis, and Typhon or Ziph. The legend of the patriarch Seth being buried in an Egyptian pyramid belongs to him. Josephus made a similar mistake, and ascribed to the son of Adam the erection of inscribed pillars in the land of Siriad, which Whiston referred properly to Sesostris.⁵⁸ With all the legends relating to Seth, the story of a flood is bound up; and Mr. Galloway, arguing for an Assyrian connection, has proved conclusively that Sesostris, Xisuthrus and this Seth are one, the flood being an element in the history of each. All of these names are at once derivable

⁵⁷ Meonothai of the family of Hopher may easily be a Mencheres, however, although he would come much later.

⁵⁸ The Siriadic land is that of the Siris, Shihor or Nile, named after Ashchur, the father of Sesostris.

from that of Achashtari. The deluge may have been an extraordinary overflow of the waters of the Nile, or, almost as probably, the same convulsion of nature as that which submerged the Cities of the Plain, near which the Shethites dwelt.⁶⁰ The story told by Diodorus of the destruction of the army of Sesostris at Pelusium, owing to the universal drunkenness of his soldiers, we shall yet meet with in the annals of countries far from the shores of the Mediterranean.⁶¹ Sesochris of Manetho's second dynasty and Sesostris of the twelfth are plainly the same person. In the second dynasty he bears the name of his father (Ashchur) instead of his own. The monuments give him to us as Nesteres (if the initial *n* be a true reading), son of Usecheres, who took Heliopolis from Onnos, and thus no doubt incurred the enmity of his elder brother Hepher. As Nesteres, he appropriately connects not only with Usecheres but also with Aches and Sefhres or Sefhuris. From a similar form of his name the Shepherd dynasty, succeeding to the Auritæ, acquired the designation Mestrai. Phlegyas at On we learn was called Mestres.⁶² The name Phlegyas itself survived in Pilku, one of Sheth's cities, in Boulak near Cairo, and in Belka in the land of Moab. It is hard to say who, among the many Sesortasens of the twelfth dynasty, represents the third son of Ashchur. As far as I can judge, the name Sesortasen is not confined to the family of Achashtari, but is applied to other children and descendants of the father of Tekoa. Sir Gardner Wilkinson, however, decides that Sesortasen I. is Sesostris, while Lepsius favours Sesortasen II., and many, from the fact that the third Totlmes treated him with divine honours, find the great conqueror in Sesortasen III. Onnos is represented as the father of the first of the Osirtasens or Sesortasens.⁶³ It is possible that Achashtari may have married a daughter of the Onnos or Oannes whom, as Sesostris or Xisuthrus, he expelled from On, but more probable that confusion has taken place of his name with that of his brother Hepher, who certainly did so, and who, as a son of Ashchur, had equal right to the name Osir-tasen. To Sesonchosis, who is made by Manetho the first of the Sesortasens, Dicæarchus ascribes the use of the horse and the institution of castes. We have already found the name of Achuzam associated

⁶⁰ The period of Sesostris would agree with this since we find his nephew Jehaleel ruling in Gerar or Elusa immediately after the destruction of the Cities of the Plain

⁶¹ Among other notices of the same kind, we have the Welsh tradition of Seithenin, the drunkard.

⁶² Guigniaut, iii. 520.

⁶³ Gliddon's Ancient Egypt, Philadelphia, 52.

with horsemanship. It is Achashtari, however, as Castor of the Dioscuri, whose name is most prominent as an early rider, and it is the same monarch who, as head of the Kshetriyans, formed the warrior and other castes of Egypt. His brother Chepher named copper among metals and the cypress among trees. His elder brother Achuzam and his son Jehaleleel, as we have seen, left their names to certain species of the acacia. Achashtari also, in the Sheth form of his name, gave the oriental equivalent Shittah to the same tree, but in the fuller form designated the metal *tin*, which is the Greek *Kassiteros*, Sans. *Kastira*, Arab. *Kasdir*, all coming, no doubt, from the Phœnician or rather Philistine name of this monarch. The Sesortasens are preceded on the tablet of Abydos by Amnoneith, whose name is very like Munahath. It is possible, therefore, that Manahath and Achashtari had relations with one another, the latter being son-in-law of the former. I have as yet no evidence for this, nor for another probable connection, that of Ammon as the son-in-law of Achashtari or Sesostris. Neither have I so far been able to find certainly the children of Achashtari, who gave name to the Shethites. Moab probably united with his family, and Bela or Belag, the son of Beor or Phegor (whence Baal Peor), who ruled at Dinhaba in the land of Moab over that country and Edom, may be a descendant of Sesostris, from whom came the name Pilku, Phylace, Boulak, or Belka.⁶² Beor or Phegor may be the Bicheris of Manetho's fourth dynasty, who follows the Suphids, but also the Biyris of Syncellus, who precedes Saophis. If Beor be the son of Achashtari, he must be earlier than Ziph, the grandson of Achuzam, but, as reigning in a different part of the land of Egypt, might easily be mentioned after him. Shuckford supposes that the invasion of Salatis drove Belus out of Egypt, and this Belus is fabled to have ruled in Phœnicia and Babylon. I cannot but think that the Bocchoris, whom Manetho, Diodorus and others place at a much later period in Egyptian history, may be the Beor or Begor whose son fled to Moab and ruled at Dinhaba. He may also be found in the Labares, answering to the Alapar and Bellepares of Babylon, who immediately follows Sesostris in the twelfth dynasty of Manetho. The plain of Bacarah opposite lake Moeris, on the east of the Nile, both by its name and position favours this identification. The memory of Beor or Phegor is also, I believe, preserved in the present Vacaria on the

⁶² Genesis xxxvi. 32.

borders of the Arabian desert, which marks the ancient Phagriopolis and the Phagroriopolite nome. The fish Phagres, (the eel), which was worshipped as Phagriopolis, was fabled to have devoured the member of Osiris which was missing when Isis went in search of his discerped body, in honour of which that phallus worship arose which is always associated with the idolatry of Baal Peor. Sheth certainly dwelt in the Rabbahs of Ammon and in Ar-Moab, so that the connection is far from being an improbable one. The Phre, who is a god of the Shethites with Ashtar and Amun, cannot be a form of the Horite Ra, and is, I am inclined to think, this Beor. He will also be the Pheron, whom Herodotus makes the son of Sesostris, in connection with whom it is well to observe that the same author attributes to him the erection of phallic pillars. I reserve what I have to say concerning the Shethites or descendants of Achashtari for the Palestinian connection of the Egyptian Ashchurites.

We now turn to the family of Helah, of whose name I have discovered as yet no trace. The first of her sons, and probably the contemporary of Achuzam, was Zereth. The first letter of his name is one of the most uncertain in the Hebrew alphabet in regard to the forms which it may assume. S, K or Ch, T or Ts, are the equivalents which we may expect to meet with. Among the Shepherds of Syncellus, Certos following Sethos must be this Zereth; and the Tricus of Bar Hebræus coming after Susunus, whom I have taken from his position to be Achuzam, is probably the same. Evidence, which I think puts this out of doubt, is furnished by the lists of Upper and Lower Egyptian kings which Syncellus has preserved. The successor of Menes in the one list he makes Athothes, who is Achuzam, and in the other Curudes, who is Zereth. He is also, I have little doubt, the Tosorthrus or Sesorthus of Manetho's third dynasty, whose name may be repeated there as the Tosertaris who immediately precedes Aches. A name similar to either of them has been found at Memphis with that of Aches.⁶⁴ As Helah is first mentioned in the Hebrew text of Chronicles, Zereth may possibly have been the eldest son of Ashchur. The name of this monarch is only known to me subsequently in that of his descendants, the Shairetaan, who are plainly the people of Zarthan and similarly named places in Palestine. They are, as I have already indicated, the Cherethites or Cretans, an identification for which I have the high

⁶⁴ Kenrick, ii. 169.

authority of Mr. Poole. These Shairetaan, or people of Khairitana, were essentially maritime, and the Bible coast of the Cherethim was that extending eastward from Pelusium, known to the Egyptians as Zerethra or Barathra. Branches of this family afterwards migrated to Zereth Shahar, Zarthan, the neighbourhood of the brook Cherith, and other places on the Jordan, so that the Egyptian records correctly represent them as at times a sea, at times a river population. The so-called Sardinians and Dardanians and Cretans of the monuments are different readings of the name by which the descendants of Zereth were known.

If any doubt existed as to the connection last stated, it is set at rest by that of Zohar or Zochar, the brother of Zereth, who stands next in order. I do not know whether his name appears on the monuments as a ruler in Egypt. From the fact of his son Ephron being at Hebron in the time of Abraham, it is hardly likely that he himself governed in the land of the Pharaohs. He may, however, be the Tocgar Amachus of Syncellus, while Moscheris and Mesochris, already queried for a son of Jehaleleel, answer to his name, with the, as we have seen not uncommon, prefix of M. More probable, however, is it that he is the Seker-nefer-ke or Necherochis of the same third dynasty to which Tosorthrus belongs. It is in the mention of his descendants that we justify his own Ashchurite and Shepherd relations. These are the well known Tocchari, whom Nott and Gliddon have termed "pure Celts." The Tocchari are nearly always united with the Shairetaan or descendants of Zohar's brother Zereth, as well as with the Taochi, or men of the line of Ashchur of Tekoa. Their name has been correctly rendered Teuceri, for from the two sons of Helah came the lines imputed to Dardanus and Teucer. It need not now surprise us to find that other nations, supposed to have come from Asia Minor and still more distant regions to make war with the Pharaohs, dwelt within a short distance of the northern bounds of their dominion.

Ethnan and his descendants I have not yet satisfactorily identified. The latter may be the Tohen or Tahennu whom the Egyptians hated and with whom they maintained frequent wars, and the former may, although I doubt it, be the Taucheris of Manetho's fifth dynasty. Many places bearing a name similar to that of Ethnan about the Tanitic branch and mouth of the Nile, with Tineh as a name of Pelusium, may commemorate this last son of Ashchur. Other

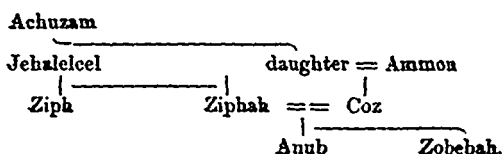
investigators with more time and greater appliances at their disposal will, I trust, soon afford us information regarding Ethnan and his family.

There are many names of Egyptian monarchs remaining, and some of them we must yet consider. Others, which belong to the families of Jerahmeel and Onam—such as Cheres of Manetho's fifth dynasty, who, I think, is Eker (1 Chron. ii. 27); Tlas of the second, who is Jediel (1 Chron. vii. 6, 10); and Amclura found at Abousir, who is Abishur, grandson of Onam or Onnos (1 Chron. ii. 28, 29); together with Harphre or Cerpheres of Manetho's third, who is Hareph, the father of Beth Gader (1 Chron. ii. 51)—I must keep for a future paper on their respective lines, none of which, except that of Hareph, has intimate relations with the Ashchurites. The family of Ezra (1 Chron. iv. 17, &c.), to which I have alluded, I must also for the present pass by, merely stating that the well known prince Mourhet is the Mered who is there said to have married a daughter of Pharaoh, and that Jered is the Rathures or Jered-ra of Manetho's fifth dynasty, the Sakha or Succoth of Egypt being derived from the Socho of which his brother Heber was lord, he being also the Egyptian Heber-Scot of the Irish and Scotch traditions, and an ancestor of the Scyths. As for the line of Chelub, the brother of Shuah (1 Chron. iv. 11), all that I can say is that it has intimate connections with the Shepherd stock, Chelub being the Chalbes who was the herald of Busiris according to the so-called myth already quoted, Mechir giving his name to an Egyptian month, the Beth Rapha of verse 12 furnishing the house of Raphahes so often spoken of under the Sesortasens, and the other names occurring in connection with them upon the monuments. Nevopth, who appears as a high functionary under Sesortasen II., is the ancestor of the Netophathites (1 Chron. ii. 54), and the name of his son Nahrai long survived in the family, as we find by the mention of Maharai the Netophathite (2 Samuel xxiii. 28). Let it not be supposed that these are mere verbal connections. I have evidence for them all, almost if not quite as strong as that which I believe I have conclusively shewn for the connection of the sons of Ashchur. I believe also that the Rebo, a tribe inimical to the later Pharaohs, are the Anakim of Arba, who ruled in Hebron or Kirjath Arba. This gathers probability from the fact that they were allied with the Tocchari who took their name from Zohar the father of Ephron, who dwelt in the same place in the time of Abraham. The children of Coz and Mareshah, the father of Hebron,

are the only other persons mentioned in the Book of Chronicles whom it is necessary at present to connect with the Shepherd line of Egypt.

