Pages Missing

SESSION 1892-93.

FIRST MEETING.

First Meeting, 5th November, 1892, the President in the chair.

Letters were read from the American Society of Civil Engineers and from the United States Weather Bureau.

Donations and Exchanges since last meeting, 1552.

The following were elected members:—Miss Marcella Wilkes, W. H. Marcon, Dr. Oronhyatekha, R. H. Bowes, W. Morrison.

The following gentlemen were, on the recommendation of Council, elected corresponding members for three years:—R. G. Haliburton, Q.C., F.R.G.S., Dr. T. W. Beemer, Rev. A. G. Morice, O.M.I.

The following motions were passed:—

Moved by J. C. Hamilton, seconded by Prof. Macallum:—

"That this Institute recognizes with very sincere regret the great loss it has sustained since its last session in the death of four of its honoured members:—His Honour Sir Alexander Campbell, K.C.M.G., Sir Daniel Wilson, LL.D., D. A. O'Sullivan, LL.D., Q.C., and Nelson G. Bigelow, M.A., LL.D., Q.C., M.P.P., and that a minute of this resolution be entered in the Transactions of the Institute."

Moved by Dr. Kennedy, seconded by Alan Macdougall:—

"We, the members of the Canadian Institute, ask to be permitted to add our tribute of respectful regret and sorrow on the loss sustained by our province in the death of Sir Daniel Wilson. For over thirty-eight years a member of the Institute, he took a deep interest in its progress, enriching its Transactions by numerous contributions of his talented pen. Elected President in 1859, he for many years afterwards remained a constant and warm friend till in 1884, as a tribute to his interest in our work and a respectful recognition of his labours in Literature, Archaeology, and Ethnology, he was elected an honorary member, the highest distinction the Institute could confer upon him. The Institute at this its first meeting after his death records its appreciation of the services rendered by Sir Daniel Wilson, mourns for the loss it has sustained, and conveys to his family its respectful expression of sympathy in their great and deep affliction."

Moved by Prof. Macallum, seconded by James Bain, Jr. :—

"The Council and members of the Canadian Institute desire to tender to Professor Loudon their congratulations on his appointment to the Presidency of the University of Toronto, and to express the hope that he may long live to occupy th position for which he is so well qualified. They rejoice to see in this appointment of a former President of this Institute to the highest office in the Provincial University, a tribute to the character of the scientific work done by the Institute and an augury of a continuation of the close relations which should exist between the two leading scientific bodies in the province."

Mr. J. W. L. Forster then presented to the Institute a portrait of Sandford Fleming, LL.D., C.M.G., which was acknowledged by the President.

Mr. Forster, in handing the portrait to the President and members, said :—

"Sirs,—There are not many ways in which I can directly advance the scientific departments of the Institute, but this task was undertaken with the hope that in some way it would serve to encourage and deepen the interest in the work you are doing. I was moved to the act also because of my humble opinion no one better deserves this recognition at your hands than the subject of the picture in view of his services in the past and present relationship to the Institute, and I was prompted to this by the knowledge that what is mortal of men will vanish from our sight, and there are men whose memory is worthy of being cherished. The hope is indulged in that this portrait will by this service be prized for generations to come.

The President said in reply :—

"There are jewels that we must provide with a suitable setting, and the hope is renewed that a suitable home shall soon be secured for the Institute, and that this portrait will be one of its chief ornaments. Not only is this a liberal gift from the artist, but a tribute to science from the fine arts. The Institute will jealously guard this treasure, which is a worthy tribute to its most distinguished living member."

The Secretary read a letter from Dr. Sandford Fleming, in which he regretted his unavoidable absence, and warmly acknowledged the honour conferred upon him. The letter contained some interesting reminiscences of his early connection with the Institute, and of those

associated with him in its foundation. After sketching the history of the Institute since that time, he adds :—

"I have touched on the place which the Canadian Institute has attained among modern scientific societies. The Institute is quietly and unobtrusively gaining for itself an honourable name. The work is intimately associated with the life and progress of the Dominion, and as the years come and go it will, I confidently believe, do its part in promoting the purposes of science in inaugurating needed reforms, and in advancing the best interests of society."

SECOND MEETING.

Second Meeting, 12th November, 1892, the Vice-President in the chair.

Letters were read from the Prisoners' Aid Association, and the Chicago Historical Society.

Messrs. Arthur B. Willmott and Charles B. Miller were elected members.

Donations and Exchanges, 81.

The following resolution was moved by Mr. G. Kennedy, LL.D., seconded by Mr. G. G. Pursey, and unanimously adopted :—

"In accepting from Mr. Forster his magnificent gift of a portrait of our distinguished honorary member, Mr. Sandford Fleming, C.E., LL.D., C.M.G., etc., the members of the Canadian Institute desire to express their appreciation of the unselfish devotion to art and the interest in the Institute which have prompted Mr. Forster to this generous act, and they hereby tender to him their sincere gratitude for so fine a specimen of his handiwork, which will, they trust, hand down to future generations the counterfeit presentment of one who so deservedly holds a high place in the respect not merely of the members of the Institute, but of the entire Dominion of Canada."

A. Hamilton, M.A., M.D., read a paper on the "Physiology of the Lips in Speech," of which the following is a synopsis :—

The functions, or physiology, of the lips in speech are chiefly (1) to modify vowels by the shape assumed ; (2) form the consonants called labial. The labial effect on vowels has been called "rounding." In what this consists has not been stated anywhere definitely and lucidly. To a less extent this is true of consonants. To give a lucid and true statement of lip-function is the object of the paper. It simplifies matters

to slightly notice the many muscles of the face required to express the emotions and perform other vital acts and concentrate attention on (1) the orbicularis oris, that purse-string muscle which surrounds the mouth by its action and produces the *o*-family of vowels par excellence; (2) the elevators of the upper and lower lips, causing their protrusion, producing the *u*-family of vowels. In *o*-vowels purse-string contraction or true "rounding" prevails; in *u*-vowels, protrusion. A marked parallel obtains between the orbicularis muscle surrounding the eye, shutting the lids and throwing the skin into transverse wrinkles. The elevator of the upper lid is analogous in function to the elevator of the upper lip. The Roman alphabet is an admirable one for annotating vowel sounds, because it divides the vocal scale into five grades, which (in descending pitch) are *i, e, a, o, u*. In English we appear to have developed open *o* into a new primary vowel, making *i, e, a, o, o, u*, as heard respectively in machine, vein, art, law, no, truth. It is remarkable that we in Canada should be so slow to adopt Roman or Continental pronunciation of Latin, while it is taught everywhere else, even in the seats of learning in conservative Britain—a reflection on our educationists which they should not be slow to rectify, unless willing to lag behind the age. The *o*-family of vowels, or those in which circular contraction is exclusive or predominant, was then taken up seriatim in English (standard and dialectic) and some chief forms in French and German. Then the *u*-family, in which protrusion prevails, was treated. The regular labial consonants *f, v, p, b, m*, were then explained as to their formation, as were also Spanish *b*, German *w*, Japanese and Hungarian *v*, Greek *b*, and *ph*, and the two consonants beginning the French words *oui* and *huile*.

THIRD MEETING.

Third Meeting, 19th March, 1892, the President in the chair.

Dr. Meredith and Messrs. Pearce and McCrossen were elected delegates to the Prison Reform Conference.

Donations and Exchanges, 70.

Prof. L. E. Horning was elected a member.

A paper by Rev. John McLean, M.A., Ph.D., on the "Social Organization of the Blackfoot Indians" was read by Mr. Alan Macdougall, C.E.

A paper by H. R. Wood, M.A., entitled, "Contributions to Canadian Mineralogy," was read by Mr. G. Kennedy, LL.D. This short paper

had particular reference to some crystals of corundum and its gem variety sapphire. They were collected with a number of other minerals at the base of the Laurentian range in the vicinity of Papineau creek, in the township of Carlow. The sapphire was found along the banks of the Yak river, weathered out from a grey granite. It has been stated by Dr. Hoffman, in notes of minerals occurring in Canada, that corundum has only been found in the township of Burgess, Lanark county, Ontario.

FOURTH MEETING.

Fourth Meeting, 26th March, 1892, the President in the chair.

The President, Dr. Clark, and Messrs. Pursey and L. J. Clark were appointed delegates to attend the Conference on Social Problems, on 9th and 10th December.

Donations and Exchanges, 48.

Dr. Daniel Clark read a paper on "The Brain as the Organ of the Mind." He gave illustrations on the blackboard of the exceptional arrangement in the brain of the blood circulation, and how this differed from the system in other parts of the body. He gave the apparent reasons for this anomalous construction. He described the various structures of the substance of the brain and their functions in the organism, especially as media of sensation and volition. He gave illustrations of how impressions produced on the brain are always retained, and how valuable this law is in memory. The functions of all the bodily cells were related—each according to its kind—and more especially the varied work of brain cells in all mental phenomena. The cells were the ultimate physical organisms in relation to mind operations. Brain power was determined by their number more than by brain weight. A small brain well equipped had more tone and energy in it than a large brain not thus endowed. The absolute weight and the relative weight to that of the body were not safe guides to determine brain power. The different definitions of mind were discussed, that of the theologian, that of the metaphysician, and that of the physiologist. The battle of schools raged more over definitions than over facts, as was usually the case. The localization of brain function, according to the modern schools of Fevrier, of Charcot, of Richet, and of Campanini, were explained, as was also the recently published theory of the German Wiessman in antagonism to the theory of Darwin in respect to the hereditary transmission of acquired character.

FIFTH MEETING.

Fifth Meeting, 3rd December, 1892, the President in the chair.

Donations and Exchanges, 154; also to the Biological Section, 107 bird-skins, by Dr. Walker, of Orillia.

Miss Sarah A. Flood and Mr. C. H. Keefer, C.E., were elected members.

The Secretary, for Professor Campbell, of Montreal, read a paper on "A New Reading of the Buddhist Inscriptions of India."

Mr. Andrew Elvins read a paper on "The Planet Jupiter and his Satellites." He stated that the discovery of a fifth satellite to Jupiter has caused astronomers to turn their attention to the giant planet of our system, and many who have not made astronomy a special study are more interested in Jupiter's system than they have usually been in the past. Four moons have been known since Galileo's time, and they have been so easily seen that no one has appeared to suspect that any other existed—at least until about two years ago. When we speak, now, however, of the moons of Jupiter we know there are five, and we suspect there may be more. Their distances from the planet's centre, expressed in radii of the planet, are as follows:—

Radii.		Miles.
V.	2½	113,000
1.	6	267,000
2.	9	425,000
3.	15	678,000
4.	24	1,192,000

It will be observed that by adding the distance of the inner satellite to the next in order, we get the distance of the next, and so on throughout the series. He thought this could not be a matter of chance, but he was not able to point out the cause. The rates of the satellites in their orbits have also a peculiar feature, the most distant one, the IV., moves but half as fast as the one next inside itself, and so on throughout the series. The velocity of No. IV. is one mile per second.

No.	Miles.
III	2
II	4
I	8
V	16

He left these facts with his hearers and requested them to seek the cause. In relation to the shape of the satellites he thought that the strong tidal action of the mighty planet would be so great that they

would be drawn out into ellipses. Secchi, Daws, and the Lick observers have seen them occasionally of this form. Satellite I. has been sometimes seen apparently double, more light being reflected from near the ends than at the centre of the ellipse.

Mr. Elvins referred to many observations of satellites, when near the limb of Jupiter, having been seen to disappear and reappear, etc. He explained this by supposing the light to undergo refraction in passing through gaseous matter recently thrown from the planet and moving in orbits near the primary. He thought it probable that all the satellites were originally thrown from the planets by the combined action of the tangential force caused by the planets' rotation, the molecular motion of the gases in the atmosphere of the planet, and by projected matter thrown from the Jovian volcanoes into space.

SIXTH MEETING.

Sixth Meeting, 10th December, 1892, the President in the chair.

Donations and Exchanges, 58.

Dr. A. F. Chamberlain was appointed delegate to attend the meeting of the American Folk-Lore Society, at Boston, on the 28th December.

The following were elected members: Prof. James Mavor, W. H. P. Clement and Joseph Antisell Allen.

Mr. A. F. Hunter, M.A., read a paper on "British Immigration into Upper Canada, 1825-1837." The population of Upper Canada at the close of the war of 1812–14 was less than 100,000. This had increased fourfold by the time of the outbreak of the rebellion of 1837, the increase having been chiefly due to British immigration. Amongst the causes that produced this rapid influx of immigrants during the period were these:—1. Attention in Britain was turned towards Upper Canada by many books of travel, the writers of which visited the country and published their travels on returning home. No other period has yielded so much literature relating to the country and its resources. 2. The free grant land policy was adopted here at an earlier date than in some of the States. Besides this, an order-in-council in 1818, imposing settlement duties on the U. E. Loyalists, militia, discharged officers and soldiers, pensioners, and all others receiving free grant lands after that date, had the effect of preventing them from holding land on speculation, and thus stimulated settlement. 3. At the passage of the Catholic Emancipation bill in 1829, despondency fell upon the Irish Protestant

peasantry of Ulster, and large numbers of them emigrated. 4. The slavery agitation in 1832 had previously produced in Britain a feeling of hostility to the West Indies, and one of favourable regard for Upper Canada, where slavery had been abolished in 1793. 5. The industrial agitations from 1818 till 1834, including Chartist riots, besides radical and anti-radical risings, forced large numbers to emigrate from the industrial centres of Glasgow and Manchester. 6. The cholera in 1832. Instances were cited of settlements formed in this province by these causes. The immigrants chiefly settled in groups, according to their nationalities, each group giving to the district it occupies the political and social features that still cling there, though it can be observed that modern methods of communication and travel are fusing the different races into a distinct Canadian nation.

Mr. Hunter also read a paper on "The Site of the Mission of Ste. Marie on the Wye; Its Possessors and Present Condition." In this paper Mr. Hunter deplored the lack of attention paid generally to historic ruins in Canada, and in particular to this old French fort of 1639 in the County of Simcoe, which is now in a neglected condition. Two years ago Mr. Boyle had suggested in his annual report that steps be taken to buy the land around the place for the use of the public, and erect a tablet setting forth in a few words the history of the spot. Hitherto, however, nothing had been done in the direction proposed. The paper gave an account of the present ownership of the site, as it is recorded in the Registry Office of the County of Simcoe at Barrie. For nearly fifty years a part of the land, on account of its associations with the early Jesuit missionaries, has been in the possession of priests of that order. The condition of the ruins has greatly changed since Europeans first settled in the neighbourhood. An account of the place, written by Rev. Felix Martin, who visited it in 1845, was read to illustrate its former condition. This is probably the earliest of modern accounts, and from it the walls are known to have been much higher then than now. As the duty of guarding the place from even further destruction belongs to the French of Quebec Province as well as to the people of Ontario, it was suggested that an appeal be made to the Governments, Dominion or Provincial, to make some provision for its preservation.

SEVENTH MEETING.

Seventh Meeting, 17th December, 1892, the President in the chair.

Mr. J. C. Hamilton was appointed a second delegate to attend the meeting of the American Folk-Lore Society.

Donations and Exchanges, 66.

Dr. Sandford Fleming read a paper on "Ocean Steam Navigation."

The following resolution was moved by Dr. Fleming, seconded by Mr. Kivas Tully, and adopted :—

"Resolved, That the subject of the 'Pioneer Ocean Steamship' having been brought to the consideration of the Canadian Institute at its meeting held in Toronto on Saturday, December 17th, 1892, it is resolved that suitable measures be taken to establish a memorial tablet in honour of the men associated with the building and sending to sea of the Royal William, in August, 1833, and that the members for the city of Toronto be requested to obtain permission for the tablet to be placed in a fit position in the Parliament buildings at Ottawa; and that it be remitted to the Council to invite the co-operation of societies or individuals, and to take such other means as may be needful, to carry out in the best manner the spirit of this resolution."

Dr. Fleming also read a paper on "Early Steamboats," after which the following resolution was adopted :—

"Resolved, That the matter of the first steamboat constructed in Canada be remitted to the Council, with the request that they will consider the propriety of dealing with it in a similar manner to that set forth in the resolution passed by the Institute to-day with respect to the Royal William."

Dr. Fleming then read a paper on "Postage Stamps," when on motion by Mr. W. H. Merritt, seconded by Mr. J. C. Hamilton, it was

"Resolved, That the Institute having heard with great pleasure the paper read by Dr. Fleming on 'Postage Stamps,' requests the Council to take into their earnest consideration the points suggested by the paper."

EIGHTH MEETING.

Eighth Meeting, 7th January, 1893, the President in the chair.

Donations and Exchanges, 133.

W. H. Brouse and F. A. Fleming were elected members.

A report was read from Dr. A. F. Chamberlain, delegate from the Institute to the annual meeting of the American Folk-Lore Society, held at Boston, December 28th and 29th, 1892. The report stated that the

meeting was very successful and well attended by members from the United States and Canada. Five of the papers read were contributed by Canadians, and among the officers elected for next year three were Canadians, the President being Mr. Horatio Hale, of Clinton, Ont., justly celebrated for his distinguished attainments in philology, anthropology, folk-lore, and kindred subjects. The next meeting of the society will be held in Montreal.