I have already stated that Coz is the son of Ammon, the son of Lot. The identity of Amun and Ammon has been suggested by various writers, and Sir Gardner Wilkinson decides that these names are too near in every respect for their similarity to be accidental. The child of Amun in the Egyptian Pantheon is Chons; Amun, Maut and he forming the great Theban triad. This Chons or Coz is the Egyptian or Arabian Bacchus, not the Nimrod or Bar-Cush of Bochart, but the same who named the month Pachons by prefixing the article to his name, who is also a son of Ammon. *Cenopion*, son of this Bacchus, prince of the Island of Cos, is Anubis of the line of Amun and the Anub of Chronicles. The Hebrew meaning of the latter word is "grapes," a most appropriate name for the son of the wine god. As a monarch, Anub appears in the first of Manetho's dynasties under the form "Ouenephes." He is called the son of Kenkenes, which is simply Chons reduplicated, the true character of the name appearing in the Cochoe (from the word Kos, embalm) in which Ouenephes built pyramids. The Usaphais, who follows him, is no son of Anub but his sister Zobebah, whose name resembles somewhat that of her mother Ziphah, the sister of Suphis. Coz seems to have been the successor of Achuzam, who is Athothis and Boethus or Bochus, for we have already found him in the Kenkenes who came after the former, and now he appears still more plainly as the Choos or Kaiechos who follows the latter in the second dynasty. The successor of Choos is Binothis, "in whose reign it was decided that women should have the prerogative of royalty." This Binothis or Benteresh is a female name, and is given by Eusebius in a totally different form as Biophis, which is identical with the Usaphais of the first dynasty and the Zobebah of Chronicles. Anub appears again in the Kneph Chufu of the fourth dynasty, after his uncle Chufu or Ziph. The Methosuphis of the sixth dynasty followed by Apappus is, I think, a corruption of Zobebah, the word Phiops reproducing the Biophis of the second dynasty. The Amenemes of the twelfth dynasty may take their name from Ammon, although the form Ammoneith led me to question a connection of the lines of Manahath and Achashtari. Amenemes IV. will be Ammon-anubis or Anub the grandson of Ammon, and the female who succeeds him under the name of Scemiophris or Sebeknofre is really Zobebah, the only queen who ruled in Egypt during the period of ancient monarchy. The

relation of Suphis and the son of Coz is justified by the statement that Anubis was lord of Sepa or Siouph, the region named after the former monarch. into whose family Anub seems to have been adopted. The name Anon or Bnon, which follows that of Salatis in the list of Shepherd Kings, has been read Anoob in the papyrus of Turin, Suphis, who forms the connecting link, being omitted and Anub being made the immediate successor of his maternal grandfather. It is important to find Anub thus identified with the Shepherds. The region inhabited by him was probably that situated in the west of the Delta, where the town of Canopus and the Canopic mouth of the Nile preserved his name. The intimate connection of Coz and Anub as Chons and Kneph with Ammon establish their descent from him as son and grandson; the many agreements between the names Suphis and Kneph and their equivalents leave us in no doubt as to the fact that Coz married a sister of the former, who became the mother of Anub; but I have not yet found the relations mutually sustained by Achuzam and Coz. Their names are not unlike, and, as we shall yet see, they were often confounded.⁶⁵ If they were indeed related before the time of the marriage of Coz to Ziphah or Nephthys, it may have been by the union of Ammon to a daughter of Achuzam and sister of Jehaleleel.



Zobebah was, I think, the mother of Jabez, who is mentioned in the verse of 1 Chron. iv. immediately following that in which her name occurs. A play upon words appears in these verses, three forms presented in the Hebrew looking like anagrams—Zobebah, Jabez, Bezeb. The language of the text puts it beyond all doubt that Jabez was no Hebrew. He was a convert to the religion of Israel, and apparently a distinguished ruler whose life was marked by uncommon prosperity. He is the Apis, Phiops, Apophis, under whom Joseph governed, who feared God, and reigned nearly one hundred years. He was the greatest of all the Shepherds. Monumental and traditional evidence tell the same story concerning this monarch, who came so early to the throne. Who his father was I

⁶⁵ An example of this confusion is found in Ovid's *Metamorphoses* IV. 15, &c., where Bacchus is called Eleleus and Lyæus, which are forms of Jehaleleel, the son of Achuzam.

cannot definitely say, but it is evident that he died before the birth of the young Jabez,—Mœris, who acted as regent, not standing in this relation to his royal ward. As far as I can at present discover, Tlas or Jediael occupied the position of father or stepfather to young Jabez. I have already indicated that the place named after him in 1 Chron. ii. 55 is really Thebes, or Tei Jabez, the chief god of which was his maternal ancestor Ammon, and which acquired the Bible name of No-Ammon. Monuments relating to monarchs of the twelfth dynasty have been found at Thebes. It very probably existed before, but the name of Jabez must have superseded any former designation at the time of the conquest of the region in which it was situated by Phioeps. Medinet Abou, the modern name of part of this ancient city, commemorates Jabez. He is Apis the bull, and the god of the Nile who superseded Jehaleleel, as he had superseded his grandfather Ashchur; in giving a name to the river. Abydos may not improbably have been a lengthened or full form of this monarch's name as Jabets, a supposition which the fact of a god Besa having been worshipped there tends to rescue from the class of mere conjectures. The striking statements of the Book of Chronicles regarding one who appears in a line of Egyptian Pharaohs can apply to no other than the young king to whom Joseph was as a father, (Genesis xlv. 8), and who, doubtless by virtue of the instructions of that son of Israel, became the worshipper of the true God, thus incurring the inveterate hatred of subsequent dynasties of idolaters, to whose minds he appeared the symbol of all that was evil and impious. The scribes of Thebes were famous even in the time of Herodotus, and seem to have been so for ages. Will some learned interpreter of the Theban records restore the names and deeds of the Tirathites, Shimeathites and Suchathites, who came of the Kenite Hemath, the father of the house of Rechab (1 Chron. ii. 55), to a place among the historical characters of antiquity?

Among the Shepherds we find, in one list preceding, in another following Apophis or Jabez, the noteworthy name Archles. He is a veritable Hercules, and is indeed the man whose name has been applied to many heroes of antiquity. In him we have no difficulty in seeing the Acharchel, son of Harum, whose families (1 Chron. iv. 8,) are said to belong to the line of Coz. His father must furnish the name Hermes to Greece, and in Egypt is, I think, Armais, the head of the Hermotybians, and, perhaps, the founder of Hermonthis or Erment. As Armais, he appears in the eighteenth dynasty, which

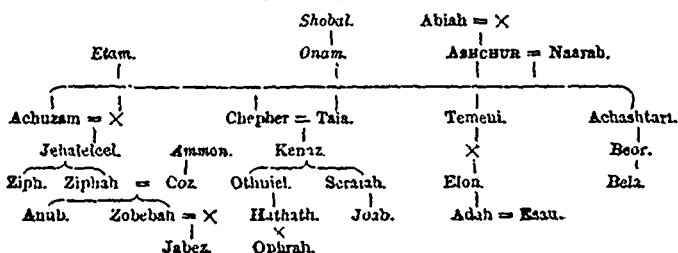
need not be matter of astonishment, inasmuch as Chebros, who is Hephher, almost immediately precedes him. He is not, as is there alleged, Danaus, who may, with more probability, be Othniel, grandson of Hephher, the Atin-ro or Toonh of the monuments. His connection with the family of Hephher in the eighteenth dynasty is justified by the position of his son Acharchel in the list of the Shepherds. In Manetho's fifteenth dynasty the latter is mentioned after Pachnan, who is Kenaz, and Staan, who is Othniel, being the immediate successor of the last of them and the predecessor of Aphobis. The Acherres, who goes before Armais in the eighteenth dynasty, is also, perhaps, Acharchel his son. I do not know who the father of this Armais was, nor in what manner he came to connect himself with the family of Coz. It would seem as if either Harum or Aharhel had married a daughter of the father of Anub. If Acherres, the predecessor of Armais, be not his son Acharchel, he may be Eker, the son of Ram, who certainly did exercise sovereignty in Egypt, being the Cecrops (Ekerophes) of Sais mentioned in many histories. The analogies of the names Ram and Harum are in favour of this view. Eker, however, belongs to the stock of Jerahmeel, and for the present must be set aside. I may add, however, that Cheres of the second dynasty follows Sethenes or Othniel, and thus helps the connection of the line of Harum with that of Hephher, whether it be through the Jerahmeelite Eker or not. Many places in the western part of the Delta, where we have found memorials of Anub, bear the names of Aharhel, Harum, and Acherres, as well as other parts of Lower Egypt.

The only remaining person, among those of whom I have deemed it necessary to treat in this paper, is Mareshah, the son of Laadah and father of Hebron. He is Moeris, the guardian of the youthful Jabez or Apophis. He has been called a prince of Arvad or Ruad. Here the *r* is wrongly taken instead of *l*, for Ruad is really Laadah the name of his father. I confess that I have not much more evidence, at least on Egyptian soil, for the connection of this Midianite with the youthful Jabez and his mother Zobebeh, the Cybebe of classical story, Moeris or Mareshah being Marsyas. The names of Mareshah and Zobebeh are found together in southern Palestine, the latter in its modern form of Kubeibah; and the Arish which forms the boundary of that land towards Egypt is but an earlier Marsyas without the prefixed M. The name of his son Chebron has been found on the monuments of his period, himself being the Maire Papi

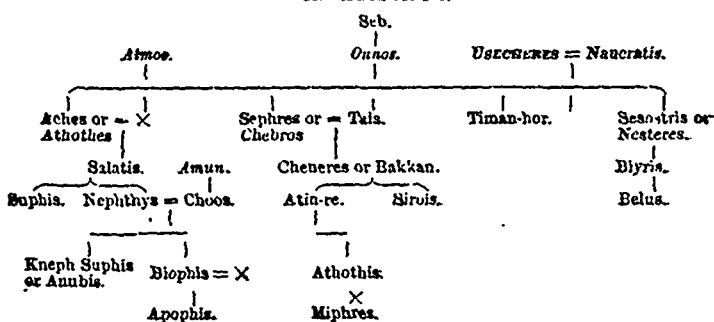
of the so-called sixth dynasty and Amenemhe III. of the twelfth. Eileithyas may commemorate Leadah or Eldaah. The Shepherd Rekamai, whose shield has been found at Lycopolis, is doubtless Rekem, the grandson of Marshah. Between lake Moeris and Eileithyas several geographical names are found, which may probably preserve those of Hebron and his descendants. I have also identified provisionally the names of other Midianites with Egyptian localities. The people of this family were expelled to Palestine together with their allies of Moab, Ammon and Sheth, when the power of the Shepherds was broken. The story of that expulsion, as it may be read in the connection of Scripture proper names with the records of antiquity, I hope soon to be able to relate. In the meanwhile I have fulfilled the task which I set out to accomplish, having given the families and relationships of all the more important Pharaohs of the Mestraean or Shepherd line, which dispossessed the Horite stock of Shobal or Seb of Egyptian sovereignty.⁶⁶ With the utmost confidence I place

⁶⁶ The following is a list of the Bible names which I have identified with Egyptian monarchs, together with their historic equivalents.

I.—BIBLE NAMES.



II.—EGYPTIANS.



these identifications in the hands of the scholars to whose valuable labours I am indebted for the materials out of which I have been enabled to build up a consistent and harmonious scheme of early Egyptian history. Without the results of their patient and arduous investigations I could not have hoped to succeed; and I shall now be well content to repay the debt I owe them by leaving to their more richly stored memories and facile pens the work of rendering generally available the truths which it has been my aim in this paper to set forth.

III.—NATIONS.

Ashchurites.

Hyksos. Hephherites or Disc worshippers. Temaultes. Shethites. Shairetaan. Tocchari. Tabennu.

IV.—CONTEMPORARIES.

Ashchurites in large capitals; Horites in small; Etamites in ordinary text; Ammoaites in italics; lines of Armais or Harum and of Mareshah in parenthesis.

I. Seb.

II. Ra, Month or Menes, Onnos, Usecheres, Atmoo.

III. Acuthoes, Aches, Sephres, Timanhor, Nesteres, Curudes, Ostris.

IV. Kames, Salatis, Bakkan, Biyris, Amun.

V. Suphis, Nephthys, Atin-re, Sirois, *Choo or Khoo*, (Armais) Bela.

VI. Anubis, Biophis, Athothis, (Moeris) (Archles).

VII. Apophis, Menterra? Miphres?

The Bible equivalents of these names are:

I. Shobal.

II. Reaiab, Manahath, Onam, Ashchur, Etam.

III. Jachath, Achuzam, Hopher, Temeni, Achishtari, Zereth, Jezreel.

IV. Achumal, Jehaleleel, Kenaz, Begor, Ammon.

V. Ziph, Ziphah, Othniel, Seraiah, Coz, Harum, Bela.

VI. Anub, Zobebeh, Hathath, Mareshah, Acharchel.

VII. Jabez, Meouothai, Ophrah.

The line of Etam or Atmoo may be a generation earlier than that in which it is here placed. It seems that Jezreel or Osiris lived in the time of Usecheres and Month or Antaus, so that Atmoo would be a contemporary of Seb. The order of dynasties would thus be:

I. Osirian in Jezreel the son of Etam.

II. Horite in Manahath, the son of Shobal.

III. Shepherd in the sons of Ashchur.

IV. Ammonian in Coz, the son of Ammon.

Geographical equivalents of these names are:

I. Seb.

II. Hero, Mendes, On, Sakkarah, Pithom.

III. Ati, {Casim,} Avaris, {Glizeh,} Chahria, Damanhour, Sethrum, Zerethra, ———.

IV. Chemmis, Silsilis, Pachnamuis, Phagriopolis, Hammonis.

V. Siouph, Tsebets, Psinaula, ———, Cochose, Hermonthis?, Pilku.

VI. Canopus, Bubastis, Seshesh?, Moeris, ———.

VII. Thebes ———, ———.

CANADIAN LOCAL HISTORY.

THE FIRST GAZETTEER OF UPPER CANADA.

WITH ANNOTATIONS,

BY THE REV. HENRY SCADDING, D.D.

(Continued from page 72.)

After leaving Gwillimbury you enter Holland River and pass into Lake Simcoe, by the head of Cook's Bay, to the westward of which are oak plains, where the Indians cultivate corn; and on the east is a tract of good land. A few small islands show themselves as the lake opens, of which Darling's Island, in the eastern part, is the most considerable. (Darling's Island is now Snake Island.—Ed.) To the westward is a large deep bay, called Kempenfelt's Bay, from the head of which is a short carrying-place to the River Nottawasaga, which empties itself into the Iroquois Bay in Lake Huron. (Iroquois Bay is now Nottawasaga Bay. The Otchibways call the Iroquois Nottawas.—Ed.)

In the north end of the lake, near the narrows, leading to a small lake, is Francis Island, between which and the north shore vessels may lie in safety.

From the bay west of Francis Island there is a good path and a short portage into a small lake. This is the nearest way to Lake Huron; the river, which falls from Lake Simcoe into Matchedash Bay, called the Matchedash River, making a more circuitous passage to the northward and westward. (Matchedash River is now the Severn.—Ed.)

Black River joins the waters of Lake Simcoe nearly where they fall into Matchedash channel. The source of this river is near the head of the river Rideau.

The River Matchedash, falling into a bay of that name to the eastward, which receives North and South River, discharges itself into a larger basin, called Gloucester or Sturgeon Bay, in the chops of which lies Prince William Henry's Island, open to Lake Huron. On a

peninsula in this basin some French ruins are still extant; and between two larger promontories is the harbour of Penetanguishene, around which there is good land for settlement. (The ruins are remains of the Jesuit mission house, or fort, St. Mary. See Parkman's *Jesuits in North America*, p. 362.—Ed.)

To the west of the largest promontory is Nottawasaga Bay (or outlet of the Iroquois), open to Lake Huron; throughout the greatest part of Matchedash Bay there is a depth of water for vessels of any draught, excepting towards the bottom of the bay. Penetanguishene has been discovered to be a very excellent harbour.

On the east side of Yonge street, in the rear of the townships of York and Scarborough, is the township of Markham, settled principally by Germans; in this tract are some good mills, built on a branch of the River Nen.

In passing out of the harbour of York, to the westward, you see the garrison on the mainland at the entrance of the harbour, which, and the block-houses on Gibraltar point, are its security; and a little to the westward are the remains of the old French Fort Toronto (called Fort Rouillé in 1752.—Ed.); adjoining to which is a deep bay, that receives the River Humber, on which are sawmills belonging to Government; a little way up the river the Government yacht is building. Further to the westward (that is, between the Humber and the head of Lake Ontario) the Etobicoke, the Credit, and two other rivers (the Sixteen and Twelve Mile Creeks.—Ed.), with a great many smaller streams, join the main waters of the lake; they all abound in fish, particularly in salmon. The Credit is the most noted; here is a small house of entertainment for passengers. The track between the Etobicoke and the head of the lake is frequented only by wandering tribes of Missisagas.* At the

* The following is a copy of the agreement on the part of the Missisagua Indians to surrender the tract here referred to: "We, the principal Chiefs of the Missisagua nation, for ourselves and on behalf of our nation, do hereby consent and agree with William Claus, Esq., Deputy Superintendent-General and Deputy Inspector-General of Indian affairs, on behalf of His Majesty King George the Third, that, for the consideration of One Thousand Pounds Province Currency in Goods at the Montreal price to be delivered to us, we will execute a regular Deed for the conveyance of the lands hereon marked pink, commencing at the eastern bank of the mouth of the Etobicoke River, being on the limit of the Toronto Purchase in the year 1787, then north twenty-two degrees west, six miles more or less, until it intersects a line on a course north forty-five degrees west produced, from the outlet at Burlington Bay, then along the said produced line one mile more or less, to the lands granted to Captain Brant, then north forty-five degrees east one mile and a half, then south forty-five degrees east three miles and a half more or less, to Lake Ontario; then north-easterly along the water's edge of Lake Ontario to the

head of Lake Ontario there is a smaller lake, within a long beach of about five miles, from whence there is an outlet into Lake Ontario, over which there is a good bridge. (This smaller lake was once known as Geneva Lake. The name was changed to Burlington Bay by proclamation, 16th July, 1792.—Ed.)

At the south end of the beach is the King's Head, a good inn, erected for the accommodation of travellers by order of His Excellency Major-General Simcoe, the Lieutenant-Governor. It is beautifully situated at a small portage which leads from the head of a natural canal connecting Burlington Bay with Lake Ontario, and is a good landmark.

Burlington Bay is perhaps as beautiful and romantic a situation as any in interior America, particularly if we include with it a marshy lake which falls into it, and a noble promontory that divides them. This lake is called Coote's Paradise, and abounds with game. (So called from Capt. Coote, of the 8th Regt., a keen sportsman.—Ed.)

From the head of the lake, following the shores of the Ontario, we proceed eastward along the borders of the county of Lincoln, a very fine and populous settlement, consisting of twenty townships, containing about 6,000 souls, and furnishing five battalions of militia. There are a great many small rivers which fall into the lake between Burlington Bay and Niagara, the most beautiful of which are those called the Twelve and the Twenty. These rivers, previously to their flowing into the lake, spread behind a beach which impedes their course, and the stream, finding only a small outlet into the lake, is ponded back, and forms a spacious basin within; the banks are high, but not broken, and generally covered with fine pine trees.

Newark (or, as it is sometimes [generally, 2nd edition] called, the town of Niagara, West Niagara, and British Niagara), stands at the

eastern bank of the River Etobicoke, being the place of beginning, containing seventy thousand seven hundred and eighty-four acres, whenever the goods of the aforesaid value shall be delivered to us Reserving to ourselves and the Missisagua nation the sole right of the fisheries in the Twelve Mile Creek, the Sixteen Mile Creek, the Etobicoke River, together with the flats or low grounds on said creeks and river which we have heretofore cultivated, and where we have camps. And also the sole right of the fishery in the River Credit, with one mile on each side of said river. This agreement done, signed, and executed by us at the River Credit, this second day of August, one thousand eight hundred and five. (Signed) W. CLAUS, Dep. Sup. Gen. (on behalf of the Crown), CHECHALK, QUIVEPENON, WABUKANYNE, OKEMAPEMESSE. Witnesses present: John Williams, Capt. 49th Regt.; John Brackenbury, Ens. 49th Regt.; P. Selby, Asst. Sec. Indian Affairs; J. B. Rousseau."

(The document confirmatory of the "Toronto Purchase," 1805, will be given hereafter. The date of the original purchase of this tract was 1787.—Ed.)

north-east angle of the county of Lincoln, nearly opposite to the fort of Niagara, at the entrance of the Niagara River; the western point, which forms the mouth of the river, is called Missisaga Point. It is a handsome town, of about a mile square, with its streets at right angles. Here is the gaol and court-house of the home district; and near to it, on the heights above Navy Hall, is Fort George, where there are quarters for almost a whole regiment, and the works and buildings now enlarging.

Before York was made the seat of government, this place was sometimes honoured with the residence of His Excellency the Lieutenant-Governor, and the first Parliament met here.

The River Niagara affords a noble harbour from its mouth to Queenstown, about seven miles up, for vessels of any size. The white fish are taken here in great abundance, and are reckoned a delicacy; they are, however, as useful as delicate, serving the new settlers for constant food, as the salmon do on the north side of the lake.

There is a good road from Newark along the bank of the River Niagara to Fort Erie, passing through Queenstown and Fort Welland, formerly called Chippewa; Queenstown, or the lower landing (where there are huts for a regiment), is at one end of the carrying-place, as Fort Welland is at the other. When the wind serves, vessels run up from Newark to Queenstown, and unload their cargoes, receiving packs of peltries in return, for the Lower Canada merchants. Fifty waggons have passed this carrying-place in the course of a day. At Forts Welland and Erie are block-houses, and detachments of the troops from Fort George. The merchandize is transported in boats between the two places.

There is a stage runs from Newark to Fort Welland. [Chippewa. 2nd Edition.] We shall say little of the Falls of Niagara (of which so many persons have written). This immense cataract is a little below the mouth of the River Welland, and is no less wonderful than grand and magnificent. On the avenues to it are good mills; and there is no doubt but profitable water-works might be erected, immediately where it tumbles from a piece of stony flat called the Table Rock.

Above the Falls, near the upper mills, is a curious spring, the air or vapour of which catches fire, and is emitted with some force; the flame being collected with the pipe of a stove, was sufficiently strong to boil a tea-kettle of water.

The saw-logs are conveyed to this mill in a very remarkable manner. They are cut upon the banks of the River Welland [or Chippewa. 2nd Edition], and floated down to its mouth, where there is a reservoir made to contain them, by a chain of log-pens. From hence it is very dangerous to go in a boat to the mills on account of the great rapid, and the probability of being sucked into the vast vortex of the Falls. To avoid this, small poles have been fixed together from the reservoir to the mill (upwards of a mile), and floating about the distance of eighteen or twenty feet from the shore; they are kept off the shore in their places by poles projecting from the shore; and thus the chain of poles, rising and falling with the waters, and always floating on the surface, make a kind of canal, into which the logs are launched one by one, and so carried from the reservoir to the mill.

Below the Falls is a place called the Whirlpool, where the river has apparently made an effort to break its way through to the westward; but not having power to do so, has left an elbow (where there is a constant and great eddy), and broken through the more penetrable strata to the northward.

Fort Erie is situated at the eastern extremity of Lake Erie, where its waters narrow into the Niagara River. There is a small, old fort here, with a good new block-house. A company of soldiers are quartered here, as there are also at Fort Welland, for the purposes of transporting the public stores. Fort Erie has frequently suffered from the westerly gales, which occasion the lake sometimes to rise very considerably. The new fort is projected on a small height in the rear of the present garrison. In passing along the northern shore of Lake Erie, westward from Fort Erie, nothing very material occurs until you are imperceptibly intercepted by Long Point Bay; the principal feature within this distance is the Point Abino, a shelter for vessels, which find here a good anchorage. The Grand River discharges itself into the lake about twenty-four miles beyond Point Abino; its entrance being covered by a rocky island at some distance from the shore. Between Point Abino and the Grand River is a sugar-loaf hill, which affords a good land-mark for vessels.

The townships in this quarter are settling very fast, and several mills are already erected.

In Woodhouse and Charlotteville, which lie immediately within the long promontory, there is a great space of country, thinly timbered and without underwood, which greatly facilitates cultivation.

It is well calculated for roads, and is sufficiently open for carriages used in Europe, looking more like a royal forest than the uncultivated lands of nature.

The loyal peasant, sighing after the government he lost by the late revolution, travels from Pennsylvania in search of his former laws and protection; and having his expectations fulfilled by new marks of favour from the Crown, in a grant of lands, he turns his plough at once into the most fertile plains, and an abundant crop reminds of his gratitude to God and to his King. [This paragraph is omitted in the 2nd Edition.]

Above Turkey Point, on the heights, is the townplot of Charlotteville; and at the extremity of the point is the site of the projected wharves and docks, with a good channel leading to it. Within the point is an extensive marsh, where the settlers feed great numbers of cattle, which are driven to different parts of the Province for consumption. Long Point, now called the North Foreland [the five words preceding are omitted in 2nd Edition], is a peninsula projecting from the south-west angle of the township of Walsingham eastward into the lake, about twenty miles, making an arm which forms a very large bay. Where the peninsula joins to the main, there is a creek, which, when the waters are high, is of sufficient depth for boats to pass from within the bay, over the neck into the lake; and when the waters are low, the distance is so short that the batteaux are easily hauled over. Pottohawk Point is a small projection from Long Point, within and connected nearly with Turkey Point by a chain of rushy islands, running across the uppermost part of the bay.

From Charlotteville there is a good road through the country to the Mohawk village on the Grand River.

Proceeding westward from Long Point, you pass Kettle Creek and River Barbut, about twenty-five miles of coast, where the banks of the lake are high, until you arrive at Landguard, formerly called Point aux Pins; from hence there is a short communication by land to Chatham, at the Forks of the River Thames.

Leaving Landguard you arrive at Point Pelé, or the South Foreland, which makes a great projection into the lake; and having doubled the point, you enter the settlements made by the loyalists in the townships of Marsea, Gosfield, and Colchester; and having continued westward through those townships, you arrive at Malden, situated at the mouth of the strait, or River Detroit.

The military post of Amherstburgh is in the township of Malden, opposite to the Isle au Bois Blanc, to which it furnishes a small detachment, and commands the east channel of Detroit. There is a good and safe anchorage between the island and the main shore, which is well adapted for wharves, and has other conveniences for naval or commercial purposes. In going up the Detroit, you pass a low, marshy island, called Turkey Island, or Fighting Island, nearly four miles long. The channel on the west side of this island is the best; and the town of Sandwich presents itself on a small plain, close to the bank of the river. This town has been laid out for the reception of the British merchants who, agreeably to the treaty of amity, commerce and navigation, made their election of remaining British subjects. It is rapidly increasing. There is a good windmill in front of the town; the Huron Church is at its northern extremity; and the shore is well calculated for the building of wharves and for the security of vessels in the winter. The district gaol and courthouse are erected here, and small parks for the convenience of the town are laid out in its rear and given to the builders of the first houses.

There are several windmills on the Detroit, and an orchard adjoining almost every house. The settlers are numerous, and the improvements handsome and extensive. When the fruit-trees are in blossom, the prospect as you pass through the strait is, perhaps, as delightful as any in the world.

Leaving it, you pass Hog Island, and enter Lake St. Clair, which is small in comparison to either Ontario or Erie, and shallow throughout. It receives the waters of Lakes Superior, Michigan and Huron, by a long channel from north to south, called River St. Clair; it also receives the waters of the Thames, which fall into the lake on the south-east side. About the mouth of this river are large, extensive marshes, or natural meadows, which, with the exception of small tracts of woodland on the banks of the river, and a few woody islands, extend about twelve miles up the country, and about four or five miles in depth, affording sufficient hay for a numerous settlement, and abundance to spare.