An announcement was read from the Committee on Communications of the Anthropological Society of Washington, giving a statement of the objects of that society and its programme for the current year.

Mr. James Bain, Jr., then read on behalf of Captain Ernest Cruikshank, of Fort Erie, a paper on "Captain Walter Butler and the journal of his voyage along the north shore of Lake Ontario in 1779."

The journal was accompanied by a memoir of Butler by Capt. Cruikshank, in which his military career was traced from the beginning of the American revolution until his death in battle in the autumn of 1781.

After the reading of Capt. Cruikshank's paper Mr. Bain read, by way of appendix, some extracts from the journal of Major Robert Rogers along the north shore of Lake Ontario in 1760. In the part of the journal in which he relates his visit to Toronto, as the river and old French fort were then called, Major Rogers makes the remark, 'I think Toronto a most convenient place for a factory, and that from thence we may very easily settle the north side of Lake Erie."

NINTH MEETING.

Ninth Meeting, 14th January, 1893, the President in the chair.

Donations and Exchanges, 45.

Mr. Emerson Coatsworth, Jr., M.P., was elected a member.

Mr. J. C. Hamilton, LL.B., read a paper entitled, "The Algonquins of the Georgian Bay; Assikinack, a Warrior of the Odah·as," of which the following is a summary :—

Mr. Hamilton showed from statistics furnished by the Indian Department that the number of Indians of Ontario and Quebec was in 1891 about 26,600, and that they have increased by 25 per cent. in the preceding 25 years. The aborigines of the Georgian Bay district are of Algonquin tribes, Ojibewas, Ottawas, Mississagas, and Pottawatamies. The population of the Northern Ontario superintendency was in 1886, 3,343.

They held 3,120 acres under cultivation. Their crops were 4,269 bushels of grain and 1,300 tons of hay. The fish taken by them were valued at $18,500 and furs at $5,205, and their revenue from other sources was $5,850. The charter under which the Canadian Indians claim their rights is the Royal proclamation of King George III. in 1763, after the Treaty of Paris. Their lands were to be alienated only at public meetings presided over by the governor or his deputy. Care and control over them is exercised by the Dominion Government. The Algonquins of Lake Huron and Georgian Bay are divided into fifteen bands, settled on as many reserves on the shores of lake and bay. Most of them are now Christians, but a remnant of the old superstition is often found lingering among them. They meet yearly on a chosen place to dance and shoot Matci Manito, the evil spirit. They live in tribes, the regulation of their affairs being in the hands of councils chosen by themselves; the oldest system of government on the continent is in operation in their council houses. Their code of rules, when adopted and approved by the Governor-General, forms an excellent quasi-municipal system, including the management of roads, fences, schools, and pounds. They exhibit laudable interest in education and have many Public schools, and also send many of the children to the Roman Catholic schools and convent at Wikwemikong, on Manitoulin Island, and to the Protestant Shingwauk and Wawanosh Homes at the Sault Ste. Marie. Mr. Hamilton then gave an interesting account of several famous Indians of this region; of Chingalacose, the Small Pine, the noted Chippewa chief who aided Capt. Roberts in taking Fort Mackinack in 1812, and was afterwards for many years leader of his tribe in their wars with the Sioux, but was converted to Christianity under the ministration of Rev. Dr. McMurray when missionary at Sault Ste. Marie. His son, Augustine Shingwauk, gave his name and aid to the Home there established for the education of Indian children. Assikinack was a noted Ottawa chief, and under the name of the "Black Bird" figured at the taking of Fort Dearborn in 1812, and in the defence of Mackinack from American attack in 1814.

His son Francis was, in 1840, when a lad, brought to Upper Canada College, where he developed good scholarly powers, and attained high places in his classes. He became Indian interpreter to the department, and in 1858 and 1859 read several learned papers before the Canadian Institute as to Indian history and customs. He unfortunately died in 1863. Mr. Hamilton then discussed the "Manaboyho" legends, and showed that these, as found in various forms among our Algonquins, are the substance of the "Song of Hiawatha," which latter name is the Onondaga or Iroquois name for the same demigod or national hero. Several

places along our north shore still retain the name of Manaboyho or Nakibozhu, among these an island in Michipicotin Bay, which is his fabled burial place. Mr. Longfellow lays the plot of his song on the south shore of Lake Superior, but the Chippewas, Ottawas, and many other of the nations named, and the customs and lore described, relate quite as much to the Algonquins of our north shores. The paper concluded by giving abstracts of a few interesting myths, or legends, related by young Assikinack when in Toronto, and which he had learned from his father and other learned men of his nation on the Great Manitoulin Island, where the brave old warrior and his talented son lie now side by side in their last resting place at Wikwemikong.

TENTH MEETING.

Tenth Meeting, 21st January, 1893 the President in the chair.

Donations and Exchanges 93.

A communication was read from the Royal Academy of Sciences of Turin respecting the ninth Bressa prize, to which, according to the testator's will, scientific men and inventors of all nations will be admitted. A prize will be given to the scientific author or inventor, whatever be his nationality, who during the years 1891-94, "according to the judgment of the Royal Academy of Sciences of Turin, shall have made the most important and useful discovery, or published the most valuable work on physical and experimental science, natural history, mathematics, chemistry, physiology, and pathology, as well as geology, history, geography, and statistics." The sum fixed for the prize, deducting the income tax, will be 10,416 francs.

Mr. Edward Meek read a paper entitled "Lessons from the Times and Teachings of Cicero." The lessons drawn from the times were "political" —using the word in a general sense—teaching the causes which contributed to produce the condition of the Roman Commonwealth as it existed in the age of Cicero, its subsequent dissolution, the overthrow of democratic government, and the establishment of imperial military rule. As war was the chief business of the nation, the successful generals became the greatest men—the popular idols. The people gradually turned their attention, and transferred their allegiance from the Senate and magistrates, to the generals of the armies. The Senate, from the foregoing and other causes, lost its control of the popular mind and over the popular leaders. These leaders began to contend with each other for

the mastery. The strongest and most fortunate ultimately became supreme. Julius Caesar was thus produced and the old constitution and senatorial supremacy expired. The second part of the paper was devoted to "Lessons from the Teachings of Cicero," quoted largely from those writings of Cicero which teach and discuss the moral duties.

ELEVENTH MEETING.

Eleventh Meeting, 28th [illegible]ary, 1893, the President in the chair.

Donations and Exchanges, 33.

Mr. Alan Macdougall, C.E., and Mr. James Bain, Jr., were appointed representatives on the Board of the Industrial Exhibition Association.

Rev. Philip Tocque, A.M., read a paper on "The Great Fires of St. John's, Newfoundland, from 1816."

TWELFTH MEETING.

Twelfth Meeting, 4th February, 1893, the President in the chair.

Donations and Exchanges, 53.

R. N. Wilson, of Fort McLeod, Alberta, was elected a member.

Mr. W. A. Sherwood read a paper on "Hindrances to American Art." He said there could be no phase of art thought more difficult to grasp than that which fell to his lot that evening to discourse upon. Long before the revolution, to the very foundation of colonial life, might well be traced the fundamental basis of "Hindrances to American Art." The Puritans, justly indignant at the licentious character of the English court, carried their dislike to the utmost verge of practice. Painting, royally encouraged in the palace of the Stuarts, fell a victim, like many sister arts, to the contempt of the new colonists. Their homes and places of worship were absolutely free from every kind of decoration. Thus, through a whole century we could pass without any advancement along the line of art. Indeed, the only semblance to adornment was to be found in the basket work painted by the aborigines. In the next century the same condition continued to exist, although, indeed, marked by the birth of Benjamin West. Those of them who were familiar with the biography of early American painters had but to recall that amusing incident of West appearing before the fathers of the Church to answer

for his conduct. After much prayer and pleading young West was permitted to practise his art, yet from the indifference and lack of patronage he, who might have laid the foundation of American art, was forced to make a royal retreat and find his home in England. The dawn of the Republic was characterized by no art movement. From the great tide of immigration one would expect at the time an absolute change of front, but what were the conditions of to-day, and what were the causes? A brief analysis, he thought, would suffice. The German immigrant, for instance, though rapidly adopting new political principles, still cherished fondly the early impressions made upon him in his native land. Industrious, toiling, of thrifty habits, he soon acquired a fair amount of wealth. The children visited the home of their fathers, and the great art galleries of their old land became all in all to them. They returned deeply impressed with a love for pure German art; nothing American in art for them. The same may be justly said of the descendants of every nationality. From such a condition what hope to evolve an American art? The art of the nation ought to reflect the thought of the nation, being in touch with the varying phases of light and shade through which the nation is passing. The art of mediæval times formed a great chapter in the book of history, and gave an insight into the mode of thought which engrossed the middle ages. It was purely European, inferior to the work of later centuries, yet invaluable from its native and primitive character. It was historical. If Canadians hoped to have a native art they must insist upon treating it from some national point of view. Then as the centuries passed a distinctive character would unfold itself, embodying and marking and reflecting the thought of the people in its varied development. While the thought expressed by speech and writing lives long, it does not survive that represented and expressed on polished marble, imperishable fresco, and the canvas on which genius has imprinted its sublime ideals. Art is the great conservator of thought. It lives and shines forth in its might when books are forgotten and the names of earth's great writers are become obscure. This is an age of light. The dim lighted cathedral is a thing of the past, the dread wizard of the cave has been transformed into an angel of light, and the magic wand into a sceptre of righteousness. It is an age electric. Art should reflect it—brilliant, varying with every phase of thought, and without any trace so far as subject is concerned of foreign thought.

THIRTEENTH MEETING.

Thirteenth Meeting, 11th February, 1893, the President in the chair.

The following Note on the life and works of M. l'Abbè Provancher, by Julie Julien, was read:—Mr. l'Abbè Leon Provancher was born in Becancourt, near Three Rivers, on the 10th of March, 1820. He was ordained priest at Quebec on the 12th of September, 1844. Since 1862 he has devoted all his time to the study of natural history. He began then the publication of the "Naturaliste Canadien." His principal works are: "Traite èlèmentaire de Botanique," illustrated, 1858; "Flore du Canada," 1862; Le "Verger," "Potager," et le "Parterre," 1874; Faune Entomologique du Canada, Les Coleoptaires, 1877, avec supplements, Ortopteres, Neuroptères, Hymenoptères, 1883; Additions aux Hymenoptères, 1889; Les Hémiptères, 1889. He also published accounts of his travels: "De Quebec à Jerusalem," 1884; "Une Excursion aux pays Tropicaux," "Abrégé de l'Histoire du Canada," 1884; "Les Mollusques de la Province de Quebec," "Les Univalves." He began writing a study on the "Culture of Ornamental Plants," but unfortunately could not terminate his work before his death, that occurred on the 23rd March, 1892, deeply regretted by his sorrowful relatives and by all the lovers of natural history.

Professor Coleman read a paper on "New Trails in the Rockies from the Saskatchewan to the Arthabasca."

Dr. Sandford Fleming read a paper on "The Abolition of the Astronomical Day," also a paper on "A Memorable Epoch in Canadian History," also a paper on "Canadian Historical Pictures."

The following resolutions were passed:—

That the Canadian Institute heartily welcomes and accepts the proffered aid of the Astronomical and Physical Society of Toronto in its work of Time Reform, and requests the Council of the Institute to appoint a committee of three to co-operate with a similar committee of the Astronomical and Physical Society in bringing about the assimilation of astronomical and civil time. The Canadian Institute suggests that the two committees act as a joint committee with equal voting power, and further, that Sandford Fleming, Esq., C.M.G., LL.D., etc., who is a member of both societies, be chairman of the joint committee, with power to decide any difference of opinion which may arise.

That Dr. Fleming's paper on Canadian Historical Pictures be referred to a committee consisting of Messrs. Howland, Forster, Sherwood, Tully and Hamilton, to consider and report to the Council at its next meeting

some plan whereby the proposals mentioned in the paper may be accomplished. That it be an instruction to the Committee on Canadian Historical Pictures to consider the best manner of raising means to obtain a historical painting to commemorate the arrival of Sir Alexander MacKenzie on the Pacific Coast on July 22nd, 1793, after his memorable discoveries and the completion of the first transcontinental journey by any civilized man, and it be suggested to the committee that artists should be invited to submit proposals to the Institute on the 22nd July next.

FOURTEENTH MEETING.

Fourteenth Meeting, 18th February, 1893, the President in the chair.

An interim report from the Committee on Historical Pictures was read.

Donations and Exchanges, 56.

G. M. M. Martin was elected a member.

Mr. L. J. Clark read a paper on "The Breaking of the Conduit," illustrated by drawings on the blackboard.

FIFTEENTH MEETING.

Fifteenth Meeting, 25th February, 1893, the President in the chair.

Donations and Exchanges, 77.

T. Mower Martin, R.C.A., was elected a member.

A paper by Capt. Ernest Cruikshank was read on "Traders and Trade Routes in Canada, 1760-1800" (second paper).

SIXTEENTH MEETING.

Sixteenth Meeting, 4th March, 1893, the President in the chair.

Donations and Exchanges, 70.

E. Herbert Adams, M.D., was elected a member.

The following resolutions were passed:—

That clause 2 of the first section of the by-laws be hereby suspended, and that the Council be requested forthwith to make a selection of ladies

and gentlemen whose co-operation in the work of the Institute is desirable, and to send to them a circular letter explaining its aims and needs, following the same by personal application, paying for such services in the premises according to such a scale as they may see fit, and commissioning such persons as they may appoint to receive the fees and such donations for specific purposes as may be given; the work to be continuously followed up, and reports of progress to be made as often as possible.

That the thanks of the Institute be given to Lt.-Col. F. C. Denison, M. P., for the interest he has taken and the work he has achieved in moving the government to take steps to protect and preserve the old French stone magazine in Fort George, Niagara.

Mr. Andrew Elvins read a paper on "The Satellites of Jupiter."

Dr. A. M. Rosebrugh read a paper on "The Child Problem."

SEVENTEENTH MEETING.

Seventeenth Meeting, 11th March, 1893, the President in the chair.

Donations and Exchanges, 32.

Hon. G. W. Ross was elected an honorary member, Dr. Eden Walker, of New Westminster, B.C., a corresponding member for a period of three years, and Mr. W. Spry, C.E., P.L.S., of Toronto, an associate member.

The Secretary was instructed to send a congratulatory letter to the Lundy's Lane Historical Society on the recovery of the parish records of the parish of Welland from 1820 to 1835, and to ask for a short description of their contents, and where and how the records were found.

Mr. J. W. L. Forster read a paper on "Artists—their Educational Privileges and Professional Rights." He directed attention to the good fortune of the artisan and agriculturist, who each enjoyed technical and scientific education, to the culture given the architect, engineer, solicitor, and practitioner, and asked:—Shall the skilful and distinguished practice of art forever limit itself to the studio and the field? Shall it not allow itself, shall it not prepare itself, to mingle and associate with scholarship in a congenial and eminent fellowship? In close kinship to this question was another:—Shall not art in its approved pursuit have an acknowledged place amongst the learned and honourable professions? These questions formed the text, so to speak, of his paper. He pleaded in the interest of the latter question reliable expert evidence in courts of law,

and the saving of great cost to litigants and to the country, etc. The greater part of the paper was devoted to the educational question, in discussing which he quoted what is being done in France and Belgium, where the machinery of governments and the faculties of the universities are utilized to carry forward broad and thorough systems of instruction, and where examinations are so directed as to give artists an intellectual standing appropriate with the place art holds amongst the liberal professions. Neither the intention nor the effect has ever been to draw away the mind of the artist from his chalk and models; but by so enriching his mind with the stores of information that apply directly to his work, by uncovering to him the wells of scientific truth that will correct his judgment and give permanence to his work, by unrolling the scrolls of history, and by teaching to him the ethics of art equip him for high achievement and honourable renown. The list of options for college and university course for artists was then sketched. And the course for fine art degrees in several American universities was given as taking up only a small portion of work that was of real value, and for which the machinery of our university is already fairly well adjusted Ontario does not generally wait for her neighbours to lead, especially in the field of education.

EIGHTEENTH MEETING.

Eighteenth Meeting, 18th March, 1893, the President in the chair.

Donations and Exchanges, &c.

A letter was read from Rev. Canon Bull, President of the Lundy's Lane Historical Society, giving an interesting account of the recent discovery of an old church register at Chippewa, together with many important papers. The reverend gentleman is now endeavouring to make a duplicate of this register, and also to write out the papers in order. An important marriage license, with clergyman's endorsation of Nov. 28, 1839, has been found, of which there was no entry in the parish register. This document appears to be of very great value, as it supplies evidence for which long enquiry had been made.

A paper by Dr. Sandford Fleming on "Early Ocean Steamships" was read. It confuted the statements made by Professor Watkins, in the report of the United States National Museums for 1890, in regard to the claims of the Savannah to be the first steamship to cross the Atlantic.

Mr. Alan Macdougall read a paper on "Electro-Horticulture." He stated he had watched shade trees in a number of streets in early spring

and in the fall, and could find no forcing effect from the electric light Trees away from the lights seemed earlier: north and south streets were earlier than those running east and west. The subject had been under study at Cornell University for the past three years. The reports say the naked light when placed near plants injures them; a clear glass, even a pane of glass, is beneficial, and opal globes give best results. Plants which are much injured under a naked light may be benefited under a protected one. As a rule, plants under the electric light in forcing houses mature earlier than in the dark house. Lettuce can be hastened from seven to ten days by only five hours of light per night. Radishes, beets, spinach, cauliflower are slightly benefited. Certain kinds of flowers are also benefited, and plants which are benefited seem to grow more rapidly during the customary period. The researches point to a likelihood of electric light being advantageous for forcing plants for the market.

Mr. D. W. Beadle, B.A., LL.B., read a paper on "Danger menacing our Pear Orchards from an invasion of Psylla Pyricola."

NINETEENTH MEETING.

Nineteenth Meeting, 25th March, 1893, the President in the chair.

Donations and Exchanges, 46.

Messrs. J. G. Ridout and E. B. Lefroy were appointed auditors.

Mr. William Houston, M.A., read a paper on "The Laurentian Region of Ontario." After discussing the extent of the region, its physical character, geological and geographical features, and resources, he showed its unsuitability for agricultural purposes, and advocated setting it aside as a great national park.

He concluded by making the following suggestions :—

1. All free granting of land within that region should be at once and forever abandoned.

2. Some policy should be adopted with a view to securing the reinvestment of abandoned lands in the Crown.

3. So soon as they are reacquired steps should be taken to have them reforested.

4. Additional measures should be taken to secure the preservation of game.

5. The Legislature should exercise some control over the waste caused by destructive lumbering operations.

6. Access to the interior of the region should be facilitated.

TWENTIETH MEETING.

Twentieth Meeting, 1st April, 1893, the President in the chair.

Donations and Exchanges, 71.

Dr. Henry Hunt was elected a member.

A paper by Rev. Dr. MacNish was read on "The present aspect of the Ossianic Controversy."

The following resolution was passed on motion of Mr. W. Hamilton Merritt, seconded by Mr. T. R. Clougher :—

"That one of the greatest benefits to commercial progress has been attained by the advances made in the manufacture of steel, especially by the Bessemer process, and that in Britain, the United States, and other countries where smelting works are in operation, they have had direct influence on the prosperity of the country; Be it resolved,—that the attention of the Provincial Government be directed to the advantages to accrue to the province by the construction of smelting works for our iron ores, and that a committee be appointed to wait upon the Government and request it to consider such means as in their opinion will aid in developing our iron deposits by the erection of smelting works."

Prof. Coleman and Messrs. Merritt, Clougher and Bain were named a committee in accordance with the resolution.

TWENTY-FIRST MEETING.

Twenty-first Meeting, 8th April, 1893, the President in the chair.

Donations and Exchanges, 55.

Messrs. Allan Cassels, Thomas W. Gibson, H. Maughan, Robert Percy Vincent, and A. L. Hoyles were elected members.

Mr. D. W. Beadle, B.A., LL.B., read a paper entitled "Danger of Introducing a very serious Pest destructive of our Peach Orchards."

Mr. Andrew Elvins read a paper on the Satellites of Jupiter, supplementary to one previously read on the same subject. He called attention to the fact that the period of the revolution of each of the satellites was double that of the next interior one, in accordance with Kepler's law. Thus, the satellite farthest from the planet is about 352 hours, the next nearer the planet is 170 hours, the next 88, and the next is 44, while the newly-discovered satellite revolved in 11 hours, or one-fourth that of the next exterior satellite. This discrepancy rendered it probable

that a satellite existed between the two latter, which revolved round its primary in about 22 hours. Mr. Elvins recommended astronomers to carefully search this space, as it was likely their labours would be rewarded by the discovery of a sixth satellite, revolving in accordance with Kepler's law.

Mr. Elvins closed thus:—"Reasoning in this manner, I ventured to suggest that it would be well to watch Jupiter closely during the opposition of 1892. My paper was read in May, 1891, and published in February, 1892, in the "Transactions of the Astronomical and Physical Society" of Toronto, and I wrote our local observers to look for satellites, or rings, which would doubtless be very faint, but would possibly be seen. I wrote Prof. Barnard, among others, and this reply, which I lay on the table, shows he received it. Whether that letter stimulated him to search for satellites or not, he has not stated. One thing is certain, he has made a diligent search and a fifth satellite being discovered has rewarded his pains. The French Academy of Science has tendered Prof. Barnard a double prize, a token of merit which he richly deserves. But had he mentioned the fact that I had suggested the possibility of the existence of a new satellite, the lustre of his discovery would not have been dimmed, and he would have been doing justice to one who has been a lover of the stars through a life which is now rapidly drawing to a close."

TWENTY-SECOND MEETING.

Twenty-second Meeting, 15th April, 1893, the President in the chair.

Donations and Exchanges, 85.

Messrs. C. P. Smith, Clarence E. Spink and G. K. Powell were elected members.

Prof. A. B. Macallum read a paper on "Archic Life."

TWENTY-THIRD MEETING.

Twenty-third Meeting, 22nd April, 1893, the President in the chair.

Donations and Exchanges, 57.

A circular from the Royal Society of Canada, transmitting copies of a schedule for the recording of observations in Natural History and Meteorology was referred to the Biological Section.

Mr. J. J. Foy and Rev. J. J. Hare, Ph.D., were elected members.

Mr. Alan Macdougall read a paper on "Road Improvement."

TWENTY-FOURTH MEETING.

Twenty-fourth Meeting, 29th April, 1893, the President in the chair.

Donations and Exchanges, 64.

Nominations for officers for the ensuing year were made.

The following gentlemen were elected members:—Messrs. E. B. Osler, Paul Campbell, George Williams, Charles P. Sparling, S. N. Samuelson and Oliver Spanner.

On motion by Mr. G. G. Pursey, seconded by Mr. C. Armstrong, it was resolved that the Public school teachers be requested to impress on their pupils, when they are gathering wild flowers, to be careful to pluck the flowers only and leave the roots undisturbed, and that the press be requested to give this resolution wide circulation.

Mr. Arthur Harvey read a paper entitled "The Outlook from Mount McKay," Mount McKay being one of the great hills which meet the view as the traveller enters Thunder Bay, on Lake Superior. The features of the territory overlooked by the mountain, the geography, topography, geology, were described and discussed by Mr. Harvey, and some practical suggestions were thrown out as to the development of the rich resources of the country.

FORTY-FOURTH ANNUAL MEETING.

The Forty-Fourth Annual Meeting was held on 6th May, 1893, the President in the chair.

Donations and Exchanges, 60.

The following were elected members:—Mr. Frederick Wyld, Mr. Thomas McCraken, Mr. John Chambers, Mrs. Alexander Cameron, Miss Bertha M. Shoults, and Miss Lilian C. Harrington.

President Harvey addressed the Secretary, Mr. Alan Macdougall, as follows:—"Some members of the Canadian Institute who admire the urbanity and tact with which you discharge the duties of the secretary-hip desire to present you with a token of their appreciation of your services and of their high personal regard. It is my pleasing duty to carry out their wish by handing you, in the name of the Institute, a silver inkstand with a short inscription." Mr. Macdougall replied.

The Forty-fourth Annual Report was read and adopted.

Professor Mavor was empowered to act as delegate from the Canadian Institute to the next meeting of the British Association for the Advancement of Science.

The officers of the Institute for the ensuing year were elected as follows:—President, Prof. R. Ramsay Wright, M.A., B.Sc.; First Vice-President, Mr. J. C. Hamilton, LL.B.; Second Vice-President, Mr. B. E. Walker; Secretary, Mr. Alan Macdougall, C.E., Treasurer, Mr. James Bain, Jr.; Librarian, Mr. D. R. Keys, M.A.; Curator, Mr. David Boyle, Ph.B.; Editor, Mr. George Kennedy, M.A., LL.D.; Members of Council—Mr. J. Maughan, chairman of the Biological Section; Prof. Coleman, Ph.D., chairman of the Geological and Mining Section; W. Canniff, M.D, chairman of the Historical Section; and Mr. O. A. Howland, Mr. Arthur Harvey, Mr. Levi J. Clark.

A vote of thanks was tendered to the retiring President, Mr. Arthur Harvey, for his indefatigable labours in the service of the Institute during his term of office; also to the several officers for the faithful and efficient discharge of their duties during the past year. It was then resolved that the thanks of the Institute be tendered to the city press for their excellent reports of the proceedings of the Institute and its sections, and that a copy of this resolution be sent to each of the papers.

FORTY-FOURTH ANNUAL REPORT.

The Council of the Canadian Institute has the honour to lay before its members its Forty-fourth Annual Report.

The session which has closed compares favourably with past years in the number of papers read, the attendance at the meetings and the interest taken by members in the work of the Institute.

Twenty-four ordinary meetings were held, at which thirty-four papers were read. The work of the several sections was well maintained; the natural history or biological section, with its sub-sections, held twenty-seven meetings; the historical section six, and the geological and mining, six meetings.

The membership has increased by the election of twenty-five members, sixteen associate members and three juniors.

One honourary member and four corresponding members have been elected, the periods of election of the latter ranging from three to five years.

The Institute announces with much regret the death of several valued members.

Sir Daniel Wilson, LL.D., F.R.S.E., etc., President of Toronto University, an honorary member, during his long and valuable life, rendered marked assistance to the Institute, and occupied the Presidential chair in 1859-60, 1860-61, and 1878-80.

Nelson G. Bigelow, Q.C., LL.D., M.P.P., a life member, did not take a great interest in the work of the Institute in later years; his death was sudden at the end.

His Honour Sir Alexander Campbell, K.C.M.G., Lieutenant-Governor of the Province, was prevented by his official position and duties from taking a very active part in our work.

D. A. O'Sullivan, LL.D., was a frequent contributor to our meetings; his health of late years prevented his attending very regularly.

The re-arrangement of the rooms in the building, which has recently been effected, has proved very successful. The library, which was formerly hardly ever used, is now the general reading room; the spacious apartment affords ample accommodation for the comfort of the members. The acquisition of the reading room on the ground floor has enabled the natural history section to bring its collections together in a very convenient form for reference and study.

The conditions for the competition for papers on Electoral Representation and the Rectification of Parliament have been widely distributed. The competition closes on the 1st of July.

The centennial celebration of the formation of the Province of Upper Canada, and the institution of parliamentary government, was celebrated with great enthusiasm at Niagara on the 16th of July. This was followed by fitting ceremonies in Toronto on the 17th September, the centennial anniversary of the meeting of the first parliament, and the hundredth parliament was opened on the 5th of April with the state and ceremony which befitted the important occasion. The Institute was well represented on both occasions.

The report of the Provincial Commission on the Algonquin Park for the preservation of wild animals and the forest has been issued, and a bill to establish the park has been introduced into the Legislature by the Hon. Commissioner of Crown Lands. It is gratifying to find in this report the completed design which emanated from the Institute, and in which the Institute has never failed to take a deep interest.

The Council has pleasure in announcing that through the efforts of one of our city members, Lt.-Col. F. C. Denison, C.M.G., M.P., and the Hon. Senator Lougheed, the grounds and ruins of old Fort George at Niagara are to be preserved and cared for by the Government.

Action was taken by the Council in accordance with resolutions passed at the meetings, to secure some commemoration of the crossing of the Atlantic by the first steamer, in 1833. Dr. Sandford Fleming has proved conclusively that the Canadian steamer Royal William was the first to steam all the way across. The Government will probably erect a tablet to commemorate the event. A model of the vessel is being exhibited at the World's Columbian Exposition, and public documents relating to the crossing distributed to the public. The log of the Savannah, which has recently been published, proves that she steamed only in calm weather, and out of 29 days, 11 hours at sea, she steamed altogether only 3 days, 8 hours.

A joint committee of the Institute and Astronomical and Physica Society has prepared a circular to be sent to all the observatories and astronomers asking their opinions regarding a change in time reckoning, whereby the astronomical and civil day shall begin at mean midnight, and suggesting that the change shall be inaugurated in 1901.

The Institute was requested by the several provincial universities and McGill, Montreal, to send an invitation to the British Association for the Advancement of Science, to hold its meeting in 1895 in Toronto. The proposal was favourably received by the Provincial Government; the Dominion Government did not entertain the proposal on the basis set forth in our petition; negotiations are still pending, which it is hoped may terminate favourably to the prayer of the Institute, and result in the desired grant being made.

The appeal of the Institute to leading citizens for aid, and an increased membership has been widely disseminated; it is being followed up by a personal presentation of the claims of the Institute.

The Institute again acknowledges its indebtedness to the generosity of the Government in enabling it to continue its archaeological work.

The report of the Curator will be found as full as ever of interesting matter. The report is being printed as an appendix to the annual report of the Hon. Minister of Education.

The thanks of the Institute are due and are tendered to Messrs. Cockburn, Denison, and Coatsworth, M. P.'s for the City of Toronto, for many services rendered during the last session; and to the CITY PRESS for full reports of our meetings.

The Treasurer's accounts have been audited and found correct. They will be found in Appendix I.

The report of the Librarian is given in full in Appendix III. It will be seen that the additions to the library continue to be numerous and valuable.

The reports of the Sections are given in the Appendices IV., V. and VI.

The Council acknowledges with pleasure the services rendered to the Institute by Mr. R. W. Young, M.A., Assistant Secretary.

All of which is respectfully submitted.

ARTHUR HARVEY,
President.

ALAN MACDOUGALL,
Secretary.

TORONTO, 29th April, 1893.

N.B.—The Appendices have been printed in full as a supplement to the Annual Report of the Hon. the Minister of Education.

SOCIAL ORGANIZATION OF THE BLACKFOOT INDIANS.

By Rev. John Maclean, M.A., Ph.D.

(*Read 19th November, 1892.*)

The Blackfoot Confederacy is named by the three tribes comprising it, Sâketûpĭks, *the People of the Plains*, and Netsepoye, *the People that Speak the Same Language*. It is the custom amongst the mounted police and settlers in Alberta, where the three tribes are located, to speak of the Confederacy as simply the Blackfeet, and to name each gens after the chief of the gens. The natives follow their own customs, calling each gens by its own distinctive name, recognizing the fact that the chiefs may be removed by death and other causes, which would change the names; but by following their own native method, the names of the gentes are always retained. The Blood Indians are called *Kaina*, a name not definitely understood, but from all I could gather from the old men in the camps, it is derived from *Aikaie*, *an old robe*, and the application of this name to the tribe means that the people at one period in their history wore old robes, which were well-nigh useless, and it was at that time and because of that circumstance that they were thus named. This tribe is also named *Aapaitûpĭ*, Blood people, and Sûmûkegtûqkûnema, and Sûmûkena, which mean that these people had large knives with which they fought.

The Piegan tribe is named in the Blackfoot tongue Pikûnĭ, singular Pikûnĭkwan, which is derived from Apikûni, meaning a half-dressed hide of the buffalo. The Indians say that there was a period in the history of the Confederacy when the Piegans were compelled through poverty to dress themselves in buffalo robes, which were badly tanned and almost worthless as an article of clothing.

The Blackfoot tribe is called Siksikauo, meaning Blackfeet. The singular number has always the personal termination *kwân*, thus Siksĭkaikwân = a Blackfoot Indian. It is a compound word made from the combination of Siksĭnûm, Black, and Oqkûts, his foot. We have the adjectival particle Siksĭ, the noun particles *kai* and *kaie*, and the personal termination *kwan*, which completes the word. There are two meanings given to this name, that is, as to its origin. The Indians have told me

repeatedly that the name referred to a period when the prairie was burned, leaving the ground black and dry. As the Indians travelled over the prairie their moccasins became black and they were named by the tribes adjacent Blackfeet. Jerry Potts, Government guide and interpreter, who is a reliable authority on questions of this nature, says that there is another account of the origin of the name, and he is strongly inclined to give it the preference. This tribe lived for some time in the northern part of the country, where the mud was soft and of a dark colour, and at that time, and from that cause, their moccasins became dark, and consequently they received the name of Blackfeet, which now they bear. This name has also been applied to the Confederacy by some as a distinctive name.

Many years ago the Blackfeet, Crees, Sarcees and Gros Ventres were one people, and lived peaceably together in the Red River country. Together these tribes travelled westward and settled near a large lake surrounded by woods in the country of the Saskatchewan. The present Provisional District of Alberta was at that time peopled by the Flatheads, Shoshonees, Crows, and other Indian tribes. The first white men whom the Indians met were the traders, who came to barter goods for furs and hides. From these traders the members of the Blackfoot Confederacy received guns, and they drove the Flatheads and Shoshonees across the mountains and the Crow Indians into the region of the Yellowstone. The Blackfeet do not now know the exact location of the lake where they settled many years ago in the north. During the period when the Crees and Blackfeet were one people they were travelling southward when a quarrel arose about a dog. Dogs were very scarce at that time, and hence the quarrel became an important one, involving the tribes. So serious did the affray become, and the hostility manifested so very great, that the Crees and Blackfeet separated and have remained independent until the present day. A long period before the advent of any white settlers the Blackfeet travelled as far southward as Salt Lake, hunting wild horses and buffalo, and they went eastward for trading purposes to a trading post at Qu'Appelle, in the provisional district of Assiniboia.