About fifteen miles up the River Thames is the town of Chatham, situated in a fork of it, on a very desirable spot, so well protected, and so central, that, as the population increases, it will doubtless become a large and flourishing place. A block-house was erected

here by His Excellency Major-General Simcoe; and it was made a depôt for the fine whale-boats which were built by His Excellency's directions. Indeed, it possesses many advantages: the point is extremely well suited for the launching of vessels, and the river is sufficiently deep for those of any size; so that a secure arsenal and building-place, and an excellent dock, might be made in the lesser branch of the fork, upon which there is now a mill.

Firs are easily floated down from the pinery above, and other timber necessary for ship-building may be procured by water carriage.

The greatest disadvantage is the bar across its embouchure into Lake St. Clair; but that is of sufficient depth for small craft rigged, and for large vessels when lightened; and it would answer as a good winter harbour for any vessel which navigates the lakes, if she made herself light enough to pass over the bar and go into the river; and this might easily be effected for all vessels, by having a flat-bottomed lighter stationed at the mouth of the river for that especial purpose.

About twenty miles above Chatham is a village of Moravians, under the guidance of four missionaries of the United Brethren; and here they have a chapel. The converts are Indians, who are peaceable and civil; their principal employment is in attending to their corn-fields, and to the making of maple sugar. Above the village, on the river, is a large spring of petroleum. Passing upwards from the Moravian village, the Thames continues a fine serpentine canal, without falls, with a natural tracking-path great part of the way.

The windings of the river leave fine rich bottom. There is beautiful open land on the tops of the banks, which are high, but not broken. Passing the Delaware village, and a settlement in the beautiful plains of the Delaware township, where there is a fine pinery and good mills, you arrive at the spot selected by His Excellency Major-General Simcoe for the site of London.

This situation is on the main fork of the River Thames, and considered by His Excellency as the proper place for the seat of government. It offers many striking advantages for the capital of the Province; is centrally situated in regard to the Lakes Erie, Huron and Ontario; and around it is a large tract of land well calculated for agricultural purposes. It communicates with Lake St. Clair and the Detroit by the River Thames. It communicates with Lake Huron by the northern or main branch of the Thames and

a small portage; and it communicates with the Grand River or Ouse; and with Lake Ontario by the military way called Dundas Street.

The proposed fortifications on the heights of Charlotteville, above Turkey Point, and within the North Foreland, promise it protection from Lake Erie. The work at Chatham protects the approach to it up the Thames; and there are several strong posts which guard it from the eastward. Add to this, that its local situation secures the interest and attachment of that vast band of Indians, the Chippewa nation.

The township of London is also well situated for health, being plentifully watered with springs. The streams have gravelly bottoms, and the water is very pure. It is an excellent tract of land; a black, rich soil. It abounds with black and white walnut, cherry, bass, elm, sugar maple, hickory, beech, white and black ash, and several other kinds of timber.

This tract is extremely well watered by the windings of the Thames, and also receives a principal branch of the River Chenal Ecarté. Below the fork of the Thames is an island, made by the river having broken through a small isthmus, and several springs add to the stream in the vicinity of the island. The banks in general are high, with intervals here and there of fine flats, originally used by the Indians as planting grounds, particularly on the north side of the river, adjoining the fork. On the east side of the fork, between the two main branches of the River Thames, on a regular eminence, about forty feet above the water, is a natural plain, interspersed with small groves of wood, affording in its present state the appearance of a beautiful park cultivated with great cost and taste. The pines which skirt the river show their tops above the banks, and make a fine termination to the whole.

From London you pass up the Thames to Dorchester, upon another fork of that river; and from Dorchester still higher to Oxford, which is situated upon the upper forks. From hence Dundas Street extends forty-two miles to Burlington Bay. From thence you pass immediately into Lake Ontario, through a small outlet, from whence it is thirty-five miles to York, the present seat of the Government.

A TABLE

Burlington Bay

SHewing

Carleton Island 183

THE DIRECT DISTANCES

Chatham 315 125

Between the Principal Places, &c., in

Detroit 47 362 170

UPPER CANADA,

Genesee River 278 230 95 109

AND

Gr. Riv, where it inter. Dundas St. 139 150 104 212 22

Their Bearings, nearly, by the Magnet,
from York, on Lake Ontario.

Head of Lake Ontario 30 109 179 133 183 1-16

Hungry Bay 178 208 82 355 308 20 178

Kingston 28 175 204 92 354 309 11 175

Lake Simcoe 151 163 62 80 120 221 180 161 62

Lake St. Clair 194 321 321 148 119 244 9 14 329 140

London 73 121 252 256 78 49 173 102 59 261 70

Long Point, on Lake Erie 68 117 115 210 208 54 48 129 151 103 217 54

Matchedash, or Gloucester, on Lake Huron 162 149 218 35 180 198 110 118 170 239 204 192 110

Mohawk Village, Grand River 120 43 52 121 80 201 204 27 6 133 153 107 210 19

Mouth of Grand River, or Ouse 38 140 33 83 144 89 180 179 39 44 101 178 131 187 20

Mouth of the Thames, or La Tranche 144 121 218 117 73 193 321 321 148 119 244 34 14 129 140

Niagara 178 39 61 120 70 111 178 67 144 145 36 65 74 210 164 150 36

Oswegatchie, or Johnstown 202 381 239 260 224 270 310 381 204 60 70 232 263 150 412 367 54 232

Oswego 109 125 296 154 183 202 180 233 296 160 63 41 160 190 52 230 282 60 160

Oxford on the Thames 210 283 86 99 60 26 129 55 28 99 96 225 229 51 22 159 130 85 233 43

Presqu'isle de Quinté 165 76 120 85 260 121 140 130 153 191 260 90 62 72 113 144 60 292 247 72 113

Sodus 71 190 24 130 105 275 133 165 195 159 215 276 146 80 61 141 170 32 309 262 79 141

York 125 85 80 140 205 30 78 54 57 90 83 107 178 35 149 155 33 60 95 209 164 157 33

East-south-east.....	East by north.....	West-south-west.....	East by south & south.....	East by north & north.....	South-south-east & east.....	South-west and by west & west.....	South and by west & west.....	South-west and by west.....	North and by west & west.....	South-south-west & west.....	West-south-west.....	South west and by west & west.....	North & west.....	East and by north.....	East.....	South-west.....	South-west and by west & west.....	South-east and by east & east.....	South-west and by west & west.....	South-west and by west & west.....	East & north.....	South-westerly.....
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The distance in miles between two places is found in the square at the intersection of the lines drawn both ways from those places; and the bearings of each place from York is found at the bottom of each column of squares respectively, as for example:

From Oswegatchie to Detroit is 412 miles, the former bearing east by north $\frac{1}{2}$ north, the latter south-west and west $\frac{1}{4}$ west, from York.

From London to York is 107 miles, on a course west-south-west.

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO—NOVEMBER, 1873.
 Latitude—43° 39' 4" North. Longitude—81° 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day.	Barom. at temp of 32°.			Temp. of the Air.			Excess of Vapour above.			Humidity of Air.			Direction of Wind.			Resulant.			Velocity of Wind.			R. in Inchees.	Snow in Inchees.		
	6 A.M.	10 P.M.	Mean	6 A.M.	2 P.M.	10 P.M.	MEAN	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.	6 A.M.	2 P.M.	10 P.M.	A.M.	P.M.			10 P.M.	
																									10 P.M.
1	30.820	30.803	30.887	29.792	32.2	40.2	34.7	35.5	0.48	89	88	85	82	W	W	SW	SW	SW	SW	13.0	14.8	2.3	31.25	11.28	0.4
2	30.840	30.851	30.840	30.840	37.6	34.8	35.6	33.05	8.62	81	80	82	82	W	W	SW	SW	SW	SW	18.1	19.0	11.4	9.82	10.06	...
3	30.840	30.840	30.840	30.840	48.1	41.6	41.8	40.47	18.9	87	87	80	78	W	W	SW	SW	SW	SW	17.0	16.1	16.2	16.11	16.51	...
4	30.818	30.834	30.818	30.818	28.2	31.9	27.2	29.18	11.9	82	76	84	76	W	W	SW	SW	SW	SW	10.6	14.2	16.0	7.74	10.51	...
5	30.882	30.916	30.882	30.882	35.8	34.4	30.63	30.35	0.95	82	82	70	70	W	W	SW	SW	SW	SW	1.0	3.2	1.0	6.55	6.04	...
6	30.840	30.840	30.840	30.840	43.4	44.8	41.25	40.71	1.63	83	83	68	70	W	W	SW	SW	SW	SW	2.8	6.4	3.7	3.31	3.93	...
7	30.840	30.840	30.840	30.840	41.1	43.8	42.35	41.30	2.51	83	83	68	70	W	W	SW	SW	SW	SW	1.4	10.3	6.4	8.65	10.40	...
8	30.832	30.847	30.832	30.832	44.1	43.4	42.35	41.30	2.51	83	83	68	70	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
9	30.838	30.869	30.838	30.838	27.6	27.2	27.62	27.02	10.1	84	84	77	94	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
10	30.865	30.849	30.865	30.865	30.8	31.0	31.43	30.87	6.87	84	84	87	80	W	W	SW	SW	SW	SW	1.4	10.3	6.4	8.65	10.40	...
11	30.811	30.817	30.811	30.811	27.7	26.6	28.38	26.85	16.4	80	80	57	96	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
12	30.810	30.810	30.810	30.810	22.1	23.2	20.20	20.63	17.0	81	81	61	87	W	W	SW	SW	SW	SW	1.0	1.0	1.0	1.0	1.0	...
13	30.853	30.878	30.853	30.853	19.9	20.0	24.22	24.16	16.40	81	81	61	87	W	W	SW	SW	SW	SW	3.0	8.7	6.0	5.18	5.77	...
14	30.847	30.844	30.847	30.847	25.7	25.5	32.2	31.13	6.7	81	80	80	80	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
15	30.840	30.840	30.840	30.840	30.1	28.4	27.22	27.02	12.0	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
16	30.838	30.864	30.838	30.838	31.3	27.6	28.68	28.0	8.0	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
17	30.810	30.810	30.810	30.810	24.3	24.3	25.16	24.3	11.6	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
18	30.840	30.840	30.840	30.840	20.2	20.2	19.62	19.62	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
19	30.810	30.810	30.810	30.810	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
20	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
21	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
22	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
23	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
24	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
25	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
26	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
27	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
28	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
29	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
30	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...
31	30.840	30.840	30.840	30.840	25.1	25.1	25.16	25.16	12.40	89	89	89	91	W	W	SW	SW	SW	SW	4.0	14.0	6.7	7.92	8.57	...

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR NOVEMBER, 1873. COMPARATIVE TABLE FOR NOVEMBER, 1873.

YEAR.	TEMPERATURE.				RAINY.		S. W.		WIND.	
	Mean	Excess above average	Max. above min.	Min. below max.	No. of days	Inches	No. of days	Inches	Resultant direction	Mean Velocity.
1845	38.8	+ 0.1	50.5	8.1	7	1.105	4	5.0	0	...
1846	41.3	+ 0.4	55.6	18.0	12	5.805	2	0.4	...	0.64
1847	38.4	+ 2.2	57.9	8.7	14	3.155	3	Insp	N 81 W	1.81
1848	34.5	+ 1.9	48.0	15.9	33.1	0.920	10	2.815	N 39 W	1.65
1849	42.0	+ 6.2	56.4	26.3	29.9	2.091	10	2.091	N 42 W	1.43
1850	38.8	+ 3.4	62.8	11.0	61.8	7	3.858	6	N 50 W	1.23
1851	32.9	+ 3.6	50.2	13.8	36.4	7	3.858	6	N 59 W	1.63
1852	36.0	+ 0.4	60.4	18.2	32.2	7	1.778	3	N 9 W	0.65
1853	38.7	+ 2.5	56.6	12.8	42.8	15	2.425	0	N 9 W	0.52
1854	38.8	+ 0.4	56.4	13.8	41.8	13	1.116	4	West	3.44
1855	38.0	+ 2.2	59.2	15.6	43.7	8	4.599	6	N 66 W	3.18
1856	37.4	+ 1.0	50.4	18.8	37.4	10	1.375	9	N 81 W	2.95
1857	33.6	+ 2.8	58.2	3.5	61.7	14	3.235	9	N 25 W	6.4
1858	34.7	+ 2.5	52.0	16.3	37.7	12	3.679	13	N 81 W	3.14
1859	37.9	+ 1.5	61.5	13.2	61.3	12	2.568	8	N 81 W	4.95
1860	37.9	+ 0.7	62.4	23.6	29.4	14	4.294	11	N 48 W	1.94
1861	35.1	+ 0.4	58.0	16.2	41.8	11	3.366	0	N 88 W	3.00
1862	39.1	+ 2.7	67.0	17.8	49.2	13	3.763	5	N 72 W	3.82
1863	39.1	+ 0.6	60.2	21.0	39.2	11	3.978	7	N 78 W	2.08
1864	38.6	+ 2.2	63.2	23.6	39.6	6	2.968	4	N 35 W	3.06
1865	38.4	+ 2.0	64.2	21.8	32.4	13	2.968	7	N 85 W	4.02
1866	39.2	+ 0.5	60.4	0.6	60.8	8	1.858	9	N 37 W	2.10
1867	36.0	+ 0.2	59.5	20.1	39.4	14	6.154	10	N 85 W	3.69
1868	33.7	+ 3.7	59.0	13.0	45.0	9	2.516	18	N 78 W	4.36
1869	36.0	+ 0.2	57.2	10.4	37.6	6	0.594	6	N 89 W	3.69
1870	39.0	+ 5.8	47.1	0.0	47.1	10	2.655	12	N 85 W	4.06
1871	32.9	+ 3.6	52.0	8.2	43.8	7	0.429	1	N 85 W	5.02
1872	32.0	+ 8.8	51.4	0.8	60.6	5	0.616	18	N 50 W	3.09
1873	39.42	...	56.68	15.06	41.62	9.94	2.928	6.94	N 78 W	2.77
Ratio to 1873	...	...	...	...	...	...	...	...	...	...
Excess for 73	8.84	...	6.28	14.26	8.98	4.04	2.418	11.06	10.39	...

Note:—The monthly means do not include Sunday observations. The daily means, extending those that are not for the full 24 hours, are given as 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.....30.239 at 11 p.m. on 20th. } Monthly range
 Lowest Barometer.....28.864 at 2 p.m. on 18th. } 1.375.
 { Maximum temperature.....51.04 on 4th. } Monthly range
 { Minimum temperature.....0°8 on 28th. } 50.6.
 { Mean in autumn temperature.....39.17. }
 { Mean minimum temperature.....24.08. }
 { Greatest daily range.....2.74 from a.m. to p.m. of 29th.
 { Least daily range.....3.4 from a.m. to p.m. of 30th.
 Warmest day.....8th; mean temperature.....42.30 } Difference = 28°23.
 Coldest day.....26th; mean temperature.....14.07 }
 Maximum Solar Radiation { Perpetual.....10885 on 5th. } Monthly range
 Radiation { Perpetual.....356 on 26th and 28th. } 112.0.
 Aurora observed on 2 nights, viz.: 22nd and 25th.
 Possible to see Aurora on 11 nights; impossible on 19 nights.
 Raining on 5 d. s: depth 0.510 inches; duration of fall 16.3 hours.
 Mean of cloudiness, 0.77.

WIND.
 Resultant direction N. 50° W.; resultant velocity 3.08.
 Mean velocity 6.67 miles per hour.
 Max m velocity 31.8 miles, from 9 to 10 a.m. of 3rd.
 Most windy day 3rd; mean velocity 19.1 miles per hour.
 Least windy day 22nd; mean velocity 0.40 miles per hour.
 Most windy hour 11 a.m.; mean velocity 9.78 miles per hour.
 Least windy hour 5 a.m.; mean velocity 4.89 miles per hour.

Solar halos 23rd and 25th. Lunar haloes 6th and 26th.
 Fog on 8th.
 27th, Bay frozen over.
 It will be seen from the Comparative Table that November, 1873, is the coldest November recorded at this Observatory, and the depth of snow is six times the average amount for November, and almost double that of 1868—the heatiest fall previously recorded.

METEOROLOGICAL REGISTER.

XCVC

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO,—DECEMBER, 1873.
 Latitude—43° 39' 4" North. Longitude—81° 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Barom. at temp of 32°.		Temp. of the Air.		Excess of Mean Average		Tension of Vapour.		Humidity of Air.		Direction of Wind.		Velocity of the Wind.		Rain.		Snow in Inches.		
U.A.M.	2 P.M.	10 P.M.	Mean	U.P.M.	2 P.M.	10 P.M.	U.P.M.	2 P.M.	10 P.M.	U.P.M.	2 P.M.	10 P.M.	U.P.M.	2 P.M.	10 P.M.	U.P.M.	2 P.M.	
30.214	30.110	30.058	30.1247	9.0	12.7	14.612.60	0.68	90	87	NE	14.0	17.2	14.5	15.19	15.32	...	5.8	
29.841	29.661	29.658	29.7168	29.7	30.6	33.135.42	5.37	98	100	Cal.	7.6	0.0	4.54	4.93	0.310	...	...
30.543	30.388	30.388	30.471	34.1	35.2	44.44.35	14.80	98	100	SE	0.8	0.0	6.50	1.90	1.140	...	...
30.000	30.000	30.000	30.000	31.9	31.9	27.9.33.43	3.33	91	79	SW	32.0	22.0	21.98	23.52	(trap)	...	...
30.000	30.000	30.000	30.000	28.1	28.1	22.8.24.58	4.05	80	87	W	13.2	2.0	0.19	0.64	...	...	0.1
30.194	30.144	30.144	30.1650	30.1	30.1	21.2.25.92	2.25	88	62	Cal.	3.0	0.0	3.98	4.09	...	...	...
29.862	29.818	29.818	29.862	35.1	35.7	34.8.	7.57	98	97	Cal.	0.0	0.0	3.98	4.09	...	...	...
30.020	29.853	29.853	29.862	35.1	35.7	34.8.	7.57	98	97	Cal.	0.0	0.0	3.98	4.09	...	...	...
30.580	30.580	30.580	30.580	39.1	39.1	36.0.39.20	12.33	80	63	W	22.4	0.0	0.73	0.80	0.310	...	...
30.968	30.984	30.920	30.937	34.0	34.8	34.34.22	7.77	80	70	W	0.0	0.0	7.55	7.01	0.10	...	...
30.633	30.990	30.480	30.485	33.3	34.2	37.0.36.88	10.80	94	82	Cal.	7.0	0.2	1.07	1.94	...	...	...
30.404	30.990	30.990	30.990	36.2	36.2	32.9.34.73	9.08	80	93	Cal.	2.4	0.0	0.00	0.60	0.06	...	1.3	
30.239	30.250	30.004	30.388	29.0	27.9	21.8.24.90	0.37	92	90	Cal.	2.4	0.0	2.0	3.8	4.83	...	7.0	
30.810	30.700	30.700	30.810	29.7	29.7	28.2.41	3.88	90	84	Cal.	0.0	14.2	6.2	5.3	5.46	...	...
30.822	30.773	30.780	30.822	34.0	34.0	32.0.30.45	6.32	86	84	Cal.	3.5	0.4	0.0	1.68	1.68	...	...
30.648	30.600	30.600	30.648	37.3	37.3	32.0.30.72	6.82	86	86	Cal.	0.0	0.0	0.00	0.00	(trap)	...	...
30.650	30.650	30.650	30.650	38.4	38.4	35.1.35.45	11.88	86	85	Cal.	0.0	1.0	1.8	0.0	0.36	...	...
30.457	30.737	30.737	30.457	30.1	30.1	32.7.73	9.40	89	80	Cal.	13.5	11.6	11.0	7.14	10.74	...	2.0	
30.496	30.691	30.691	30.496	32.6	32.6	30.1.32.73	9.40	89	80	Cal.	11.5	12.4	10.0	9.7	10.66	...	0.1	
30.028	30.028	30.028	30.028	26.8	26.8	21.0.25.37	3.30	91	60	Cal.	0.0	1.6	6.03	5.16	...	...	...
30.028	30.028	30.028	30.028	26.8	26.8	21.0.25.37	3.30	91	60	Cal.	0.0	1.6	6.03	5.16	...	...	...
30.001	30.001	30.001	30.001	29.7	29.7	28.2.41	3.88	90	84	Cal.	0.0	0.0	0.00	0.00	...	...	...
30.814	30.814	30.814	30.814	31.0	31.0	31.1.29.57	7.35	90	88	Cal.	0.0	0.0	0.00	0.00	...	...	...
30.174	30.174	30.174	30.174	33.8	33.8	33.3.33.83	11.01	91	78	Cal.	0.0	5.0	0.0	2.10	2.10	0.00	...	0.4
30.200	30.200	30.200	30.200	32.9	32.9	29.7.31.43	0.72	91	80	Cal.	0.0	0.0	0.00	0.00	0.50	...	...
30.156	30.156	30.156	30.156	32.9	32.9	29.7.31.43	0.72	91	80	Cal.	0.0	0.0	0.00	0.00	0.50	...	...
30.413	30.413	30.413	30.413	29.7	29.7	19.6.25.00	3.48	85	65	Cal.	0.0	5.0	0.0	2.27	2.63	0.8	...	0.8
30.795	30.795	30.795	30.795	21.4	21.4	21.0.18.03	3.42	82	78	Cal.	0.0	0.0	0.00	0.00	...	...	...
30.811	30.811	30.811	30.811	33.3	33.3	31.1.28.20	6.80	82	70	Cal.	0.0	0.0	0.00	0.00	...	...	...
29.847	29.847	29.847	29.847	29.6	29.6	28.3.30.52	4.94	90	79	Cal.	0.52	6.59	6.76	5.93	10.93	19.2

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR DECEMBER, 1873.

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

Highest Barometer..... 30.218 at 6 a.m. on 1st } Monthly range =
 Lowest Barometer..... 28.880 at 6 a.m. on 4th } 1.338.
 { Minimum temperature..... 48.22 on 3rd } Monthly range =
 { Maximum temperature..... 64 on 1st } 4.68
 Mean maximum temperature..... 51.62 }
 Mean minimum temperature..... 31.64 } Mean daily range =
 Greatest daily range..... 20.94 from a.m. of 20th to a.m. of 30th. } 13.57.
 Least daily range..... 4.02 from a.m. to p.m. of 26th.
 Warmest day..... 4th; mean temperature..... 49.25 } Difference = 31.55.
 Coldest day..... 1st; mean temperature..... 12.80 }
 Maximum { Solar..... 108.00 on 20th } Monthly range =
 Radiation { Terrestrial..... -1.00 on 21st } 109.00.
 No Aurora observed.
 Possible to see Aurora on 0 nights; impossible on 22 nights.
 Raining on 10 days; depth, 0.995 inches; duration of fall, 64.3 hours.
 Snowing on 12 days; depth 19.2 inches; duration of fall, 80.7 hours.
 Mean of cloudiness, 0.81.

WIND.

Resultant direction, west; resultant velocity, 2.96.
 Mean velocity, 6.63 miles per hour, from 6 to 7 a.m. of 4th.
 Maximum velocity, 39.8 miles.
 Most windy day, 4th; mean velocity, 23.32 miles per hour.
 Least windy day, 12th, 16th; mean velocity, 0.90 miles per hour.
 Most windy hour, noon; mean velocity, 7.60 miles per hour.
 Least windy hour, midnight; mean velocity, 4.67 miles per hour.

Fog on 2nd, 3rd, 8th, 16th and 17th.

Lunar halos on 5th and 7th.

Very heavy storm of wind on the morning of 4th Bay again open, and remained so during month.

COMPARATIVE TABLE FOR DECEMBER.

YEAR.	TEMPERATURE.				RAIN.			SNOW.		WIND.	
	Mean	Excess above average.	Max. num.	Min. num.	Range.	No. of days.	Inches.	No. of days.	Inches.	Resultant Direction.	Mean Velocity.
1845	29.1	- 3.5	39.7	- 2.4	42.1	2	1mp	12	4.7	0	0.70 lbs.
1846	27.6	+ 1.9	49.2	3.9	45.3	6	1.215	9	6.0	...	0.57
1847	30.1	+ 4.6	49.6	0.3	49.3	7	1.185	8	6.8	...	0.55
1848	29.1	+ 3.6	48.8	3.1	47.7	7	2.754	7	16.5	83 W 1/2	6.44 mls.
1849	29.5	+ 0.9	40.8	6.6	47.3	6	0.249	12	9.6	82 W 1/2	6.23
1850	21.7	- 3.9	48.8	9.0	57.8	6	1.18	18	28.5	44 W 1/2	7.40
1851	21.5	- 4.1	44.0	14.8	58.8	6	1.075	18	40.7	82 W 1/2	7.37
1852	31.9	+ 6.3	51.0	13.2	37.8	7	4.995	10	20.1	89 W 1/2	6.64
1853	26.3	- 0.3	48.4	8.4	54.8	4	0.025	13	22.3	83 W 1/2	4.83
1854	21.0	- 3.7	44.8	7.0	51.8	6	0.590	12	17.2	44 W 1/2	8.66
1855	26.8	+ 1.2	47.0	6.2	52.2	6	1.815	20	39.6	88 W 1/2	11.39
1856	22.9	- 2.7	42.0	9.1	61.3	6	1.784	20	16.3	87 W 1/2	6.84
1857	31.9	+ 0.3	46.4	4.2	41.2	7	3.205	14	9.0	89 W 1/2	6.86
1858	27.4	+ 1.8	46.4	6.0	60.8	3	1.035	23	37.4	82 W 1/2	10.77
1859	17.9	- 7.7	54.8	7.0	40.0	3	1.362	21	13.5	82 W 1/2	10.14
1860	24.0	- 1.0	58.0	6.5	49.7	6	0.800	8	6.8	82 W 1/2	7.98
1861	31.1	+ 6.6	56.2	3.4	53.5	6	1.945	8	10.4	73 W 1/2	7.68
1862	28.8	+ 3.2	60.1	1.6	64.9	10	2.904	17	7.1	81 W 1/2	9.40
1863	27.0	+ 1.4	53.4	10.4	60.8	9	2.045	18	27.1	82 W 1/2	9.98
1864	24.7	- 0.9	50.4	6.7	48.5	7	1.72	11	5.2	81 W 1/2	7.33
1865	27.7	+ 2.1	54.2	6.0	69.0	7	2.794	13	16.6	88 W 1/2	9.91
1866	25.1	- 0.6	51.0	12.8	62.3	7	1.408	21	13.6	81 W 1/2	10.32
1867	21.6	- 4.0	49.6	3.2	47.4	1	0.045	18	15.5	71 W 1/2	9.80
1868	22.5	- 3.1	45.9	6.0	50.0	10	2.509	9	7.1	80 W 1/2	8.44
1869	28.7	+ 3.1	45.9	6.8	61.0	6	2.430	16	15.9	89 W 1/2	11.46
1870	26.5	+ 0.9	46.2	12.0	60.2	4	0.940	20	14.2	87 W 1/2	11.52
1871	19.9	- 6.7	48.2	13.8	53.8	3	0.394	4	38.0	87 W 1/2	9.08
1872	18.7	- 6.9	40.0	13.8	53.8	3	0.394	4	38.0	87 W 1/2	9.08
1873	29.8	+ 4.2	48.2	6.4	41.8	10	0.995	12	19.2	West	5.93
Results 10 1872	25.63	...	47.28	3.86	61.13	6.64	11.615	13.01	14.94	80 W 1/2	8.77
Excess for 1873	4.17	...	+ 0.92	+ 10.25	- 9.33	+ 4.36	0.620	1.01	4.26	...	2.84

GENERAL METEOROLOGICAL REGISTER

FOR THE YEAR 1873.