The three tribes, Blackfeet, Blood and Piegan, which constitute the Blackfoot Confederacy, are three distinct tribes, having no common council, or bond of unity, except the ties of a common parentage, language, customs, traditions and interests. I have never learned that any common council consisting of delegates from each of the tribes has ever been held since they separated. Whenever any important matter was under consideration which affected the Confederacy, a young man,

commonly called "a runner," was sent to carry the news, or a chief would be delegated as messenger, but generally one of the servants of the head chief. If it were a grave matter, the head chief of the tribe would undertake the mission, and upon his arrival would be treated in an honourable manner, as became such an august personage. The head chief and the minor chiefs of the tribe would then assemble and the matter would be brought before them by their illustrious visitor and discussed.

The state life in each of the tribes is the same. There is not a definite number of gentes in each tribe. There is not a common taboo for the gentes. Some of the gentes have a taboo, but not all. There is not one common to all, each gens which has a taboo has a distinctive one. There is one, however, which partakes of the nature of a common taboo, which relates to the Naâye gens. This gens will partake of fish, but none other of the gentes will partake of them. Sometimes a single individual will eat a piece of flesh of some bird or animal, and upon learning what it is will spit it out, exclaiming, "That is against my medicine."

There is one common ancestor for all the Indian tribes. He is not an ancestor in the proper sense, but a secondary creator. He is called *Napioa, the Old Man*. He is not the creator of the gens, or tribe, but of the whole Indian race.

Individuals belonging to one gens can marry into any other gens. The wife goes with her husband to his gens and lives there with him. If he dies, the widow can remain in her husband's gens or return to her own.

The Blackfoot Confederacy have not any adoption ceremony. I have seen women belonging to the Cree and Kooteenay tribes, and men who in their youth were Ojibways and Crees, and these were treated as members of the Blackfoot Confederacy, no distinction being made between them. None of these had ever gone through any adoption ceremony. In the matter of caring for orphans, they are looked after by the nearest relatives, and when these fail they are provided for by the tribe. They are never allowed to be in want, for the people say as they are of the same flesh and blood they must be cared for by the people.

There are several state classes, the most important being the chiefs. They are called *Ninaks, fathers, chiefs*. Of these there are three kinds, namely, two principal chiefs, the peace or civil chief, and the war chief, and the minor chiefs. The two principal chiefs have each one gens, and are also the supreme heads of the tribe. Each minor chief has a

gens, whose interests he attends to at the meetings of the council. Each member of the gens is specially protected by the minor chief. When Crowfoot, the principal chief of the Blackfoot tribe, was alive, the people belonging to the three tribes spoke respectfully of him, and had there been a supreme head for the Confederacy there is no doubt but that he would have been elected to that position, but whenever he visited the Blood Indians he did not preside at the council, but was treated as an august member of the Confederacy. Questions of a federal nature were submitted to him, as to the supreme heads of the other tribes. The Indians are a people jealous of their rights, and no one, no matter how noble his character and great his position, would accept of honours or usurp authority.

The war chief is the head warrior of his tribe. In the ancient days the mode of election was conducted in the following manner: When a warrior had shown himself to be especially brave, giving evidence of great courage, good judgment and honesty, and had won the esteem and affection of his tribe, the camp-criers, who were invariably old men, went among the lodges visiting the people and extolling the virtues of their candidate. By this means all the people soon learned the name of the candidate and his claims for the position. This action of the criers was kept up until the sun dance ceremonies were in full operation, and then the warriors mentioned the name of the man desired for the position. They expressed their wish for the election of their candidate. The person designated for the position was then placed in the centre of the medicine lodge, and the people declared him elected as war chief of the tribe by assenting with their voices. A rival candidate was easily thrust aside through the influence of the camp-criers. The criers were skilful in all matters affecting an election, so that it was a settled question who was to be the war chief before the sun dance began.

The duties of the war chief were to make arrangements for war, and to lead the warriors to battle. Virtually, he was supreme in the camp during a period of war. War could not be resolved upon without the concurrence of the council. At this council the peace chief presided. Small parties might go out to make raids upon their enemies, for the purpose of stealing horses, but these were of such minor importance that nothing was thought of them. When, however, the war was of a tribal character the council must decide, and when the decision was favourable to war, the war chief had almost, if not altogether, the sole control of the camp. At a council meeting presided over, some years ago, by Red Crow, the peace chief of the Blood Indians, to consider the question of going to war against the Sioux Indians, who were supposed to be within the territory of the Blackfeet, and therefore guilty of trespassing, it was decided to go

to war. *Natosonesta, Medicine Calf*, one of the most influential chiefs of the tribe, was not present at the council, and it was at last agreed to adjourn, to meet and hear Medicine Calf's opinion. The council met, and the chief was present, when the decision of the council was stated to him. The chief listened intently, and then asked,

"Where are the Sioux?"

"In our territory," was the reply.

"What harm have they done?" he enquired.

"They have not done any," was the answer.

Curtly then he spoke to the council: "I fight against my enemies!"

This ended the council meeting and the Blood Indians did not go to war.

The war chief was in the early days elected for five years, but now they retain their position for life, or until they are unfit to perform their duties. Since the institution of reservations, and the supervision of the Government, the chiefs are retained in their positions during good behaviour, or until death or incompetency removes them. The present war chief of the Blood Indians is *Manĭstokos, the Father of Many Children, alias* White Calf.

The peace chief is elected similarly to the war chief. His duties are to keep order in the camp, and to regulate all matters in the camp. He is the chief civil officer, and is supreme except in times of war. When the tribe is on the march he gives orders where the lodges are to be pitched collectively. Whenever anything happens as they are travelling the soldiers call a meeting in the chief's lodge, over which the chief presides. The question is discussed, and a decision arrived at, whereupon the soldiers receive their instructions from the chief and hasten speedily to obey his command. All petty grievances and quarrels are brought before him, and he gives his advice as to the manner of settlement. Grave questions affecting the tribe, and not of an individual character, are reserved for the council; but all minor disputes arising from theft, offences against the person, and questions of a similar nature are settled by the chief as judge, magistrate, adviser and father to his people. The peace chief must be therefore stern in giving his decrees, wise and sympathetic in counsel, dignified in his dealings and impartial in his judgments—a judge on the bench and a father at the lodge-fires of his people. At the camp-fire he is stern and dignified, at the lodge-fire sympathetic and humble. *Mikasto, Red Crow*, is the peace chief of the Blood Indians.

Besides the minor chiefs, one of whom presides over each gens, and the sum of them constitute the council, there is a class of men known as soldiers, warriors, braves or policemen. All the young men in the tribes aspire to the position. When a young man is anxious to become a warrior he presents himself to the war chief, who examines him, and if he finds him a suitable person he is admitted, if not, he is rejected. Sometimes a young man performs a brave deed which raises him so much in the esteem of the people that he is honoured. Without any application from him, when a brave act has been performed, he is admitted as a warrior. Promotion lies with the war chief, who raises his warriors to their respective grades, according to their ability and the display of their bravery. No man can be elevated who does not perform a warlike deed. The soldiers act as warriors in times of war, and during the periods of peace they are the policemen of the camps. They are therefore under the rule of the war chief in troublesome days, but in the peaceful days they are under the guidance of the peace chief. They keep order in the camp under his instructions. They are related to the chiefs as messengers. The writer remembers a detachment of black soldiers coming to Medicine Calf's lodge late one evening and taking away the wife of *Dog-Running-Back*. She had been married according to the native custom to an old man, but subsequently a young man named *Dog-Running-Back*, son of *Meäicine-Calf*, had won her affections, and she escaped with him. It was an elopement, but these were of such frequent occurrence that the Indians spoke of them as "*stealing a wife*." The old man learned of the return to the camp of the guilty pair and he called in the aid of *Mikasto*, the peace chief, who sent the black warriors to arrest the woman. It was at midnight when they came to the lodge. They allowed her to ride upon her own horse behind them. As they rode through the bush she slipped off her horse, and under the cover of the darkness escaped. The matter was ultimately settled to the satisfaction of all parties concerned.

Jerry Potts told the writer that when he was war chief amongst the Piegans, *Running Wolf*, a Piegan chief, was guilty of a misdemeanor and was summarily treated, according to the laws of the tribe. The peace chief had given orders one evening, as they were on the march, that no one was to advance on the following day, nor at any time, without instructions. The war chief had under him fifty men, and as he was keeping guard he saw an object ahead of the camp, at a long distance. Jerry and his fifty men went out to ascertain what the object was, when they were surprised to see *Running Wolf* standing beside his horse, and upon the ground a dead buffalo. When asked the reason for disobeying orders he pleaded in extenuation that he only went out to get

this buffalo, as he had seen it; besides, this law did not apply to him, as he was a chief. The warriors looked at their leader, and at once he gave orders that the law must be obeyed by everyone, and anyone breaking the law must be punished. The warriors took *Running-Wolf*, stripped him naked, took away his horse, and made him walk to camp, a distance of seven miles. After some consultation in the camp his horse was given back to him, but they tore his blanket in shreds, and kept all the rest of his property.

There are several grades of warriors among the tribes. The writer found the following grades among the Blood Indians:—

Mokaikĭnûkĭ, the Brave Warriors: Heavy Shield is head of this band of soldiers.

Mastoqpatûpĭ, the Crow Warriors.

Imĭtaiĭnakĭ, the Dog Warriors.

Etsĭnakĭ, the Horn Warriors.

Kaispa, the Sioux Warriors.

Siksĭnaksĭ, the Black Warriors.

Potaina, better known as "Joe Healey," told me that the men must be thirty-four or thirty-five years of age before they are admitted into the ranks of the black soldiers. The highest position obtainable by a warrior is after having passed through all the military grades he receives the full rank of warrior.

The following gentes are found among the Blood Indians:—

1. *Siksĭnokaia, the Black Elk People.* This is the name of the gentes whose chiefs are Eagle Head and Blackfoot Old Woman. The legend says that a child was born very dark, when he became a man he wore an elk skin. He became a chief and his gens was named the Black Elk people.

2. *Inepoia.* This is the name of two gentes, Bull Back Fat's and White Calf's. There are two or three families in One Spot's gens who belong to the *Inepoia* gens. The legend says that a long time ago their ancestors walked a great distance and because of the journey and the heat they perspired freely, and then they were called *Inepoia, the Sweating People.*

3. *Otekûksĭn, the Short People.* This is another name for Bull Back Fat's gens.

4. *Apikaks, the People with the Sore Feet.* This is the name of the gens, of which Strangling Wolf is the chief.

5. *Mamyauye. Red Crow, Mikasto,* who is peace chief of the Blood Indians, is chief of the gens named above. This chief is also called Onĭstaiâkapi. The gens has two names, and the legends state that there was a period when the tribe was absent hunting buffalo, and the members of this gens remained at the mountains, being unable on account of sickness to accompany the tribe. They had no buffalo meat, and they fished in the mountain streams, catching large quantities of fish, which they ate. They were therefore called *Mamyauye, the Fish Eaters.*

At another period in their history the brother of Red Crow was peace chief and also chief of this gens. During this time a friend gave unto him a revolver with six chambers, a rare thing for an Indian to possess at that time, and from this circumstance the gens was named *Naôye, Six Mouths,* from the six chambers of the revolver.

6. *Piksĭstaia, the Goose People.* This is the name of the gens of which Sakoĭstamĭk is the chief.

7. *Netaitskaia, the Bad People, Enemies.* Two gentes bear this name, one governed by *Heavy Shield* and the other by *Eagle Rib, Petoqpekĭs.*

8 *Imûksenĭa, the Vexed People,* from *Maksenĭo—he is cross, vexed, angry.* Low Horn is the chief, and the legend says that many winters ago the chief of this gens died, and the people being unable to go out hunting the buffalo, because of the mourning time and there being no one to lead them, they were vexed.

9. *Ipûkĭmûnoawa, the People with the Skinned Legs.* This is the name of the gens of which *Manĭstokos, Father of Many Children,* better known amongst the white people as White Calf, the war chief of the Bloods, is the chief. *Inepoia* is another name for this gens.

There are other legends connected with the gentes, but some of them are vulgar in their origin. Some of them seem to partake of the nature of nicknames. So far as I am able to judge, they must be accounted for in the same manner as the giving of names unto individuals. Generally each person has two names, a good one bestowed upon him for some brave action or worthy characteristic, and a bad one given because of contempt, for having been guilty of a foul deed, or it may arise from a mean disposition. Another class of names is given in a mood of playfulness to mark some humorous trait in the individual. The reason, then, why the Indians will never tell their names when asked arises from the fact that in pronouncing their names they are telling their characters. Modesty hinders the possessor from mentioning the honourable name and

shame from telling the contemptuous one. The names of the gentes appear to be given in accordance with this custom of bestowing personal names.

Some of the aged men informed the writer that in the early history of the Confederacy some of the Indians were held in slavery, but they have held no slaves during the lifetime of any of the people now living. There are some old men, however, who act in the capacity of servants to some of the chiefs. I have never known any of these, although I have seen young men acting as messengers. Some of them seemed to hold an official position, for they were not related to the peace chief by marriage, although they belonged to the same gens. They undertook long journeys when ordered to do so, interpreted when they had the ability, and received no compensation for their work.

Since the making of the treaty the mode of forming a gens and of electing chiefs has been modified. An influential Indian may secure a large number of adherents through his boldness in proposing some popular measure, first by suggesting it, and by secret and incessant agitation keeping it before the minds of the people. His name will be brought forward at some interview with prominent Government officials after the way has been cleared by securing strong support from the people, a promise of investigation will be given, and the Indian council having nominated him, the Government will finally sanction his election, if that is in the interests of the tribe.

When the tribe is on the march there is a regular order of camping. This is a very simple arrangement, and there is not the elaborate and definite method of division which exists among the Dakotahs. When the people reach the place appointed for camping, the peace chief has his lodge pitched upon the westward side, he is surrounded by the leading members of his gens, and then eastward the chiefs have their lodges pitched at a sufficient distance from each other to allow the members of their respective gentes to surround them. The sacred tents are guarded by the soldiers. This latter arrangement has not taken place for several years, as I have never seen any of these sacred lodges, but I have been informed by the aged chiefs that such were in existence in the early years.

Several sacred pipes belonged to the Blood tribe, some of which are still in possession of the chiefs. The tribal pipe had a large stone head with figures of animals cut before and behind, the stem was about three feet long, made of wood, carved and painted, from which fringes of ermine skins were appended. A woman was detailed to look after it. In travelling, this woman carried it upon a horse, upon which nothing else

was allowed to be borne. After reaching the camp, it was taken into the lodge, being carried around on the right hand side of the lodge, never deposited in its place from the left hand side. Besides this pipe, of which there was one for each camp, there were sacred medicine pipes possessing great healing powers, of which we shall speak when we treat of the medical priesthood.

The Blood Indian Reservation is the largest Indian reserve in the Dominion. It is located between the Belly and St. Mary's rivers near Macleod, Provisional District of Alberta, the southern boundary of the reserve being about fourteen miles from the international boundary line. It is approximately sixty miles long by eighteen miles wide, and contains four hundred and seventeen thousand acres, or five hundred and forty-seven square miles. It was surveyed in August, 1883, in accordance with the amended treaty of July 2nd, 1883, by J. C. Nelson, Dominion Land Surveyor. The Indians have a timber limit in the Rocky Mountains, concerning which those interested will find full information in the "*Descriptions and Plans of Certain Indian Reserves in the Province of Manitoba and the North-West Territories, 1889.*"

In September, 1888, the Indian population on the reserve was two thousand one hundred and thirty-five. There was at that time one head chief and eighteen minor chiefs. There were twenty-one bands or gentes. So we have nineteen chiefs and twenty-one bands, but there were two bands without a chief. One of these contained nearly forty persons and the other nearly seventy, and a large majority of them were females. The number of children between six and sixteen years of age was about six hundred. The number of deaths during the year was as follows: forty-one boys, twenty-three girls, fifty-one adults. The adults' ages were chiefly from forty to forty-five years, but there were some of an extremely old age. The number of births was fifty-one boys and thirty-four girls. The amount of treaty money paid was ten thousand eight hundred and seventy-five dollars. The Indians are fed by the Government, and the daily ration averaged *per capita* 1.09 pounds of beef and .37 of a pound of flour. The number of acres broken on the reserve was two hundred and forty, and the number under fencing three hundred and thirty-five acres. The number of houses on the reserve was two hundred and sixteen. Several of the old houses had been rebuilt and improved by the Indians during the year, and fifty new ones had been erected. The Indians owned from fifteen hundred to two thousand horses and an innumerable company of dogs. During that year there were grown by the natives nine hundred and eighty-six bushels of potatoes from thirty-three acres. Owing to the dry rot the crop was not a good one. They

had ninety acres of oats, producing one thousand three hundred and fifty-six bushels; three acres of wheat with fifty-six bushels, and over twenty-five acres of garden produce, which did well. The number of employees on the reserve was the agent, farm instructor, clerk, interpreter, issuer and assistant issuer, cook, and three white men as labourers to teach the Indians farming. A medical man visited them regularly to attend to the sick. During the busy season of the year, say from March till November, four Indians were employed by the Government and received pay, all the rest of the Indians doing their own work.