GENERAL METEOROLOGICAL

MAGNETICAL OBSERVATORY,

Latitude 43° 39' 4" North. Longitude 5h. 17m. 33s West Elevation above

	JAN.	FEB.	MAR.	APR.	MAY.	JUNE.	JULY.
Mean temperature.....	17.70	21.51	28.60	38.58	51.91	63.70	68.36
Difference from average (33 years) ..	- 5.37	- 1.44	- 2.78	- 2.58	+ 0.27	+ 2.02	+ 0.98
Thermic anomaly (lat. 43° 40').....	-15.10	-13.19	-13.50	-11.62	- 6.19	- 0.90	- 0.34
Highest temperature	46.0	43.0	45.0	61.2	70.4	89.5	87.5
Lowest temperature	- 18.4	- 10.5	- 6.0	24.4	30.0	+0.0	47.5
Monthly and annual ranges.....	64.4	53.5	51.0	36.8	46.4	49.5	40.0
Mean maximum temperature	25.23	27.09	34.03	46.70	61.07	73.66	77.66
Mean minimum temperature.	8.86	10.02	18.22	32.07	42.22	52.38	58.02
Mean daily range.....	16.38	17.07	15.81	14.69	18.85	21.28	19.64
Greatest daily range	37.9	36.4	32.3	26.7	29.0	32.7	31.5
Mean height of the barometer	29.6179	29.5590	29.5391	29.5310	29.5958	29.5671	29.5835
Difference from average (32 years) ...	-.0260	-.0660	-.0838	-.0588	+ .0259	-.0065	-.0098
Highest barometer	30.062	30.123	30.246	29.844	30.091	29.956	29.765
Lowest barometer	29.042	28.843	28.787	29.687	29.122	29.159	29.170
Monthly and annual ranges.....	1.020	1.275	1.449	0.787	0.969	0.797	0.695
Mean humidity of the air	86	81	82	75	70	70	72
Mean elasticity of aqueous vapour	0.095	0.102	0.127	0.174	0.270	0.417	0.502
Mean of cloudiness	0.73	0.59	0.67	0.48	0.55	0.46	0.55
Difference from average (20 years) ...	0.00	- 0.12	+ 0.05	- 0.12	- 0.01	- 0.06	+ 0.05
Resultant direction of the wind	N. 78 W.	N. 68 W.	N. 61 W.	N. 18 E.	N. 26 E.	N. 18 E.	S. 75 W.
Velocity of the wind	2.96	4.29	5.91	2.89	2.69	1.00	1.71
Mean velocity (miles per hour)	10.01	10.21	11.47	9.05	8.84	6.43	6.11
Difference from average (25 years) ...	+ 1.70	+ 1.57	+ 2.60	+ 0.88	+ 2.15	+ 1.28	+ 1.18
Total amount of rain	1.110	0.000	1.756	3.975	2.205	0.180	1.913
Difference from average (33 years) ...	-0.086	-0.877	+0.168	+1.522	-1.009	-2.303	-1.307
Number of days rain	4	...	5	13	13	10	11
Total amount of snow	39.2	10.4	25.2	insp.	0.0	...	...
Difference from average (30 years) ...	+22.75	- 8.51	+12.84	- 2.33	- 0.07	...	...
Number of days snow	17	11	15	3	0	...	...
Number of fair days	12	17	14	16	13	20	5
Number of auroras observed.....	4	3	4	9	8	11	10
Possible to see aurora (No. of nights)...	12	16	14	18	20	24	2
Number of thunder storms	0	0	0	3	1	4	5

REGISTER FOR THE YEAR 1873.

TORONTO, ONTARIO.

Lake Ontario 108 feet Approximate elevation above the sea, 342 feet.

AUG.	SEPT.	OCT.	NOV.	DEC.	1873.	1872.	1871.	1870.	1869.	1868.	1867.
66.59 + 0.40 - 1.91	57.28 - 0.78 - 4.22	45.69 - 0.16 - 8.11	27.58 - 8.84 - 15.62	29.80 + 4.17 - 6.20	42.94 - 1.18 - 8.06	42.92 - 1.20 - 8.08	43.81 - 0.31 - 7.19	45.93 + 1.81 - 5.07	43.13 - 0.99 - 7.87	43.33 - 0.79 - 7.67	43.84 - 0.28 - 7.16
85.0 46.4 38.6	79.0 33.5 45.5	69.2 24.2 45.0	61.4 0.8 50.6	48.2 6.4 41.8	69.5 18.4 107.9	96.0 13.8 109.8	89.5 21.0 110.5	88.4 - 6.6 95.0	89.0 - 5.4 94.4	93.4 - 15.6 109.0	95.2 - 12.8 108.0
75.52 57.54 17.9 24.8	66.17 46.82 19.35 27.4	53.79 37.46 16.33 31.4	34.17 21.08 13.09 24.4	34.42 21.75 12.67 26.4	... ... 16.93 37.9	... ... 17.59 37.8	... ... 18.46 34.6	... ... 15.71 36.2	... ... 14.61 33.6	... ... 15.26 38.7	... ... 15.47 31.6
29.6768 + .0555	29.6274 - .0405	29.6507 + .0046	29.5371 - .0729	29.6712 + .0207	29.5964 - .0198	29.6079 - .0083	29.6066 - .0096	29.5956 - .0206	29.5970 - .0192	29.6421 - .0259	29.6140 - .0022
29.997 29.3.8 0.659	30.025 29.203 0.822	30.160 28.915 1.245	30.239 28.864 1.375	30.218 28.880 1.338	30.246 28.797 1.449	30.231 28.789 1.442	30.358 28.673 1.716	30.212 28.186 2.046	30.223 28.793 1.420	30.445 28.824 1.621	30.332 28.768 1.564
76	77	78	81	84	78	75	73	76	77	76	74
0.496	0.373	0.24t	-0.126	0.147	0.257	0.259	0.242	0.279	0.252	0.264	0.252
0.48 - 0.01	0.46 - 0.04	0.61 0.00	0.77 + 0.03	0.81 + 0.06	0.60 - 0.01	0.59 - 0.02	0.64 + 0.03	0.62 + 0.01	0.66 + 0.05	0.64 + 0.03	0.61 0.00
N. 84 E 1.35 5.56 + 0.34	N. 81 W. 2.92 7.36 + 1.96	WEST. 1.77 7.81 + 1.68	N. 50 W 3.08 6.67 - 1.03	WEST 2.95 5.93 - 2.84	N. 58 W. 1.98 7.96 + 0.96	N. 72 W 2.91 6.78 - 0.22	N. 72 W 2.49 8.24 + 1.24	N. 45 W 1.61 7.33 + 0.33	N. 64 W 2.55 7.20 + 0.20	N. 57 W 1.47 7.69 + 0.69	N. 60 W. 2.05 7.00 0.00
1.913 - 1.059 12	3.020 - 0.659 14	2.155 - 0.262 13	0.510 - 2.418 5	0.995 - 0.620 10	20.232 - 8.940 110	18.588 - 10.584 115	22.771 - 6.401 110	33.898 + 1.726 116	31.182 + 2.010 115	29.408 + 0.236 103	19.041 - 10.131 100
...	...	0.2	19.6	19.2	113.8	67.5	90.6	122.9	84.6	78.7	110.5
...	...	- 0.64	+ 16.39	+ 4.26	+ 44.69	- 1.61	+ 30.49	+ 53.79	+ 15.49	+ 9.59	+ 41.39
...	...	3	18	12	79	77	84	77	81	82	84
19	16	16	9	13	170	185	187	185	180	190	181
4	5	0	2	0	60	67	55	77	47	50	43
24	19	14	11	9	203	236	209	206	182	193	202
4	4	1	0	0	22	28	22	34	32	25	23

MEAN METEOROLOGICAL RESULTS

TEMPERATURE.

	1873.	Average of 33 years.	Extremes.	
	°	°	°	°
Mean temperature of the year.....	42.94	44.12	46.36 in '48	42.10 in '56.
Warmest month	July.	July.	July, 1868.	Aug., 1860.
Mean temperature of the warmest month	68.36	67.38	75.80	64.46
Coldest month.....	January.	February.	Jan., 1857.	Feb., 1848.
Mean temperature of the coldest month	17.70	22.95	12.75	26.60
Difference between the temperature of the warmest and the coldest months	50.66	44.43	...	...
Mean of deviations of monthly means from their respective averages of 33 years, signs of deviation being disregarded	2.48	2.45	3.63 in 1843.	...
Months of greatest deviation without regard to sign	November.	January.	Jan., 1857.	...
Corresponding magnitude of deviation.....	8.84	3.64	10.3	...
Warmest day	July 19.	...	July 14, '68	July 31.
Mean temperature of the warmest day.....	75.68	77.78	84.50	72.75
Coldest day	Jan. 29.	...	Feb. 6, 1855.	Dec 22, '42.
Mean temperature of the coldest day	-5.75	-1.35	Jan. 22, 1847.	9.57
Date of the highest temperature.....	June 19.	...	Aug. 24 1854	Aug 19, '40.
Highest temperature.....	89.5	90.9	99.2	82.4
Date of the lowest temperature.....	Jan 29.	...	Jan. 10, 1859.	Jan. 2, 1842
Lowest temperature	-18.4	-12.4	-26.5	1.9
Range of the year	107.9	103.3	118.2	87.0

BAROMETER.

	1873.	Average of 32 years.	Extremes.	
	Mean pressure of the year	29.5964	29.6162	{ 29.6770 in 1849	{ 29.5602 in 1864.
Month of the highest mean pressure.....	August.	Sept.	Jan., 1849.	June, 1864.
Highest mean monthly pressure	29.6768	29.6679	29.8046	29.6525
Month of lowest mean pressure	April.	May.	March, 1859	Nov., 1849.
Lowest mean monthly pressure	29.5310	29.5699	29.4143	29.5886
Date of the highest pressure in the year	{ March 5, 8 a.m.	...	Jan. 8, 1866.	Jan. 14, 1870.
Highest pressure.....	30.246	30.370	30.940	30.212
Date of the lowest pressure in the year.....	{ March 29, 4 p.m.	...	Jan. 2, 1870.	Mar. 17, '45.
Lowest pressure	28.797	28.683	28.166	28.939
Range of the year	1.449	1.687	{ 2.133 in 1866.	{ 1.303 in 1845.

RELATIVE HUMIDITY.

	1873.	Average of 31 years.	Extremes.	
	Mean humidity of the year	78	77	82 in 1851.	73 in 1858.
Month of greatest humidity	January.	January.	Jan. 1857.	Dec. 1858.
Greatest mean monthly humidity.....	84	83	89	81
Month of least humidity	May, June.	May.	Feb., 1843.	April, 1849.
Latest mean monthly humidity.....	70	71	68	76

EXTENT OF SKY CLOUDED.

	1873.	Average of 20 years.	Extremes.	
Mean cloudiness of the year.....	0.60	0.61	0.66 in 1869.	0.57 in 1856.
Most cloudy month.....	December.	December.	...	...
Greatest monthly mean of cloudiness.....	0.81	0.75	0.83	0.73
Least cloudy month.....	June and September	August.	...	...
Lowest monthly mean of cloudiness.....	0.46	0.49	0.29	0.50

WIND.

	1873.	Result of 25 years.	Extremes.	
Resultant direction.....	N 58° W	N 62° W	...	...
Resultant velocity in miles.....	1.98	1.95	...	...
Mean velocity, without regard to direction.....	7.96	7.00	8.55 in 1860	5.10 in 1853.
Month of greatest mean velocity.....	March.	March.	March, 1860	Jan., 1848.
Greatest monthly mean velocity.....	11.47	8.87	12.41	6.82
Month of least mean velocity.....	August.	July.	Aug., 1852.	Sept., 1860.
Least monthly mean velocity.....	5.56	4.93	3.30	5.79
Day of greatest mean velocity.....	Mar. 16	...	Nov. 15, 1871.	Dec 2, 1848.
Greatest daily mean velocity.....	31.38	23.49	32.16	15.30
Day of least mean velocity.....	{ Dec. 12, 16, 17.	...	...	...
Least daily mean velocity.....	0.00	...	...	...
Hour of greatest absolute velocity.....	{ March 30, 1 to 2 a.m.	...	{ Dec. 27, 1861, 9 to 10 a.m.	{ Mar. 14, 1853 11 a.m. to n.
Greatest velocity.....	45.2	39.89	46.0	25.6

RAIN.

	1873.	Average of 33 years.	Extremes.	
Total depth of rain in inches.....	20.232	29.172	43.555 in '43	18.688 in '72.
Number of days in which rain fell.....	110	110	130 in 1861.	80 in 1841.
Month in which the greatest depth of rain fell.....	April.	Sept.	Sept., 1843.	Sept., 1848.
Greatest depth of rain in one month.....	3.975	3.679	9.700	3.115
Month in which the days of rain were most frequent.....	September	October.	June, 1869. Oct., 1864.	May, 1841
Greatest number of rainy days in one month.....	1	13	22	11
Day in which the greatest amount of rain fell.....	Sept. 28	...	Sept. 14, 1843	Sept. 14, 1848
Greatest amount of rain in one day.....	0.950	2.056	3.455	1.000

SNOW.