In October, 1891, the writer paid a special visit to the reserve, and he found the Indians building better houses, growing larger crops, getting out hay contracts for the mounted police, and understanding more clearly their relations to the white settlers. At that time the average daily ration *per capita* was one and a quarter pounds of beef without shrinkage and .42 of a pound of flour. This would not be sufficient for supporting an adult, but when we note the fact that a child one day old receives the same, it can be easily seen that where there is a large family of children there will be sufficient. It is not the intention of the Government to feed them without doing something to support themselves, as that would beget and maintain a system of pauperization, but to keep them from being in want and at the same time encourage them to toil. The Indians receive their rations at the Lower Agency twice per week, and the same number of times at the Upper Agency. The reason for issuing at the two agencies is the distance of the bands from each other, the Indian camps being located for more than thirty miles along the Belly River.

It costs the Government about fifty dollars per head for supporting the Blood Indians. The Blood Indians consume over five thousand dollars' worth of beef per month. Five or six years ago they consumed over six thousand dollars' worth per month. The beef is furnished by contractors, who are paid eight and a half cents per pound. They must give the whole animal with the offal, but they are only paid by the weight of the four quarters, the head and offal being delivered, for which they receive not any compensation. All the hides which are not needed by the Indian Department for the use of the Indians are taken by the contractors at two dollars each. There are between seventy and eighty hides per month, of which the Indians use about thirty-five, the contractors paying two dollars each for the rest, the price being deducted from the amount paid for the beef.

From October, 1889, to October, 1890, there were born twenty-four boys and thirty-five girls, and there died twenty-two boys, thirty-one girls and fifty-five adults. The estimated population of the Blackfoot

Confederacy is about as follows:—Bloods, 1,700; Piegans, 600; Sarcees, 300; and Blackfeet, 1,100. The causes of the decrease are the same as are found amongst all native races, but this question will be fully discussed in a subsequent paper. Each Indian is paid annually the sum of five dollars for himself and the same amount for each member of his family. Each minor chief receives fifteen dollars and the head chief twenty-five dollars per annum, with the five dollars *per capita* for their families.

The following list of Indian names obtained by the writer at the Piegan reserve will reveal the method and meaning of Indian names. The names of some of the male members of the camp were Eagle Tail Feathers, No Runner, Chief White Cow, Dog Child, Crow Flag, Weasel Tail, Gives to the Sun, Elk Blood Head, Dog's Head, Sits in the Middle, Running Eagle, Man who Talks, Man who Lost his Blanket, Iron Breast, Black Weasel The Spider, Big Plume, Good Killer, Surrounded at Night. The names of some of the women were as follows:—Small Medicine Lodge, Weasel Woman, The Woman to Look at.

Strangers were always honourably treated, the best seat beside the chief being given, and the choicest pieces of the buffalo supplied. They were hospitable to the stranger when in the camp, and he was under the special protection of the chief. After he had gone, however, he was in danger at the hands of the young men, the renegades of the tribe, who felt free to deprive him of his property, when once he was beyond the jurisdiction of the chief.

A NEW READING OF THE BUDDHIST INSCRIPTIONS OF INDIA.

By John Campbell, LL.D.,

Corresponding Member Anjumani Punjab of Lahore, etc., Professor in the Presbyterian College, Montreal.

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Those who have made a study to any extent of the early history of India cannot fail to have been struck with its shadowy indefiniteness down to the time of the Mohammedan conquest, in the eleventh century. The two native chronicles, the Raja Tarangini of Cashmere, and the Mahavansa of Ceylon, are little less doubtful authorities than the ancient epics, and the Puranas or mythological treatises. Abul Fazl, the other Mohammedan historian, and the Chinese Buddhist pilgrims add little that is trustworthy. When, therefore, it was known, through the labours of General Cunningham and his officers of the Archæological Survey, that ancient inscriptions abound in the sites of ruined cities and towns, great expectations were raised in the breasts of enquirers after historic truth, and a solution was looked for of those difficulties which compelled the translator of Lenormant's Ancient History of the East to omit the chapters on the history of the Indians. "To the book on the 'History of the Indians,' however, serious exception has been taken, not from any want of ability in M. Lenormant's treatment of the subject, but from a distrust of the reality of the foundation on which all the history of Ancient India rests."[1] It was confidently hoped that the reading of the inscribed monuments would remove the cause of this distrust, but such has not been the case.

The most important, because the most ancient, of these inscribed monuments are known, from their structure and from the emblems which accompany them, to be of Buddhist origin. The written characters engraved upon them have been, therefore, called Buddhist, and they constitute what is sometimes termed the Lat Alphabet, because many of the inscriptions in them are found on *lats* or pillars. This alphabet is square, as is the modern Hebrew, but has no connection with it, nor with any other alphabet, Semitic or Aryan. Nevertheless, it appears to have been the foundation of the Sanscrit or Devanagari characters, and

of other legible but aberrant types of later growth found throughout India and extending beyond its borders.[2] The phonetic powers of the Lat Alphabet remained a mystery down to 1838, when Mr. James Prinsep, secretary of the Asiatic Society of Bengal, announced his discovery in the journal of his society. After some discussion, it was generally agreed that Mr. Prinsep had found the key to the Buddhist inscriptions by identifying their characters as forms of the well known Devanagari.[3] Hundreds of inscriptions have been partially translated, some of them of considerable length. They are not Sanscrit, they are not Pali, though more like that than anything else; their language is a sort of *lingua franca*, intelligible only to their translators, and not always even to them. They are full of dates and donations and mendicant monks, and do not afford a single satisfactory fragment of ancient history. For all the gain they are to the historian they might as well have kept their worthless secrets.[4]

The translations of Mr. Prinsep, General Cunningham, Professor Dowson, and many learned Babus, proceed on the assumption that the writers of the documents were Brahmans, or at least an Aryan people. Philologists have conclusively shown that the substratum of Indian speech is Turanian, a substratum that exists, almost in its integrity, among the aboriginal or non-Aryan tribes of the empire.[5] Archæologists also have referred the most ancient buildings and monuments of India to these Turanians, who excelled their conquerors in the magnificence of their architecture.[6] There is no evidence that Brahmans ever became Buddhists, whose religion was a revolt against their own. Gotama Buddha himself was a Kshattriya, not a Brahman, and although many people of Kshattriya descent may be found among the Hindoos of to-day, this fact no more makes an Aryan of the original Kshattriya than incorporation in the west makes an Italian of the Etruscan, or an Englishman of the Pict. All over Europe, in Armenia, in Kurdistan, and in Persia, the Aryan incorporated the Turanian, annexing part of his speech and assuming the greater portion of his history and mythology as his own property, but nowhere was this process of amalgamation so complete as in India. The Brahman pantheon overflows with Turanian deities, the Indian epics are the records of Turanian warfare and adventure, the very post-positions of the Sanscrit language exhibit Turanian influence upon something more stable than mere vocabulary. That there was a genuine Turanian empire in India is proved by architectural remains, which are many of them easy to identify with Buddhist cult. Did the wealthy monarchs and powerful emperors who built these great edifices leave no written trace of their existence? Unless Mr. James Prinsep was mistaken, they did not. I prefer to believe that Mr.

James Prinsep was mistaken, and that his mendicant monks, etc., are the result of an utterly foundationless system of interpretation.

There was a time when the Turanian was regarded as a savage, having no part in the civilization of the world, which was supposed to have been accomplished altogether by peoples of Semitic and Aryan origin. True, the Egyptians and Phœnicians have always been credited with much of the world's early progress, but the language of the former was sub-Semitic, and that of the latter purely Semitic, whatever their original nationality may have been. No ancient Turanian writing was known. Nevertheless, there were such unmistakable evidences of early culture, distinct from that of Semites and Aryans, that anthropologists adopted various hypotheses to account for it, the chief of which was that known as the Cushite. These hypotheses led to nothing. But, after the cuneiform character had been mastered, it was found that at least one of the languages written in it, namely the Akkadian of ancient Babylonia, was not Semitic but Turanian, its affinities being with the Ugrian languages of Europe, still existing on the shores of the Baltic, along the Urals, and in Hungary. The Akkadian was a very ancient civilization, from which the Assyrians and later Babylonians borrowed largely. Of late years, the Hittites have come into prominence by their widely scattered monuments, and through the records of their numbers and their prowess contained in the Egyptian and Assyrian records. They also were a Turanian people. There was still another ancient people, closely allied politically, but neither ethnically nor philologically, with the Akkadians and the Hittites. These were the Sumerians, of whom we yet know very little, but who will yet appear, by indubitable testimony, as the eastern ancestors of the Celts. With them, however, we have at present nothing to do. Since Dr. Edkins, of Pekin, first drew attention to the subject, attempts have been made to connect the Akkadians of old with the Chinese of to-day by more than one writer; but none, save myself, has sought to trace in other lands, with the exception of Dr. Sayce, in Asia Minor, the powerful and widely spread Hittite nation.[7]

It may pertinently be asked why I select the Hittites rather than any other people of Turanian origin, in seeking the rise of ancient Turanian culture. The answer is, because there is no evidence of such culture having been developed by any other branch of that division of the human family, unless it were by the Akkadians, and these I firmly believe to have been under Hittite rule. Comparatively few families of the human race have achieved a historical position, the greater number constituting the Ground race, which possesses no independent history.

Certain families, endowed with peculiar virtues, physical and mental, rose to the position of kings of men, and lorded it over sections of the Ground race. Such kings of men among the Turanians were the Khita or Hittites, and under their power fell Semitic descendants of Aram, Lud, and Elam, and many Hamitic, and, perhaps, even Japhetic families. Thus, the historical Turanian peoples of antiquity, whatever the origin of their physical substratum, bore the Hittite name until their dispersion by the arms of the Assyrian Sargon in the end of the eighth century B.C., and some of them down to a much later date, as witness the Khitan of northern China in the tenth, eleventh and twelfth centuries A.D., and the Khitts of the Siberian Yenisei at the present day. In a former paper, I have shown that the people who built up a large wooden civilization in Siberia from the fifth century onward, and who left written monuments behind them, were branches of the Khitan, as their monuments denote, and, at the same time, the Japanese in migration. They migrated to Siberia from northern India, and their language is that fundamentally of the aboriginal or Turanian peoples of Hindostan. They were Buddhists, some of them fleeing from the persecution of their Pagan relatives or of the rising Brahman.

The Siberian characters are not identical with those of the Lat alphabet, being much more rudely formed; but it is a matter of very little difficulty to exhibit the essential unity of the two systems of writing. In tracing the characters west of India, and between that country and the ancient Hittite habitats in Media, Mesopotamia, and Syria, they appear on Parthian coins down to and beyond the Christian era, but, so far as the time of migration is concerned, the labours of the excavator have not yet discovered the historical connection. A study of the original significance of the hieroglyphic Hittite characters enables the investigator to recognize, in the Parthian and Lat Indian, conventional or cursive forms of the same, and to read them without difficulty. When thus read, the inscriptions yield, like the Siberian, archaic Japanese. In this connection I may say that Dr. Jonathan Goble, who was a member of Commodore Perry's expedition to Japan, and who has studied Japanese for more than forty years, thus corroborates my Siberian readings: "As translated by you, I find these ancient legends almost pure classical Japanese, that I can make out without the least difficulty." As I do not claim the ability to write classical Japanese, it is evident that I must have found it already written. Such also is the language of the Buddhist inscriptions of northern India, whose writers, in several places, call themselves by the name Kita. Some translations of these I have presented in The Hittites, and a number of them, furnishing important data for India's lost history, will yet be found in the

Hittite Track in the East. I may add that a copy of an imperfect inscription in the Siberian character, found in Japan, has been lately sent to me.

The differences between Mr. Prinsep's method and results and those pursued and attained by me are: first, that while he has regarded the inscriptions as the work of an Aryan people, I have identified them with India's aboriginal population. He has, therefore, sought to find in their characters an Aryan alphabet, and has certainly succeeded in showing that the Sanscrit letters were derived from them. While not disputing his conclusion, I deny the inference that the writers of the Lat and those of the Devanagari attached the same phonetic values to the related characters. This inference in Asia Minor, in Etruria, in Celt-Iberic Spain, and elsewhere, has hitherto closed the gateway of knowledge and concealed the existence of ancient Turanian letters and history. Secondly, while the translations of Mr. Prinsep, and his scholarly coadjutors and successors, are made, often very inconsistently, out of a bastard Pali, otherwise unknown, those I present are made consistently throughout in classical Japanese, such as scholars can read without difficulty. Mr. Prinsep and his followers, thirdly, leave many parts of inscriptions untranslated, while I maintain, and prove in practice, that a whole document only partially translated is not translated at all. Fourthly, inscriptions, as read by Mr. Prinsep's alphabet, present unhistorical bathos. As read by mine, they are found to be royal documents of great historical importance. In fine, I stand towards Mr. Prinsep's system in the same attitude as I stood, and now still more firmly stand, towards those who read the Etruscan characters with their Greek equivalents. The so-called Lat alphabet is, like the Etruscan and Siberian systems of writing, a Turanian or Hittite syllabary.[9]

The fish like character denoting an m syllable, the rounded yoke or bow one giving a power of r, and that shaped like a square Hebrew *shin*, which has the phonetic value *go*, alone serve to link the Lat syllabary with the ancient Hittite, on the one hand, and, on the other, with the so-called runes of Siberia. Where and when did the cursive Turanian writing originate? It is natural to think that it followed the Hittite hieroglyphic; but, so far, we possess no Hittite hieroglyphic documents that approach by many centuries the most ancient inscriptions in the cursive syllabary. In the Sinaitic Peninsula, and dating back to the time of the patriarch Abraham, are Hittite documents of enormous value to the historian, and these are all in the cursive character.[10] Hittite hieroglyphics must thus have been much earlier, since there can hardly be any doubt that the conventional cursive was the

simplification for ordinary use of the original cumbrous hieroglyphic in Hittite as in Egyptian. The proof of the antiquity of the Sinaitic inscriptions will appear shortly in "The Hittites in Sinai," in which I have translated over a hundred of these venerable documents, records of the kings who reigned in Edom, of the princes of the Hittite confederacy, and of the shepherd kings of Egypt and their viceroys. It is probable that all alphabets and syllabaries may yet be traced back to one original, doubtless hieroglyphic in character, when it will be found that the variation to be considered most is not the form of the symbols but the varying phonetic values which diverse peoples attributed to the same form. As I have elsewhere stated, the names Aleph, an ox; Beth, a house; Gimel, a camel, and Daleth, a door; given by Semitic peoples to the first few letters of their alphabet, are proof positive of a hieroglyphic origin, and that a Turanian people would make such characters stand for the first syllable of ox, house, camel, and door in their own language. In the accompanying plates I present the equivalents of the Buddhist or Lat Indian syllabary, both as set forth in the Asoka proclamations and in ordinary royal inscriptions, and the texts I have chosen for illustration. My object is to aid scholars in interpreting these ancient monuments, and thus to place the early history of India on a firm foundation. The variations of characters in the Asoka proclamations are really a species of vowel notation, as yet imperfectly understood. Those in the ordinary syllabary are partly of the same nature, and partly due to changes in style arising from difference of time and place. As the most ancient inscription read is of 337 B.C., and others are later than the Christian era, it is natural to find varieties of style in writing. The characters represented in the plates are gathered from thirty-seven inscriptions, and are sufficient to enable the student to decipher any ordinary Buddhist Indian document presented to him.

The first text I present is that of the proclamation of Asoka, the Buddhist Constantine, found at Girnar. This I read, not as the interpreters of such inscriptions have so far done from left to right, but from right to left. The transliteration gives:—

I.

1. *shi· keki· shimane kiwame· ta ga*
2. *tashita· rikidowa ka ashika nega ki*
3. *girifu no aka hoi ochi· manete*
4. *janage ta fumi kaveta nomija hitoshi*
5. *nai· kanegaki kaki· shimane rakajimu nomija*

6. *shimane · rametaki nomija tada · waraki-kuyashi*
7. *yajashi kimi oju ko asoka nega kiki kaki*
8. *mi · kami nise ochi ko asoka nega oja kaki · shimane*
9. *ka amakeja jahoi ochisa kage jarija sageshi ja*
10. *kimi ta ari o aba wa ketsu me-ta · goyoshi no · gune ochi ja*
11. *kija · ro medota amanji amake jai hoi ochisa*
12. *o · ja hoi ochishi maji · saki riyoki ri tama tashiremi*

II.

1. *go yasoki nega kija · kaki-shimane mori nomi arima ja*
2. *mi · riyoshi araja wareta riki ga araja · nakena tomi gijo ri · doji kimi mito*
3. *jame araja takara ochi ja-rikima ga norashi go tokara-ochisha-ki*
4. *arata · mita adan go yasoka nega kija kaki · shimane arimaja sonaye*
5. *tosha arakiku sumeshaka · tosha fujune tomata tokiji tomata tokashime*
6. *tosha arakiki o tosha araki akerami jagasha rakuraku · tosha aritaka ji*
7. *tosha arakiki o tosha araki · akerami · jagasha-rakuraku-tosha wabi tosha wa amu*
8. *shiki sumijaji ga aruha · yajira kiki yado mamori kisha buda kido jomaye · ji*[11]

The following is the translation of this inscription, as closely rendered as English construction will permit:—

I.

1. Do, I pray, what the amnesty defines.
2. Hear the desire of the accomplished warrior, the excellent Asoka.
3. Cease to imitate the evil customs of the unrighteous.
4. Take individually the confession which the writing has given.
5. Do not deliberate, I pray; receive pardon beforehand.
6. Accept universal pardon gratis, repenting wickedness.
7. Obeying the amiable lord, hear, I pray, the desire of the excellent Asoka.

8. Behold, leaving false gods, obey, I pray, the desire of the excellent Asoka.
9. For pardon leave pleasant evil rites, despise secret sports.
10. He who deserts the army of the violent will obtain protection from him who is lord.
11. Hear, quit the pleasant evil rites delighting in beguiling lust.
12. O do ye forsake evil rites, Tsurami, sovereign of the kingdom of the Sakis.

II.

1. Hear, I pray, the desire of the excellent Asoka: do ye accept the amnesty.
2. Behold, violence, the violence of strength, has divided the kingdoms. Within, law and justice cease: alike are lord and king.
3. Leave the assembly of assailing violence; leave the assembly of the measurers of strength. Hearken!
4. Hear, I pray, the desire of the new king named the excellent Asoka. Pardon is offered you.
5. Ended are the violent years; the evil years have ended now, have ended forever.
6. The violent years, O the violent years, blushing, I despise. Shall there not be years of pleasantness?
7. The violent years, O the violent years, blushing, I despise. Let years of pleasantness, a circle of peaceful years, remain.
8. As the master of the dwelling, hearing the housebreaker, guards the abode, so lock the door of Buddha.

Under the name Tsurami, Asoka appears in an inscription on a stone found in a mound at Mathura. Unfortunately this inscription and others of Tsurami are much defaced. It is No. 1 on Plate IV. The defacement is in the lower line, but the words, *Gotama shone wo*, can be made out, and, as elsewhere, the expression *Gotama shone wo ireru*, to give close attention to Gotama, or, as we would say, to give the heart to Gotama, appears as a Buddhist formula, it may be taken for granted that such is the meaning of the partially erased sentence. The upper line is quite distinct, and, from right to left, reads as follows:

No. 1. *Katame gosari mashi tsushigo tsugo butsu kisafuki Tsutemama Watatami Marezware Bushiyama go mito Tsurami futa ki 2 fu Buda go*[12]

The translation is: "I have a vow, Tsurami, surpassing all the warriors

of the earth, king of the Tsutemama, the Wata people, Marwar, and Fushiyama; 2 hundred 2 score after Buddha."

The next, No. 2, Plate IV., accompanies a naked standing figure. General Cunningham says: "The first part of this inscription is the only important part of it, the rest being a mere string of names of the donors." Having suggested emendations, he continues: "Adopting these alterations, the opening may be rendered as follows: 'Glory to the Arhat Maharira, the destroyer of the Devas!' (In the reign) of the King Vasu Deva, in the Samvat year 98, in Varsha (the rainy season) the fourth month, the eleventh day. On that very date, etc."[13] Now one ought to be able to do a great deal better than that. The upper line of the main inscription is complete, and the sense of that immediately below it, in which two characters only are wanting, can be accurately determined. The lower lines are very much broken, so that the left half only of the first of these affords material for decipherment. The subordinate square inscription on the right can be made out, but seems to lack a concluding word. The latter may be called the fourth part of the inscription, the other legible lines being 1, 2, 3, from top to bottom. The reading is, as usual, from right to left.

No. 2. Line 1. *Kumiwa mabu Buda hiromeku Tsumaki tama anoho atsufushi magetsu hime wo mire fui ochi tashi bun tsuku*

Line 2. *Sibir mafu ketaru toriwima Watatami Doidota Sibir ga wabi Kitsuuchi ga mito*

Line 3. *Gorami ga yome tsutaru betsu sai Amrita tsuta hime tatsuri*

Line 4. *Tsurami 1 meku maki 4 samura kami Kitsuuchi tsu tsudotatsu wo yobidata nado ga kifuta.*[14]

The translation is: "The associated monks, proclaiming Buddha, affix the edict, allowing to be seen this great effigy (resembling monument) of the descendant of Tsumaki. Diodotus of the Wata people, king of Sibir and the peaceful Kitsuuchi, tarries to talk over (the affairs of) Sibir. Amrita, the principal wife of (his) successor, joins the widow of Gorami in setting up the monument. Tsurami summoned an assembly of 1,004 nobles of the Kitsuuchi (to inaugurate) the gift of the wife."

As unsatisfactory is General Cunningham's rendering of No. 3, which is on the pedestal of a life size naked figure. He reads: "(In the reign) of Maharaja Vasu Deva, in the Samvat year 83, in Grishma (the hot season) the 2nd month, the 16th day. On that very day the gift of an

image. 'The rest cannot be made out satisfactorily.'"[15] It is true that parts of the document are defaced, nevertheless I read:

No. 3. *Tsushiku ga mito Tsurami 2 maki 2 fu 3 Buda go Tsumaki tama tumi tsuku*

*Amrita ga koga sai Gorami mesume tsuta dzubotsu * ma * mu go bu ma tsuraka aritama*[16]

Translated, it says: "Tsurami, king of the world, 243 after Buddha, affixes the usual writing of the descendant of Tsumaki. His servant . . . joins Amrita, his consort, the daughter of Gorami, in renewing the likeness. . . ."

A brief inscription on the base of a pillar, from Mathura like the preceding, contains the name of the ancestral Tsumaki.

No. 4. *Tsumaki mito Tsutaka Saka ga mito tsuyoshi yaku maki 3 fu Buda hiromeku* [17]

The translation is: "King Tsumaki, the mighty king of the Tsutaka Saka, 160 Buddha proclaims."

But General Cunningham's version is: "In the Samvat year 47, in Grishma (the hot season), the 3rd month, the 5th day. On that date the gift of the mendicant Dharma Deva."[18]

The oldest inscription I have yet translated is:

No. 5. *1 maki 4 ma Buda go Kafutake tori Kita;*

which, being translated, is: "140 after Buddha, the Kita choose Kafutake."[19]

Professor Dowson reads it: "Presented pillar 126 in the Samvat year 47, in Varsha (the rainy season), the 4th month, the 11th day."[20]

Finally, the following document appears inscribed in a circle surrounding the base of a pillar taken from the Jail Mound at Mathura, whence also came the inscriptions of Tsumaki and Kafutake. It is the clearest and most perfect of all the inscriptions read. It commences at the left hand side, at the break or open space near the bottom, and proceeds upwards and so round the pillar.

No. 6. *Bikrama goku agameke Matori fu arukumeku yobutata yodatsute ashikaze katsu daman Tsutaka Saki Afumi tsutome tatsure tami ki tsuncha renha, tsuncha fumi 4 ki 4 fu Buda go*[21]

Translation: "Vicram, the valiant, ruling the exalted city Mathura, summoned serviceable foot-soldiers to exterminate the Tsutaka Saki.

The mind of the people to serve Afumi sets up the usual orderly customary writing 480 after Buddha."

This, Professor Dowson interprets: "In the Samvat year 47, in Grishma (the hot season), the 4th month, the 4th day. Gift to the Vihara of the great king, the king of kings, the son of heaven, *Huvishka* by the mendicant Jivaka Udeyana. May it be to the benefit, welfare, and happiness of all in the four quarters (of the world)."[22]

In commenting briefly upon the preceding inscriptions, which will be discussed at length in my Eastern Track of the Hittites, the first thing to consider is the matter of date. The era is that of the death of Buddha, for which many dates are given, varying from 543 to 477 B. C. Vikramaditya is said to have fixed the Samvat era in 56 B. C., and with this statement the last inscription, which puts an event in his reign 480 years after Buddha, or 63 years B. C., according to the long computation of that reformer's death, agrees. But No. 3 places Tsurami or Asoka in 243 after Buddha, and No. 2 makes Diodotus of Bactria his contemporary. Now, the eldest Diodotus began to reign about 255 B.C., and the younger in 237 B.C. If 543 be the date of Buddha's death, Tsurami's date and that of Diodotus is 300 B.C.; but, if 477 be the true figures, the interview between Tsurami and Diodotus was in 234 B.C., which better satisfies chronology. The Buddhist convention under Asoka is said to have been held about 250 B.C., so that the date 543 is completely ruled out of court. The oldest date found, that of Kafutake, is 337, that of Tsumaki is 317, and that of Vicramaditya, 3 A.D.

Kafutake is the Gopaditya of the Raja Tarangini, which presents its array of Turanian monarchs in a Sanscrit dress, and he is the Sopeithes of Strabo, or, as Curtius calls him, Sopithis.[23] Strabo calls him a monarch of the Cathaei, and says that he opened his city gates to Alexander of Macedon and entertained him royally. This was in 326 B.C., or eleven years later than the inscription. Kafutake must have been an old man before he died, for another inscription of his states that, in 180 after Buddha, he superseded the Nandas by the Sakas. He may thus be also identified with Chandra Gupta, who overthrew the Nandas. Tsumaki, therefore, whose date is 317, must have been his contemporary during part of his long reign, and may be identified with the Sisunaga who helped Chandra Gupta in his revolution, and with the Sangaeus, whom, according to Arrian, Alexander set over Peucolaitis.[24] Both Kafutake and Tsumaki belonged to the Sakas or Sacae, but the former was also elevated to the throne of the Kita, who are the Cathaei of ancient writers on India. The Indian name for Tsurami is Dharma, often conjoined with his religious title Asoka, which is just the Japanese

yasuki, the peaceful, in the form Dharmasoka. He seems to have been recognized by all the Hittite rulers of northern India, and even of countries to the west of it, as an emperor or king of kings. One of his inscriptions enumerates the Tsutemame or Sushmins, the Wata, Futa, or Bakhdi, that is the Bactrians, the people of Marwar, and the Fushiyama, or ancient Kambojas to the north-west of Cashmere, as his subjects. The Bactrians, however, were under the sway of Diodotus, as were the Sibir or people of Cabul, so that Diodotus must have been tributary to Asoka.

Several inscriptions of great interest illustrate the intervals between Tsurami and Kafutaki on the one hand, and between him and Vicramaditya on the other. These are set forth with ample comment in the Hittite Track in the East. Vicramaditya, who on his inscription calls himself simply Bicram, sets himself forth as a Tsutaruki or Gupta king, by making Afumi, the Abhimanya of the Raja Tarangini, his heir to the throne.[25] The overthrow of the Sakas by this monarch is one of the best attested facts in ancient Indian history. If, as seems most probable, the date of Buddha's attainment of *nirvana* was 477 B.C., this event must be placed at or near the year 3 A.D. If he re-established Brahmanism, or rather the heathen worship of his own race, which contributed to modern Brahmanism its chief elements, as is very probable, seeing that several of his predecessors apostatized, his change of faith did not affect his successor Afumi, who appears to have remained a Buddhist. The kings of the Sakas belonged to the Varma dynasty, and, on another inscription mentioning Vicram and Afumi, are also called Kitan. No inscription so far read by me makes any mention of a Brahman. When idolatry is referred to, it is called the worship of the old gods, in other words, the Sintoism of Japan. There is not the least evidence for an ancient Brahman kingdom in India, but it will be very hard to convince a Hindoo that none such existed. However, the missing materials for the ancient history of India are now in the world's possession, and a little labour on the part of epigraphers, who are also Japanese scholars, will soon bring a flood of light to bear upon one of the most interesting but, until now, most obscure chapters of the history of the past.

NOTES.

[1] Lenormant and Chevalier, Manual of the Ancient History of the East, Vol. II., preface.

[2] Max Müller, a Sanskrit Grammar for Beginners, p. 1.

[3] Journal, Asiatic Soc'y of Bengal, March, 1838, pp. 219 seq.

[4] Reports of the Archæological Survey of India.

[5] Hunter's History of India, p. 23.

[6] Ibid.

[7] Edkin's China's Place in Philology: Rev. C. J. Ball and others in the Proceedings Soc'y Bib. Archæol., and in the Babylonian and Oriental Record: Campbell, The Hittites, etc.

[8] Siberian Inscriptions, Trans. Canad. Inst., 1890-91, Vol. II., pp. 261 seq. See also The Hittites, Vol. II., p. 325.

[9] See my Etruria Capta, Proceedings Canad. Inst., 1885-86, pp. 144 seq.

[10] Over a hundred of these I have translated in The Hittites in Sinai, yet to appear.

[11] Analysis of the Asoka proclamation:

Part I., line 1. *Shi*, now *se*, imperative of the verb *shi*, *su-ru*, to do.
kaki, now *kashi*, a word used at the end of a sentence of exhortation, entreaty, or request, to give emphasis to it. May be Englished by, I pray you.
shimane, now *shamen*, pardon, subject of *kiwame*.
kiwame, part of verb *kimawe-ru*, to define, determine, decide.
ta, the relative, who, which, generally followed as here by its genitive particle *ga*.

line 2. *tashita*, now *tasshita*, preterite of *tasshi*, to be thoroughly versed, expert, or proficient in.
rikidowa, now *riki-idomi*, strong contender, warrior.
go, a term of respect or politeness used in addressing a superior, meaning honourable, excellent.
Yasoka or *Asoka*, the religious name of the monarch.
nega, now *negai*, desire, request, prayer.
ki, part of the verb *kiku*, to hear. The imperative *ja* probably followed *ki*, but, if so, it has been erased from the inscription.

line 3. *giri*, right, just.
fu, a negative particle.
no, genitive post-position.
aku, bad, wicked, qualifying *hoi*.
hoi, now *hō*, rule, law, precept.
ochi, to fall, leave, run away.
maneta, preterite of *mane*, *mane-ru*, to imitate, do like.

line 4. *janage*, now *sange*, confession, acknowledgment.
ta, the relative.
fumi, a writing, book, letter.
kareta, now *kureta*, pret. of *kure*, to give.
nomi ja, now *nome yo*, imperative of *nomu*, to drink, swallow.
hitoshi, now *hitoshii*, same, equal, alike, literally one man.

line 5. *nai*, not, is not, have not.
kanegaki, now *kangaye-ru*, to think on, reflect, consider.
kaki, or *kashi*, and *shimane*, *shamen*; see line 1.
rakajimu, now *arakajime*, beforehand.
nomi ja or *nome yo*; see line 4.

line 6. *rametaki*, mostly, now *aramattaki*, a combination of *ara* as in *aramashi*, generally, and *mattai*, *mattaki*, whole, complete, entire.

line 6. *tada*, adverb signifying, only, merely, but with verbs of giving and receiving, hence gratuitously.

waruki, adjective *warui*, *waruki*, bad, but here used as a noun, wickedness.
kuyashi for *kuyami*, to repent, whence *kuyashii*, producing repentance.

line 7. *yajashi*, now *yasashii*, amiable: same root as Asoka.
kami, superior, ruler, lord.
oji, *ojiru*, to fear, dread, or *ōji*, *ōjiru*, to obey, comply.
kiki, to hear; see line 2.

line 8. *mi*, imperative or interjectional form of *miru*, to see, behold.
nise, false, counterfeit, as in *nise-gane*, counterfeit money.
echi, to leave; see line 2.

line 9. *ga*, genitive post-position governing *shamen* of preceding line: here to be Englished by *for*.

amaki, adjective *amai*, *amaki*, sweet, pleasant, also foolish.
jahoi now *jahō*, wicked religious rites.
kage, shadow, and, metaphorically, secret, unseen.
jariju, noun, from *jare*, to play, frolic, sport, *jarashi*, make to play.
sageshi ja, imperat. of *sageshime*, to look down on, despise.

line 10. *to ari*, now *tari*, from *ta*, who. and *ari*, is, who is.
yo and *yu* are ancient poetical forms of the preposition *yori* from.
aba, now *abai*, to shield from danger, protect, defend, but here a noun.
wa or *wo*, the untranslated sign of the accusative case, here governed by *katsu me*.
katsu, to gain, conquer. The following *me* is a future particle (Aston's Grammar, p. 168).
ta, the relative.
goyoshi, now *tsuyoshi*, strong, powerful.
no, genitive particle.
gunc, now *gun*, army.

line 11. *ki ja*, imperat. of *kiku* to hear.
ro, now *ro*, love, lewdness, lust.
madoa, now *madoita*, pret. of *madoi*, to err, be deluded, misled.
amanji, to relish, delight in.

line 12. *mashi*, an old form for "you" (Aston's Grammar, p. 65).
riyoki ri, better *riyo giri*, rightful kingdom.
tama, master, qualified by the adjective *giri*, and, with it, governing *giri* in the genitive of position.