	1873.	Average of 30 years.	Extremes.	
Total depth of snow in inches.....	113.8	69.1	122.9 in '70.	39.4 in 1851.
Number of days in which snow fell	79	63	87 in 1859	33 in 1848.
Month in which the greatest depth of snow fell	January.	February.	March, 1870.	Dec. 1851.
Greatest depth of snow in one month.....	39.2	18.91	62.4	10.7
Month in which the days of snow were most frequent.....	November.	January.	Dec., 1872.	Feb., 1848.
Greatest number of days of snow in one month	18	14	24	8
Day in which the greatest amount of snow fell	Jan 24.	...	Feb. 5, 1863	} Jan. 10, '57
Greatest fall of snow in one day	15.3	9.7	Mar. 27, 1870		16.0
				5.5

DIFFERENCE OF CERTAIN METEOROLOGICAL ELEMENTS FROM THEIR NORMAL VALUES FOR EACH QUARTER AND FOR THE YEAR, FROM DECEMBER, 1872, TO NOVEMBER, 1873, INCLUSIVE.

Quarters.	Baro- meter.	Tem- perature	Rain.	Days Rain.	Snow.	Days Snow.	Velocity of Wind.	Clouded Sky.
	in.	o	in.		in.		miles.	
Winter	-.0169	-4.66	-2.227	-7.36	+38.10	+11.96	+1.19	-.04
Spring.....	-.0322	-1.70	+0.681	+3.00	+10.44	+ 3.85	+1.88	-.03
Summer.....	+ .0131	+1.13	-4.699	-0.59	...	...	+0.93	-.01
Autumn.....	-.0363	-3.26	-3.339	-1.70	+15.75	+12.27	+0.87	-.00
Year	-.0181	-2.12	-9.584	-1.66	+64.29	+23.08	+1.22	-.02

PERIODICAL OR OCCASIONAL EVENTS, 1873.

- January ... 30. Lightning in S. W. in evening.
 March 13. Crow seen.
 " 17. Blue birds seen.
 " 23. Robins seen.
 " 24. Wild geese passing.
 April 2. First schooner entered harbour.
 " 4. First thunder storm of year; very general over Ontario, and causing great destruction of life and property.
 " 11. Bay clear of ice.
 " 12. Woodpeckers seen. 13th. Butterflies.
 " 17. Steamer "City of Toronto's" first trip.
 " 20. Crocus in bloom. 24th Swallows seen.
 " 25. Last snow of season. 30th. Frogs heard.
 May 1. First river steamer ("Spartan") arrived.
 " 9. Maples in flower. 14th. Yellow birds arrived.
 " 14. Last ice of season. 15th. Currants in flower.
 " 17. Humming birds. 22nd. Plum trees in flower.
 " 22. Baltimore birds arrived. 23rd. Wild strawberries ripe.
 " 24. Mosquitos numerous. 19th. Apple trees in flower.
 " 30. Last frost of season; severe, and considerable injury resulting.
 June 16. Fire flies numerous.
 August 23. Swallows gone.
 September 11. First frost of season.
 " 27. Humming birds numerous.
 October ... 7. First ice of season.
 " 20. First snow of season.
 November.. 4. Niagara steamer laid up.
 " 15. Snow birds numerous.
 " 27. Bay frozen over.
 " 26-27. Heavy snow storm.
 December.. 4. Very heavy storm, doing great injury in various parts of the Dominion.

METEOROLOGICAL REGISTER.

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO—JANUARY, 1874.
 Latitude—43° 39'4 North. Longitude—82° 17m. 33s. West. Elevation above Lake Ontario, 108 feet.

Day	Barom. at temp of 32°.				Temp. of the Air.							Excess of Mean above Average.			Tenation of Vapour.			Humidity of Air.			Direction of Wind.			Puffant	Velocity of Wind.				Rain Inches.	Inches.
	6 A.M.		10 P.M.		6 A.M.		2 P.M.		10 P.M.			10 P.M.			10 P.M.			10 P.M.			10 P.M.		10 P.M.							
	G.M.	P.M.	G.M.	P.M.	G.M.	P.M.	G.M.	P.M.	W.	A.M.	P.M.	W.	A.M.	P.M.	G.M.	P.M.	G.M.	P.M.	G.M.	P.M.	U.	2 P.M.	10 P.M.		H.M.	A.M.	P.M.	W.		
1	29.680	29.684	29.740	29.703	29.0	37.3	35.5	33.7	32.0	+12.4	140	163	176	189	87	69	85	82	S	S	W	S	S	W	S	W	8.30	8.60	...	...
2	722	731	730	731.3	45.1	39.9	38.0	36.0	34.5	+15.3	208	220	208	208	80	95	95	95	W	S	S	S	S	S	S	S	3.21	3.85	...	...
3	624	624	624	624	40.0	40.0	40.0	40.0	40.0	+21.7	235	267	251	253	92	91	80	91	E	S	S	S	S	S	S	S	3.70	6.04	...	...
4	28.3	28.3	28.3	28.3	28.3	+4.5	111	100	105	104	90	63	74	75	E	S	S	S	S	S	S	S	10.50	13.83	...	...
5	23.4	23.4	23.4	23.4	23.4	+4.1	109	144	136	129	88	98	97	93	E	S	S	S	S	S	S	S	11.47	12.37	...	...
6	27.9	27.9	27.9	27.9	27.9	+9.4	152	178	185	170	100	100	100	100	E	S	S	S	S	S	S	S	13.0	16.8	...	...
7	31.6	31.6	31.6	31.6	31.6	+10.3	184	188	131	161	90	81	83	90	E	S	S	S	S	S	S	S	11.42	12.0	...	...
8	35.1	35.1	35.1	35.1	35.1	+12.0	165	182	191	174	87	88	90	91	E	S	S	S	S	S	S	S	5.71	7.10	...	...
9	30.1	30.1	30.1	30.1	30.1	+8.7	149	149	149	147	89	89	89	88	E	S	S	S	S	S	S	S	5.36	6.61	...	...
10	25.7	25.7	25.7	25.7	25.7	+0.1	99	99	99	99	84	67	87	82	E	S	S	S	S	S	S	S	15.2	20.5	...	...
11	24.4	24.4	24.4	24.4	24.4	+1.0	103	105	121	106	81	85	80	88	E	S	S	S	S	S	S	S	0.0	7.6	...	...
12	18.3	18.3	18.3	18.3	18.3	+6.1	176	176	176	176	87	82	87	83	E	S	S	S	S	S	S	S	10.9	12.0	...	...
13	19.9	19.9	19.9	19.9	19.9	+12.9	162	162	162	162	92	87	83	86	E	S	S	S	S	S	S	S	15.2	13.0	...	...
14	13.8	13.8	13.8	13.8	13.8	+6.6	106	106	106	106	77	88	81	86	E	S	S	S	S	S	S	S	10.9	12.4	...	...
15	24.0	24.0	24.0	24.0	24.0	+2.3	106	106	106	106	94	97	70	77	E	S	S	S	S	S	S	S	0.0	9.18	...	...
16	35.6	35.6	35.6	35.6	35.6	+8.2	202	202	202	202	97	97	78	90	E	S	S	S	S	S	S	S	0.0	3.24	...	...
17	8.8	8.8	8.8	8.8	8.8	+13.0	187	187	187	187	78	82	82	83	E	S	S	S	S	S	S	S	6.81	7.07	...	...
18	30.9	30.9	30.9	30.9	30.9	+13.0	187	187	187	187	99	95	95	95	E	S	S	S	S	S	S	S	4.03	4.17	...	...
19	32.6	32.6	32.6	32.6	32.6	+18.0	241	241	241	241	100	100	100	100	E	S	S	S	S	S	S	S	1.30	4.76	...	...
20	31.8	31.8	31.8	31.8	31.8	+8.3	202	202	202	202	100	100	76	70	E	S	S	S	S	S	S	S	11.62	12.43	...	...
21	25.7	25.7	25.7	25.7	25.7	+0.7	121	119	105	100	87	88	78	84	E	S	S	S	S	S	S	S	0.7	11.67	...	...
22	20.7	20.7	20.7	20.7	20.7	+6.1	106	102	105	103	78	82	90	84	E	S	S	S	S	S	S	S	8.16	10.69	...	...
23	32.9	32.9	32.9	32.9	32.9	+11.0	143	178	199	177	95	100	100	100	E	S	S	S	S	S	S	S	1.90	3.86	...	...
24	23.2	23.2	23.2	23.2	23.2	+4.0	106	100	106	120	74	72	83	83	E	S	S	S	S	S	S	S	0.0	4.6	...	...
25	31.9	31.9	31.9	31.9	31.9	+12.4	221	221	221	221	100	92	73	82	E	S	S	S	S	S	S	S	2.6	17.2	...	...
26	2.6	2.6	2.6	2.6	2.6	+0.8	113	113	113	113	80	85	91	84	E	S	S	S	S	S	S	S	4.9	10.8	...	...
27	12.0	12.0	12.0	12.0	12.0	+14.3	140	140	140	140	91	80	70	79	E	S	S	S	S	S	S	S	6.0	7.4	...	...
28	27.4	27.4	27.4	27.4	27.4	+3.1	125	137	124	120	83	83	87	87	E	S	S	S	S	S	S	S	5.9	10.91	...	...
29	29.6	29.6	29.6	29.6	29.6	+3.1	125	137	124	120	83	83	87	87	E	S	S	S	S	S	S	S	8.58	2.52	...	...

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR JANUARY, 1874.

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

Highest barometer.....30.225 at 11 p.m. on 25th { Monthly range
 Lowest barometer.....29.673 at 6 a.m. on 19th } 1.552
 { Maximum temperature.....67.5 on 4th { Monthly range
 { Minimum temperature.....17.0 } 50.5
 { Mean maximum temperature.....43.0 on 30th { Mean daily range
 { Mean minimum temperature.....17.0 } 30.0
 { Mean temperature.....30.0 from p.m. of 29th to a.m. of 30th.
 { Greatest daily range.....4.8 from a.m. to p.m. of 2nd.
 Warmest day.....3rd; mean temperature.....43.0; Difference=41.8.
 Coldest day.....30th; mean temperature.....10.3
 Maximum { Solar.....10650 on 17th and 18th { Monthly range
 { Radiation } Terrestrial.....859 on 17th { 114.8
 Aurora observed on 2 nights, viz., 16th and 17th.
 Possible to see Aurora on 8 nights; impossible on 23 nights.
 Raining on 13 days; depth, 2.820 inches; duration of fall, 86.3 hours.
 Snowing on 16 days; depth, 12.2 inches; duration of fall, 84.2 hours.
 Mean of cloudiness, 0.78.

WIND.

Resultant direction, N 61° W.; resultant velocity, 3.42 miles.
 Mean velocity, 8.55 miles per hour.
 Maximum velocity, 33.4 miles, from 6 to 7 p.m. of 4th.
 Most windy day, 11th; mean velocity, 16.09 miles p-r hour.
 Least windy day, 27th; mean velocity, 2.23 miles per hour.
 Most windy hour, 6 p.m.; mean velocity, 11.07 miles per hour.
 Least windy hour, 6 a.m.; mean velocity, 6.67 miles per hour.

Solar halo on 1st.
 Lunar haloes on 1st, 3rd, 6th, 9th, and 24th.
 Fog on 2nd, 3rd, 7th, 10th, 21st, 32nd, 23rd, 27th and 31st.
 Bay frozen on 10th—second time this winter.

COMPARATIVE TABLE FOR JANUARY.