Part II., line 1. *mori nomi*, compound verb, consisting of *morai*, receive, accept, and *nomi*, drink, swallow.

arima ja is not *arimasu*, the honorific form of *ari*, to be, to have, but *ari* with an abbreviated form of *mashi*, *imashi*, the old 2nd personal pronoun, and the imperative sign *ja*.

line 2. *riyoki* or *riyoku*, estate, kingdom.
araja or *arasa*, violence, harshness.
warita, now *waritta*, pret. of *wari*, to divide, part, rend asunder.
riki, strength; *ga*, genitive post-position.
nakena now *naka ni*, within, composed of *naka*, middle, among, and *ni* post-position, in, into.
tome, part of verb *tome*, *tomeru*, to stop; *tomari*, to cease.

line 2. *gijo*, law, statute, ordinance.
ri, right, just, proper.
doji, composed of; *do*, same, and *ji*, way; hence, "alike," synonym of *onaji*.

kimi, if properly transliterated, is same as *kami*, lord, master.
mito, king, same as *mikado*, door being *to* or *kado*.

line 3. *jame araja*, now *seme arasa*, from *seme*, *semeru*, to assault, attack, harass, and *arasa*.

takara, noun derived from *takari*, to assemble, collect in a crowd.
rikima, now *rikimi*, a lengthened form of *riki*, strength.
norashi, now *norishi*, literally a maker of measurement.
ochi sha, same as *ochi ja*, leave (imperative).

line 4. *arata*, new; the present word for new is *arata-na*, but *arata* forms *arata-me*, to renovate, reform.
adan, now *ada-na*, nickname.
arimaja seems the same as *arimashi*, is to you, without dative sign.
sonaye, *sonayeru*, to set before, offer.

line 5. *tosha*, should be *toshi*, year, probably an error in transcription.
arakiku, lengthened form of *araki*, violent, rude, wild.
sumeshaka should be *sumashika*, from *sumashi*, to finish, end; in the past tense marked by *shika*.

fujune or *fujun*, bad, contrary, unfavourable, adverse.
tomata, now *tometa*, pret. of *tome*; see line 2.
tokiji, from *toki*, time, now abbreviated to *toji*, now.
tokashime or *tokishime*, compounded of *toki*, time, and *shime*, sum, total.

line 6. *akerami* or *akarami*, to become red, to blush.
jagasha, same as *sagesha* of Part I., line 9, to despise.
rakuraku, easy, pleasant, free from pain.
aritaka ji, *aritaki ji*, from *aritai*, *aritaki*, wish to be, let there be, and *ji*, negative future particle (Aston's Grammar, p. 157). The whole will thus read: shall there not be?

line 7. *waki*, the old word for peace, which is now *wa*, while *wabi* means apology, supplication.
wa, a circle, cycle.
amu, supposed old form of *amashi*, to let remain, leave over.

line 8. *shiki*, now *shika*, so, thus, as.
sumijaji, compound noun, the parts of which seem to be *sumai*, a residence, and *jusho*, having the same meaning.
aruha, now *aruji*, lord, master, landlord, owner.
yajiri, abbreviated form of *yajiri-kiri*, a thief, house-breaker.
yado, house and grounds, home.
mamori, to guard.
kisha by a strange inversion is *kaku*, thus, which, as I pray, the Girnar Japanese makes *kaki*, and the modern, *kashi*.
Buda, the usual form of Budha's name in the inscriptions; in modern Japanese, *Butsu*.
kado should be *kado*, door or gate.
jomaye ji, *jomaye*, a lock; the following *ji* is equivalent to *shi*, do.

[12] Analysis of No. I.

katame, promise, agreement, pledge, vow.
gozari masu, I have, there is (Aston's Grammar, 174).
tsuchigo, from *tsuchi*, earth, and *ga*, genitive particle.
tsugo, all.
butsu, to strike, *bushi*, a soldier.
kitafuki, from *kitoi*, to excel. Most Jap. verbs now ending in *oi* and *ai* are abbreviations of older forms in *ofu* and *afu*: the final *ki* is the attributive termination.
go, following names of places, is the genitive *ga*.
mito or *mido*, now *mikado*, honourable door, king—emperor.
futa or *buta*, now *futatsu*, 2: the *tsu* is generally omitted.
ki, sometimes *maki*, Japanese *momochi*, hundred. The short form is the Yenisean *ki*, *kihe*, *kise*.
2 *fu*: the numeral 2 is expressed by the two lines =, and the following *fu* is an abbreviation of the old word for 20, now *hatachi*, which was probably *futachi*.
Buda go: the latter word is a post-position, after, behind.

[13] Archæological Survey of India, Vol. III., Pl. XV., No. 20, and p. 35.

[14] Analysis of No. II.

line 1. *kumi-wa*, now *kumi-au*, joined together in one company, qualifying *mabu*, which is not modern Japanese. A nun is *ama*, and *ambu* is quiet, peaceful, happy. The word occurs in several inscriptions in India and Siberia, and denotes a monk.
hiromeku, adjective or participial form of *hirome*, to spread, publish, proclaim, governing Budha.
tama, abbreviation of *ato-me*, successor.
anoho, compound of *ano*, that, and *ho*, place, meaning, that there.
atsufushi, form of *atsui*, thick large, great, liberal. Final *i* after a vowel generally stands for an ancient *fu*.
magetsu, adjective form of *magai*, imitation, *magaye-ru*, to imitate.
hime, now simply *hi*, a monument: *me*, a common suffix, as in *ato-me*, successor, *kake-me*, weight.
wo, particle specifying the direct object of the sentence, *hime-mire*, to see.
fui ochi; *fui* seems to be the old form of *ho* in *ho-dai*, at liberty, and to have the same meaning: *ochi*, like the Basque *utzi*, means to leave,
tashi-bun; *tasshi-gaki* is a government proclamation, and *bun* or *fumi*, which takes the place of *kaki* or *gaki*, has the same meaning, writing.
tsuku, now *tsukeru*, to affix; *tsuku* is the neuter form.

line 2. *Sibir*, a country, perhaps Cabul.
mafu ketaru, now *kataraï*, converse together; *mafu*, a humble word for *ifu*, to say, denoting the subordinate position of Diodotus.
tori-wima, inversion of *hima* or *fima-dori*, to delay, literally, take leisure.
Wata-tami, the Bakhdi or Bactrian *tami*, people.
Deidota, the Sanscrit Devadatta and Greek Diodotus.
ga, the genitive post-position.
wabi, peaceful; see Asoka inscription.
Kitsuuchi, a north-western people, the Khasas.
mito, king, now *mikado*.

line 3. *Gorami*, a king, whose inscriptions show him to have been contemporary with part of the reign of Tsurami or Asoka. He ruled Mekasa, perhaps Massaga of the Assaceni.

yame, now *yamome*, widow or widower, difficult at times to distinguish from the Indo-Hittite *yome*, daughter.

tsutaru, now connected with *tsutawaru*, to inherit, meaning the heir or successor.

betsu, separation, distinction, here answering to *betsu-jo*, special.

sai, wife.

Amrita, a woman's name: Raja Tarangini, L. III., sl. 9, 463, L. IV., sl. 658.

tsuta, for *tsuida*, preterite of *tsugi*, to join.

hime; see line 1.

tatsuri, now *tateru*, but regular transitive form of *tatsu*, to stand.

Part IV. *Tsurami*; see Asoka inscription.

meku maki: *me* is Indo-Hittite 10, and *maki* 100.

sumara, now *samurai*, a gentleman, one privileged to wear two swords.

kami, lord, ruler.

tsu, old genitive particle.

tsudoi-tsu seems to be a compound of *tsudoi*, to assemble, and *tatsu*, to stand up. As *tachi*, *tatsu* is in Indo-Hittite often used transitively; it may here be the verb governing *kifuta* that in the text is supposed to be lost. In this case the passage will read: "Of 1004 nobles of the Kitsuuchi Tsurami summoned an assembly—to set up—the gift of the wife."

wo, the mark of the accusative, often omitted.

yobidata, preterite of *yobi-dasu*, to call out, summon.

nedo, Indo-Hittite and Siberian vulgar term for wife, from *ne*, *neru*, to sleep, and *do*, together, similar in form to concubine.

kifuta, now *kifu*, a contribution or donation.

[15] Archæological Survey of India, Vol. III., Pl. XV., No. 16, and p. 34.

[16] Analysis of No. III.

line 1. *tsushiku*, now *tsuchi*, earth, the earth.

ga, genitive particle; *mito*, king.

2 maki 2 fu 3; *maki* 100, *fu* 20.

Buda go, after Budha.

tama, is not *tama*, master, but modern *ato-me*, descendant.

tsuneho, from *tsune*, usual, and *ho*, place, this usual.

fumi, writing.

tsuku, affixes; see above, No. II., line 1.

line 2. *koga*, from *ko*, this, and *ga*, genitive, the demonstrative employed for the possessive adjective of the third person.

sai, wife.

mesume, now *musume*, daughter. This reading is doubtful, as it is the only place in which I have found *mesume*.

tsuta, joined; see No. II., line 3.

dzubotsu, now *sobadzukai*, attendant. Compare *dzuka*, follower, servant, and *dzui-shin*, follower, disciple.

* *na* * *mu go hu ma*—illegible.

tsuraka, likeness, from *tsura*, the face.

aritama, now *aratame-ru*, renovate.

[17] Analysis of No. IV.

Tsumaki, a king's name.
Tsutaka Saka, a branch of the Sacae.
tsuyoshi, strong, mighty.
yaku, old numeral 1.
hiromeku; see No. II., line 1.

[18] Archæological Survey of India, Vol. III., Pl. XIV., No. 11, and p. 33.

[19] Analysis of No. 5.

ma, old form for 10 abbreviated.
tori, take, seize, obtain, admit, select.

[20] Archæological Survey of India, Vol. III., Pl. XIV,, No. 14, and p. 34.

[21] Analysis of No. VI.

goku, sometimes, as now, *goki*, stout-hearted, brave.
agameke, adjective, from *agame-ru*, to exalt, honour.
fu, a chief city.
yobitata, pret. of *yobi-dashi*. call out, summon.
yodatsuta, adj., from *yodatsu*, to be of use.
ashikaze, now *ashigaru*, foot soldiers.
katsu, to conquer.
daman, now *dam-metsu*, to exterminate.
tsutome tatsure, to serve, to set up.
tami ki, people's mind.

[22] Archæological Survey of India, Vol. III., Pl. XIV., No. 12, and page 33.

[23] Raja Tarangini, L. I., sl. 341; Strabo, XV., l. 30, 31; Curtius IX., 5.

[24] Vishnu Purana, Bk. IV.; Mahavansu, appendices; Arrian, Anab. IV., 22.

[25] Raja Tarangini, L. VI., sl. 188. Vicramaditya was probably a soldier of fortune under Afumi, for the Raja Tarangini makes Abhimanyu the son of Kshema Gupta, while it does not appear that Vicramaditya ever assumed the Gupta name. At the time of Afumi, the Guptas had become *rois fainéants*.

PLATE I.—THE SYLLABARY OF THE ASOKA PROCLAMATIONS.

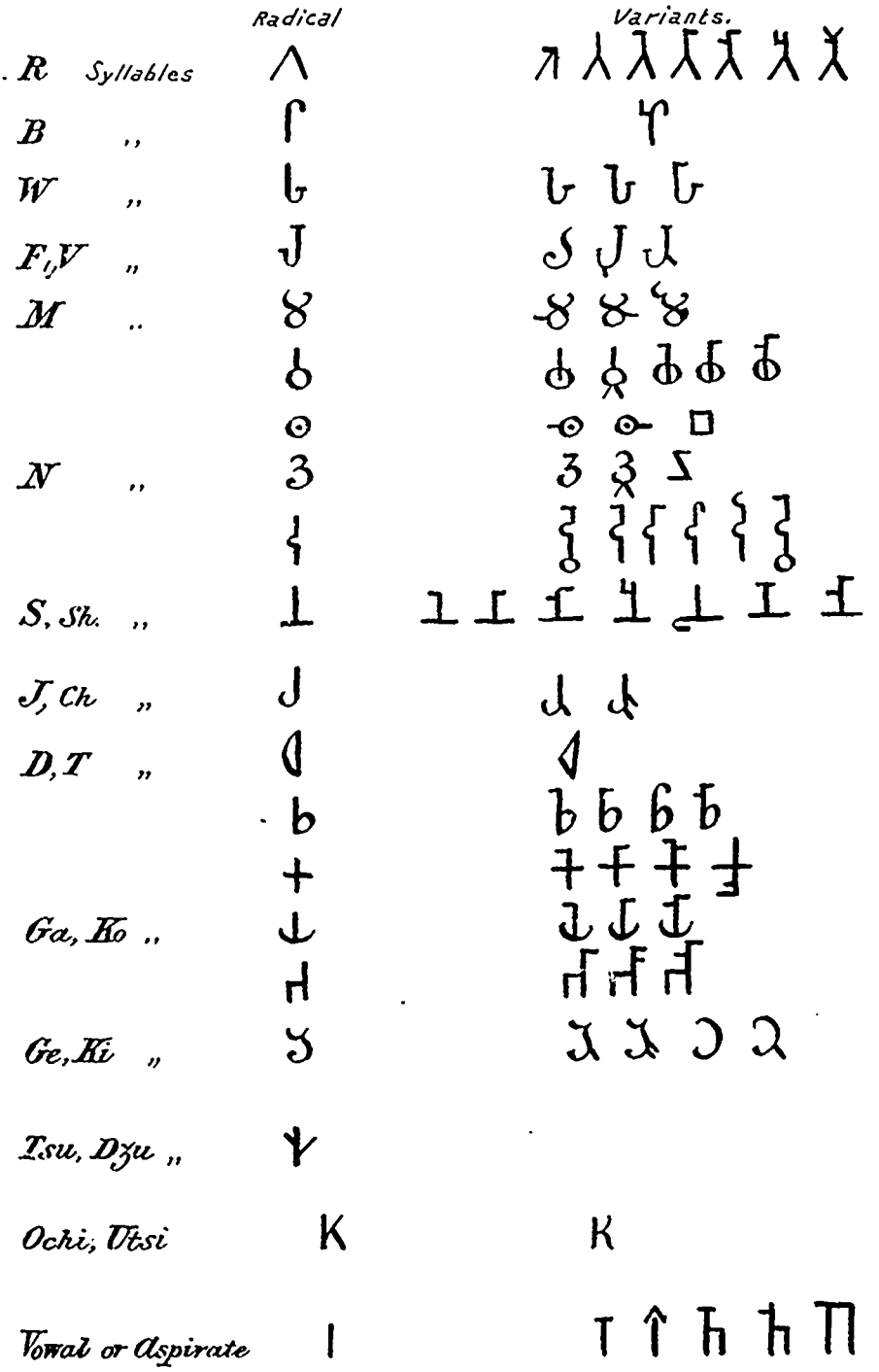

PLATE II.—THE COMMON INDO-HITTITE SYLLABARY.

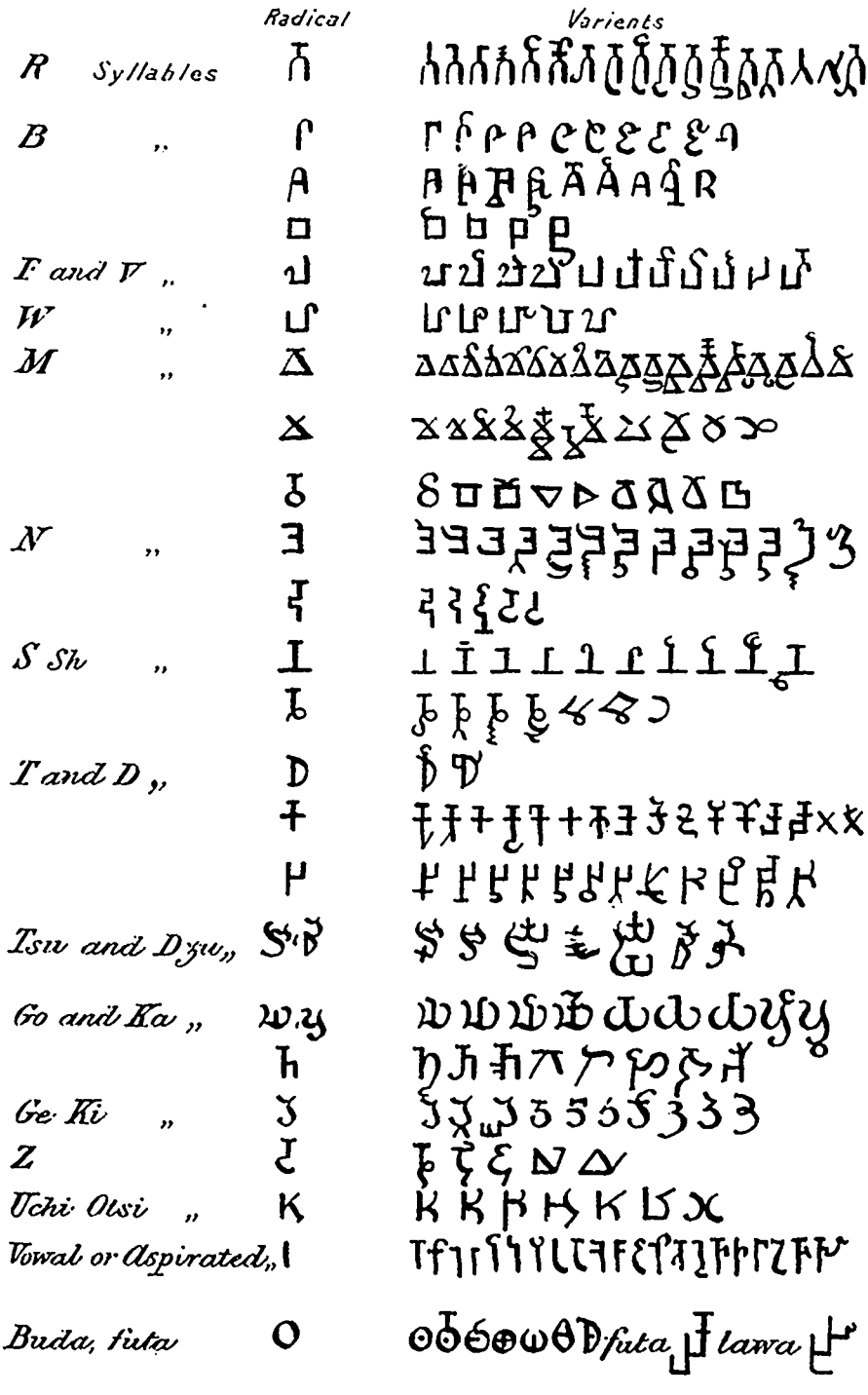

PLATE III.—ASOKA EDICT AT GIRNAR.