YEAR.	TEMPERATURE.				RAI.,			SNOW.			WIND.	
	Excess above average	Max. num.	Min. num.	Range.	No. of days.	Inches.	No. of days.	Inches.	Resultant Direction.	Velocity.	Mean Velocity.	
1847	7	5.8	41.0	0-13.45.3	5	2.335	10	6.0	0	...	0.65 lbs	
1847	+.3	6.8	42.4	2.7.39.7	7	2.135	6	7.6	...	...	1.09
1848	25.7	6.8	51.1	-11.4.22.5	7	2.345	6	7.1	N 62 W	2.03	6.21	
1849	18.6	4.4	39.6	-14.2.33.7	4	1.175	10	0.2	N 63 W	3.01	6.71	
1850	0.7	0.8	40.4	0.6.36.5	6	1.250	8	6.2	N 37 W	0.69	5.80	
1851	25.6	+ 2.0	43.4	-12.8.30.2	4	1.275	10	7.8	N 27 W	3.26	7.64	
1852	18.4	4.3	37.3	-10.6.47.9	0	0.000	19	30.9	N 68 W	3.14	7.07	
1853	23.0	+ 0.1	40.9	-9.7.50.6	1	0.290	6	7.6	N 27 W	2.62	6.34	
1854	23.6	+ 0.7	46.4	-6.4.51.8	6	0.434	11	7.6	N 73 W	2.44	6.01	
1855	26.0	+ 3.0	49.0	-6.4.54.4	5	0.525	13	24.3	N 73 W	1.91	7.26	
1856	16.0	- 0.9	34.4	-12.0.46.4	0	0.000	14	13.6	N 75 W	5.24	10.69	
1857	12.8	- 0.1	37.2	-20.1.57.3	3	Imp.	14	11.8	N 70 W	4.86	10.31	
1858	30.0	+ 7.1	47.4	0.6.40.9	6	1.440	10	16.4	N 71 W	2.83	7.76	
1859	0.4	+ 3.5	43.2	-25.6.69.7	0	1.440	10	16.4	N 71 W	3.17	8.76	
1860	23.4	+ 0.8	48.4	-6.5.53.2	0	1.740	16	8.7	N 89 W	6.00	9.37	
1861	19.0	+ 3.0	37.0	-11.2.48.2	4	0.885	23	20.9	N 86 W	2.02	6.30	
1862	21.7	+ 1.2	44.5	-2.6.47.1	6	0.116	19	27.4	N 26 W	2.10	8.83	
1863	25.1	+ 6.2	47.2	-14.0.61.0	10	1.122	17	26.6	N 61 W	1.13	7.23	
1864	22.8	+ 0.1	44.2	0.0.53.2	4	1.165	14	20.3	N 73 W	6.00	10.22	
1865	17.7	- 2.2	37.2	0.0.46.2	1	0.440	15	14.8	N 65 W	4.80	9.39	
1866	20.7	- 2.2	44.0	-14.0.58.0	4	0.622	10	10.3	N 75 W	3.28	9.34	
1867	17.6	- 6.5	43.8	-4.8.48.0	1	Imp.	21	42.0	N 65 W	3.21	9.36	
1868	19.0	+ 3.0	39.0	-7.0.46.0	2	Imp.	21	44.6	N 83 W	3.97	8.91	
1869	27.7	+ 4.8	45.0	-1.0.46.0	4	0.88.	12	9.8	N 72 W	3.40	9.21	
1870	24.4	+ 1.8	46.0	-3.2.48.2	8	3.412	8	3.412	N 69 W	2.63	8.98	
1871	21.3	+ 1.6	46.4	-13.2.59.1	6	0.864	23	43.6	N 49 W	2.66	9.84	
1872	22.4	- 5.6	41.8	-2.6.41.8	5	0.229	15	3.9	N 87 W	4.73	8.67	
1873	17.7	- 5.2	46.0	-18.4.64.4	4	1.110	17	9.2	N 76 W	2.96	10.01	
1874	21.8	+ 1.9	67.6	-4.0.91.6	13	2.820	16	12.2	N 61 W	3.42	8.58	
Mean	22.91	...	43.21	-8.11.51.32	4.69	1.194	14.00	17.18	N 60 W	3.17	8.38	
Excess for 74.	+ 1.88	...	+ 14.29	+ 4.1110.16	+ 0.91	4.626	...	...	...	...	+ 0.20

METEOROLOGICAL REGISTER.

CCV

MONTHLY METEOROLOGICAL REGISTER, AT THE MAGNETICAL OBSERVATORY, TORONTO, ONTARIO, —FEBRUARY, 1874.
 Latitude—43° 39' 4" North. Longitude—81° 17 m. 33 s. West. Elevation above Lake Ontario, 108 feet.

Day	Barom. at temp. of 32°.		Temp. of the Air.		Excess above Normal.		Tension of Vapour.		Humidity of Air.		Direction of Wind.		Velocity of Wind.		Rain in Inches	Snow in Inches
	6 A.M.	3 P.M.	6 A.M.	3 P.M.	6 A.M.	3 P.M.	6 A.M.	3 P.M.	6 A.M.	3 P.M.	6 A.M.	3 P.M.	6 A.M.	3 P.M.		
	Mean.	Mean.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.	Normal.		
1	30.135	30.155	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	30.140	30.160	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	30.145	30.165	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	30.150	30.170	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	30.155	30.175	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	30.160	30.180	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	30.165	30.185	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	30.170	30.190	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	30.175	30.195	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	30.180	30.200	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	30.185	30.205	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	30.190	30.210	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	30.195	30.215	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	30.200	30.220	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	30.205	30.225	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	30.210	30.230	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	30.215	30.235	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	30.220	30.240	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	30.225	30.245	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	30.230	30.250	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	30.235	30.255	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	30.240	30.260	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	30.245	30.265	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	30.250	30.270	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	30.255	30.275	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	30.260	30.280	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	30.265	30.285	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	30.270	30.290	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	30.275	30.295	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	30.280	30.300	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	30.285	30.305	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	30.285	30.305	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	30.290	30.310	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	30.295	30.315	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	30.300	30.320	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	30.305	30.325	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	30.310	30.330	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	30.315	30.335	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	30.320	30.340	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	30.325	30.345	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79	30.330	30.350	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	30.335	30.355	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81	30.340	30.360	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82	30.345	30.365	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83	30.350	30.370	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84	30.355	30.375	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	30.360	30.380	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86	30.365	30.385	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	30.370	30.390	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	30.375	30.395	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	30.380	30.400	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	30.385	30.405	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	30.390	30.410	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	30.395	30.415	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	30.400	30.420	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	30.405	30.425	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	30.410	30.430	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	30.415	30.435	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	30.420	30.440	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	30.425	30.445	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99	30.430	30.450	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	30.435	30.455	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	30.440	30.460	0	0	0	0	0	0	0	0	0	0	0	0	0	0
102	30.445	30.465	0	0	0	0	0	0	0	0	0	0	0	0	0	0
103	30.450	30.470	0	0	0	0	0	0	0	0	0	0	0	0	0	0
104	30.455	30.475	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	30.460	30.480	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	30.465	30.485	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	30.470	30.490	0	0	0	0	0	0	0	0	0	0	0	0	0	0
108	30.475	30.495	0	0	0	0	0	0	0	0	0	0	0	0	0	0
109	30.480	30.500	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	30.485	30.505	0	0	0	0	0	0	0	0	0	0	0	0	0	0
111	30.490	30.510	0	0	0	0	0	0	0	0	0	0	0	0	0	0
112	30.495	30.515	0	0	0	0	0	0	0	0	0	0	0	0	0	0
113	30.500	30.520	0	0	0	0	0	0	0	0	0	0	0	0	0	0
114	30.505	30.525	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	30.510	30.530	0	0	0	0	0	0	0	0	0	0	0	0	0	0
116	30.515	30.535	0	0	0	0	0	0	0	0	0	0	0	0	0	0
117	30.520	30.540	0	0	0	0	0	0	0	0	0	0	0	0	0	0
118	30.525	30.545	0	0	0	0	0	0	0	0	0	0	0	0	0	0
119	30.530	30.550	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	30.535	30.555	0	0	0	0	0	0	0	0	0	0	0	0	0	0
121	30.540	30.560	0	0	0	0	0	0	0	0	0	0	0	0	0	0
122	30.545	30.565	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	30.550	30.570	0	0	0	0	0	0	0	0	0	0	0	0	0	0
124	30.555	30.575	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	30.560	30.580	0	0	0	0	0	0	0	0	0	0	0	0	0	0
126	30.565	30.585	0	0	0	0	0	0	0	0	0	0	0	0	0	0
127	30.570	30.590	0	0	0	0	0	0	0	0	0	0	0	0	0	0
128	30.575	30.595	0	0	0	0	0	0	0	0	0	0	0	0	0	0
129	30.580	30.600	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	30.585	30.605	0	0	0	0	0	0	0	0	0	0	0	0	0	0
131	30.590	30.610	0	0	0	0	0	0	0	0	0	0	0	0	0	0
132	30.595	30.615	0	0	0	0	0	0	0	0	0	0	0	0	0	0
133	30.600	30.620	0	0	0	0	0	0	0	0	0	0	0	0	0	0
134	30.605	30.625	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	30.610	30.630	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136	30.615	30.635	0	0	0	0	0	0	0	0	0	0	0	0	0	0
137	30.620	30.640	0	0	0	0	0	0	0	0	0	0	0	0	0	0
138	30.625	30.645	0	0	0</											

REMARKS ON TORONTO METEOROLOGICAL REGISTER FOR MARCH, 1874

COMPARATIVE TABLE FOR MARCH.

YEAR	TEMPERATURE.				RAINY.		SNOW.		WIND.	
	Mean	Excess above average	Max. above min.	Range	No. days	Inches	No. days	Inches	Resultant Direction	Mean Velocity
1846	35.1	+ 3.6	49.0	8.3	9	1.905	5	2.3	0	0.30lbs
1847	26.2	- 3.1	38.3	5.0	5	0.860	0	4.2	...	0.71
1848	28.6	- 0.7	58.0	0.0	5	1.220	0	9.1	N 65 W	2.03
1849	33.5	+ 4.2	57.0	16.1	7	1.525	2	2.3	N 33 W	1.46
1850	32.4	+ 3.1	59.3	7.2	3	0.745	7	11.2	N 51 W	2.62
1851	32.4	+ 3.1	59.3	12.0	3	0.770	9	8.8	N 21 W	1.93
1852	27.7	- 1.6	44.8	7.4	8	3.086	12	19.5	N 8 W	0.71
1853	30.4	+ 1.3	60.3	0.0	6	1.084	8	7.1	N 58 W	2.86
1854	30.7	+ 0.6	49.4	7.4	9	2.424	3	2.8	N 53 W	3.39
1855	23.1	- 6.2	41.4	- 2.9	5	1.485	11	16.1	N 83 W	4.70
1856	27.8	- 1.5	57.0	- 5.5	0	0.000	12	16.2	N 71 W	7.68
1857	28.4	- 0.9	65.4	6.5	4	0.335	15	11.3	N 63 W	6.03
1858	30.3	+ 7.0	64.2	9.8	10	0.917	6	0.2	N 58 W	5.45
1859	44.6	+ 5.2	67.0	12.8	15	4.054	8	1.0	N 64 W	1.96
1860	28.8	- 2.4	47.4	5.2	8	0.852	11	2.4	N 64 W	7.61
1861	26.9	- 0.5	43.2	8.0	8	2.564	11	18.5	N 12 W	4.33
1862	25.8	- 3.6	42.2	4.0	4	0.687	17	11.4	N 27 W	2.50
1863	29.1	+ 4.2	60.2	3.0	4	1.824	12	3.1	N 63 W	2.23
1864	33.6	+ 4.3	65.6	3.0	10	3.054	12	18.9	N 61 W	2.16
1865	27.6	- 1.7	45.8	7.5	8	1.916	18	7.2	N 73 W	6.84
1866	20.6	- 2.0	59.0	3.0	8	0.617	14	33.4	N 34 W	2.12
1867	31.3	+ 2.0	69.0	15.6	7	2.660	6	4.1	N 21 W	2.86
1868	23.1	- 0.2	46.8	6.4	2	0.885	9	15.0	N 52 W	8.02
1869	20.3	- 3.0	44.0	6.2	2	0.755	18	62.4	N 18 E	4.73
1870	34.7	+ 6.4	68.6	17.0	8	2.782	12	13.9	N 31 W	2.59
1871	19.9	- 9.4	46.4	- 10.8	2	0.700	14	16.9	N 68 W	5.36
1872	26.6	- 2.7	45.0	0.0	6	1.756	15	25.2	N 61 W	5.91
1873	28.7	- 0.6	57.0	6.5	10	1.300	10	2.6	N 65 W	7.47
1874	29.30	...	50.82	1.29	6.03	1.594	10.29	12.17	N 51 W	3.40
Excess for '74	0.03	...	+ 0.18	+ 4.21	3.97	0.204	0.29	10.17	...	+ 4.27

Very - The monthly means do not include Sunday observations. The daily means, excepting those that relate to the wind, are derived from six observations made at 6, 9, 12, 3, 6, 9, & 12 P.M., & 1 P.M., 10 P.M., and midnight. The means and resultants of the wind are from hourly observations.

Highest Barometer..... 30.077 at 7 a.m. on 15th } Monthly range
 Lowest Barometer..... 29.013 at mid on 3rd. } 1.064.
 { Maximum temperature..... 57.0 on 16th. } Monthly range
 { Minimum temperature..... 5.0 on 12th. } 51.0.
 { Mean maximum temperature..... 37.15. } Mean daily range
 { Mean minimum temperature..... 21.92. } 16.03
 { Greatest daily range..... 30.27 from a.m. to p.m. of 4th.
 { Least daily range..... 0.89 from a.m. to p.m. of 17th.
 Warmest day..... 18th; mean temperature..... 41.93 } Difference = 31.03.
 Coldest day..... 12th; mean temperature..... 10.50 }
 Maximum { Solar..... 11.095 on 21st. } Monthly range
 Revolution { Terrestrial..... 0.02 on 12th. } 110.3.
 No Aurora observed
 Possible to see Aurora on 17 nights; Imp-possible on 14 nights.
 Snowing on 10 days; depth 2.6 inches; duration of fall 34.0 hours.
 Raining on 10 days; depth 1.390 inches; duration of fall 40.3 hours.
 Mean of cloudiness, 0.68.

WIND.
 Resultant direction N. 65° W.; resultant velocity 7.47 miles.
 Mean velocity 13.24 miles per hour.
 Max. : m velocity 37.0 miles, from 4 to 6 p.m. of 11th.
 Most windy day 23rd; mean velocity 20.64 miles per hour.
 Least windy day 18th; mean velocity 1.88 miles per hour.
 Most windy hour 3 p.m.; mean velocity 17.05 miles per hour.
 Least windy hour 6 a.m.; mean velocity 0.63 miles per hour.
 Lunar haloes 2nd and 5th. Solar halo on 25th.
 Fog on 2nd, 17th, 19th, 19th.
 Blue birds seen on 18th.
 Robins numerous same day.
 Hay open on 12th; slightly froze over again; clear by 18th.

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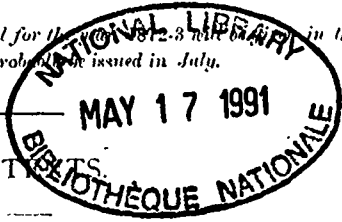
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. The Annual Report of the Council for the year 1873 will be published in the next Journal, which will probably be issued in July.



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