PART 1

PART 2

PLATE IV.—INSCRIPTIONS IN THE COMMON INDO-HITTITE CHARACTER.

THE JOURNAL OF CAPTAIN WALTER BUTLER, ON A VOYAGE ALONG THE NORTH SHORE OF LAKE ONTARIO, FROM THE 8TH TO THE 16TH OF MARCH, 1779.

By Captain Ernest Cruikshank.

(Read 7th January, 1893.)

Niagara, 8th March, 1779.—Three o'clock in the afternoon, set off for Canada in a batteau. The weather calm, the season very forward and more than common fine, no appearance of snow, ice, or frost. Rowed to the 12 Mile Pond, encamped; saw this evening a large flock of pigeon in trees and numbers of geese and ducks in the pond.

12 Mile Pond, 9th March.—At six put off, the wind and swell high and ahead; but the hands being good oarsmen kept the lake till the 20 Mile Pond or river, when the wind increasing and no harbour nearer than the 40 Mile Creek, made for the Creek and was near striking on the bar, but the force of the waves on the stern and working briskly of the oars got into the river. An Indian cabin on the bank inhabited by Missassaugas. The 20 Mile Creek is a fine stream, though shallow at the entrance and narrow at the mouth, but very wide a little way up. The land in general level, though higher on the east side. Timber—oak, pine and a few chestnut trees. The place appears as the head of the lake, though it turns for forty miles westerly beyond this before the lake turns to the north-eastward. This creek heads near Point Obino, 18 miles above Fort Erie on Lake Erie, likewise the 12 and 16 mile creeks rise out of the swamp near Lake Erie. Boats can go up this creek about 15 miles. Saw a number of blackbirds. 3 o'clock put off, the wind falling, and rowed till four, hoisted sail and continued till six, rowed till 7 o'clock, put in shore and encamped on a low, sandy beach, five miles from the creek in this bay forming the head of the lake, hauled the boat up the distance from the said creek to Niagara, 60 miles.

10th March.—Put off at daylight, every appearance of a fair wind, rowed an hour, the wind came ahead, increased with a high swell, was obliged to put into the river at the head of the lake, shipped water twice before we made the river, the wind at east. From the west side of 20 Mile Creek the land lowers till you come 12 miles off this, where it forms a fine sandy beach with a few trees near the shore, which continues a

mile beyond this where the shore turns and runs about north-east, whence it is a broken shore with a bank of seven or eight feet and no landing with boats for ten miles. In windy weather a boat may go up this river 10 or 13 miles, whence there is a carrying place of 13 miles into the river Tranche, which falls into the lake of St. Clair. After you enter the river about 400 yards it forms a lake or pond of four miles over and six long. Between it and the lake is a narrow neck of land of 400 yards wide, covered with a few trees and reedy grass; on this the Indians hut in the fishing season. This pond in the season has great numbers of all sorts of water fowl. Round this lake or pond a quantity of hay might be made. This morning about seven, the weather being clear and little or no wind, we saw the spray or mist of the Fall of Niagara, being from this about south-east. A canoe with Missassaugas came to us, gave me ducks, in return gave them powder and shot and bread, they being out of ammunition. I learned from them that Joseph Brant had left his boat here and took two canoes 11 days ago.

Head of the Lake, 11th March.—Got up at daylight, wind still ahead and too hard to put out; amused ourselves shooting ducks and blackbirds. Set in raining at ten this morning. An hour before sunset a thunder gust with lightning and a heavy rain. Thick fog and calm, though still a high swell. Set off a little before sunset. Half an hour out fog cleared off with a hard north-west wind very squally, could not sail, rowed till eight o'clock, the wind and swell too high to go any further this night; put into the 12 Mile Creek with much difficulty. Got into the creek, obliged to drag the boat, water sufficient, but a fall in the mouth of the creek; ten o'clock at night before we could kindle a fire; the ground and wood wet; encamped on a bare point. The wind blew down our tent. Up this creek a sawmill might be erected, having fine rapids and good timber for boards. This creek in the fall is filled with salmon, as all the other large runs of water are in the fall season. From Niagara to this the lake shallow near the shore, though good anchoring ground off in the lake.

12th March.—Set off at seven o'clock this morning; the wind at N.W.; too much off shore to sail; rowed till 11 o'clock; put into the river called the Credit, 17 miles from the last station. The shore in general good for boats to land; the land low and a good beach, except the points, which are bluff. Two Missassaugas came to me and informed me a number of them lived up this river. Gave them bread and put off at 12; rowed to the bay above Toronto; hoisted sail: found the wind too high to go round the long point forming the basin or bay below Toronto. Continuing sailing down the bay to the camping place, unloaded the

boat, hauled her over and loaded again in an hour and a half; rowed from this to the beginning of the high lands, encamped on the beach and secured the boat. Toronto was built on a level spot of ground nearly opposite a long narrow neck or point of land running seven or eight miles into the lake, forming a noble bay of eight or nine miles deep, two or three miles from the bottom of which, on the north side, ships can ride in safety. It's strange the French built the fort where they did and not where their shipping were wont to lay, which was a few miles below the fort down the bay. The bay of Toronto was filled with all sorts of wild fowl. Saw on the north side of the bay several wigwams and canoes turned up on shore. The land about Toronto appears very good for cultivation. From Toronto to the river du Credit it is 12 miles across the bay, but better than 20 along shore, which is the way boats must take except the weather is very calm or a light breeze in your favour. From Toronto to the beginning of the high lands is nine or ten miles down the basin, but nearly double round the point.

13th March.—Got off at daylight; the wind from the land, could not sail, rowed till twelve; passed the high lands and a small bay. Put into Pinewood Creek. Here one Duffin resided formerly, since when a Frenchman has resided here. He went off a little before we came. Two houses a little up the creek, one entire, the other stripped. This creek is famous with the Indians for great quantities of fish. The distance from this to the other end of the highlands is about 20 miles, 15 of which are few or no places where a boat could be saved in case of a storm off the lake, the bank being very high and steep, being a mixture of clay and chalk nearly as hard as freestone; it forms a romantic, wild view, in many places appearing like towns in ruins, the relics of houses, remains of chimneys, etc. From the lake you would take it for a large town built of stone partly demolished. Put off at ten o'clock, rowed till three, the wind fair, sailed till four, rowed till six, no wind; put ashore in a deep bay where we found a fine creek, its water as clear as crystal. Encamped a little up the creek in this bay. I believe vessels might ride with safety from the N.E. or N.W. wind, but not from the S.E. or S.W. The distance from this to the Pinewood Creek is about 30 miles, the lake all along forming small bays in which you have a good beach in which a boat may be secure in case of a storm.

14th March.—Set off at daylight; rowed till twelve; the swell increasing with the wind ahead at east, put into a creek called by the Indians Pamituscoteyank (the fat fire); the distance from our encampment 15 miles; at this creek and two others nearly of the same name

the Indians in the fishing season reside.* All those three creeks head near a lake about 30 miles long, distant from this about 50 miles where the Missassaugas have two villages and where the Canadians in winter send traders. Expresses in winter pass this lake on their way to Canada. Set off at one o'clock, the wind off shore, rowed till two; sailed till night; put into a deep bay; found a creek but could not get in, the stream running very rapid; rowed further in the bay and encamped on the beach; secured the boat. From the Fat Fire Creek to this about thirty miles, the shore and particularly the bays level, and good beaches for boats to land and the points bluff, the lake shoal near the shore.

15th March.—Put off as soon as day appeared and rowed till ten; passed a long point which forms two deep bays, one on either side, of ten miles to the bottom. In the bay to the west falls one of the creeks before mentioned, coming from near the small lake inhabited by the Missassaugas. In those two bays vessels might lay secure from storms on the lake, in the west bay sheltered from the S.E. and N.E. winds, in the east from the W. and N.W. winds. The point runs direct into the lake for four miles at least. You can't see the bottom of the east bay in passing across from the end of the point to the main. This bay has a fine river falling into it from the east, which forms a basin and a narrow entrance into it, occasioned by a narrow neck or sandy beach between the lake and river. At 11 o'clock hoisted sail, the wind off shore; at 10 o'clock passed two islands, the one called St. Nicholas, the other never knew a name nor did I know there was one of St. Nicholas; St. Nicholas is about one half a mile in circumference, the other about half that size. St. Nicholas is about one mile from shore, the other much smaller and about two miles beyond it directly out into the lake, either of which would be a safe retreat for vessels in a storm, these islands are about 12 miles east of the beforementioned point forming the two bays. When the wind is high the boats go within two miles of the bottom of these bays and drag the boats across a point of land about 200 yards wide. The distance from our encampment to the point about 12 miles, from the point to St. Nicholas Island about 10 miles. Continued sailing till night, put in shore and encamped on a low point where we found a fine creek and a good harbour in a pond for our boat. Since this morning a great number of wild fowl. From the island to this is about 25 miles; the shore much the same as yesterday, the points not so bluff.

March 16th.—Put off our boat very early, much ice which had formed last night, the wind ahead and partly from the shore which partly drove

* Long, in his travels, p. 78, and elsewhere, mentions this place by the name of Pimistiscotyan Landing. He apparently resided there for some time.

the ice into the lake; rowed till 9 o'clock; came up to the Duck Islands and saw the islands called the False Ducks about south from the real Ducks; the distance I take to be better than 12 miles between the real and the False Ducks as they appear from here. The vessels, if I remember well, made the distance more. Those islands afford a safe retreat for vessels in case of a storm. The islands are much alike, about a mile round and nearly circular distant from the main, four miles and from each other one. The weather calm, rowed across a very deep bay of 20 miles down and about ten directly over. This bay is much larger if taken from the point of a large island to the east and the Ducks to the west part of the main, and the large island on the east side of the bay from the Ducks appears like a number of small islands and in many places a single tree is only seen. Many persons not acquainted with the passage have taken down the bay supposing it to be the entrance of the river, and in coming from the river have imagined the main to the west to be islands from its appearance, and go likewise down this bay. Traders go in two days to the before mentioned small lake inhabited by the Missassaugas. Continued rowing till the mouth of the Caderouqua Bay, the wind coming fair sailed into Caderouqua harbour. The distance from our encampment to Caderouqua about 32 miles, the land in general very low and swampy back; the points rocky and shallow for some way out. There is so much of a sameness in the appearance of the land from the highlands to the river that a few miles off in the lake there is no knowing one place from the other. Nothing but the walls of the barracks and houses remain of the Fort. It appears never to have been a place of strength, neither do I think its situation will admit its being made so, the land very stony and ground back to command it. It has a fine safe harbour for shipping. The little island opposite the Fort improved in the French time is now covered with small trees.

I am told vessels cannot sail out of Caderouqua to the lake but with a north or north-west wind. An east and south wind are fair winds for ships once clear of the river to Niagara. The above are all the observations I made on the north shore of Ontario, which would have been more perfect but for the severity of the weather, which prevented me taking notice of many parts of the shore, neither did I think these remarks would have been seen or would have been more particular.

MEMOIR OF CAPTAIN WALTER BUTLER.

BY CAPTAIN ERNEST CRUIKSHANK.

(Read 7th January, 1893.)

Walter Butler, the author of the foregoing journal, was a man of sufficient note to receive mention in nearly every history of the American Revolution and most of the larger histories of the United States as well. Unfortunately for his reputation, the story of his share in the struggle has invariably been written from a hostile point of view. By his enemies he was regarded as a fierce, cruel, and implacable adversary, delighting in bloodshed and ruin. What he seemed in the eyes of his friends and comrades has never been told.

The eldest son of Lieut. Col. John Butler, afterwards so widely-known as the commandant of the famous corps of rangers bearing his name, he is supposed to have been born about the year 1750 on his father's farm of Butlersburg, in the valley of the Mohawk, near Johnstown. At the outbreak of the revolutionary movement he was, therefore, about twenty-five years of age, and had been admitted to the bar of the Province of New York. Judge Jones, the author of a history of New York during the Revolution, who knew him as a law student, describes him as "a youth of spirit, sense, and ability." Another authority speaks of him as a "pretty able young lawyer." His name appears as one of the two attorneys who signed the protest of the Loyalists of Tryon County in March, 1775. During the summer of that year he accompanied Guy Johnson to a Council of the Six Nations at Oswego, and afterwards went with him to Montreal to aid in the defence of Canada. His zeal and activity as a Loyalist must have already given him some prominence, as popular rumour named him as one of the leaders of the Indians who were expected to make a descent upon the Mohawk valley at that time.

Very shortly after his arrival at Montreal he received a commission from General Carleton, the governor of the province, as ensign in the 8th or King's regiment. In company with Lieut. Peter Johnson of the Indian department, he gained distinction in the skirmish on the island of Montreal, which resulted in the defeat and capture of Ethan Allen, by leading a party of thirty rangers and Indians against the flank of the enemy at a critical moment. This movement threw them into confusion and decided the fate of the day. The traveller Long names the same

two officers as being in command of a small party of whites and Indians of whom he was one, that defeated a superior force of Americans near Isle Aux Noix soon afterwards, taking many prisoners. Butler then drops out of sight for a year.

He appears to have gone with his father to Fort Niagara, where a part of his regiment was stationed, and remained there until the spring of 1777. The monotony of garrison duty in a lonely frontier fort became insupportable and he begged eagerly for employment in the field. Carleton wrote approvingly in reply to Captain Lernoult (2nd February, 1777,) "Ensign Butler has testified a desire to serve, for which he is much to be commended, and as he seems a promising young man, in case any part of the regiment moves in the spring, I should be glad he was to accompany them." Accordingly he was one of the officers of that regiment selected for the expedition against Fort Stanwix in the summer of that year. In July he was appointed captain of a company of Loyalist refugees enlisted by his father to serve as rangers with the Indians and with the special object of "controlling and restraining them from committing acts of cruelty." In command of this he took part in the bloody battle of Oriskany, in which General Herkimer's relieving force was defeated. His knowledge of the country and the people then caused him to be selected by Colonel St. Leger to carry a flag of truce and a proclamation of amnesty to the inhabitants of the German Flats who were reported to be anxious to return to their allegiance. A large number of these had accordingly assembled at the house of Rudolph Shomaker, a magistrate and a Loyalist, but who had remained inactive, within two miles of Fort Dayton, and Butler was addressing the gathering when the house was surrounded by the advance guard of General Arnold's army on its march to relieve Fort Stanwix and he was taken prisoner with the whole of his party. Heedless of his flag of truce and the purpose of his visit, Arnold directed him to be tried by a drum-head court-martial as a spy. That compliant tribunal promptly found him guilty and sentenced him to death although he produced his instructions and commission as an officer of the British army. Arnold at once approved their finding and ordered the sentence to be executed next morning. But a number of officers of the 1st New York regiment startled at such severity petitioned for a respite, which was finally granted, and he was sent a close prisoner to Albany. He was there confined in a small and filthy cell in the common jail, heavily ironed and treated with the utmost harshness. In the course of some months he became seriously ill. Col. Butler declared his belief that he was treated with such extraordinary severity simply because he was his son, and naturally made every effort to obtain his exchange. Fortunately, General

Schuyler, whose enmity to the Loyalist party was most bitter, was relieved about that time by the Marquis de la Fayette in the command at Albany. A number of the inhabitants who had known Walter Butler as a student in that town, sympathizing with his sufferings, seized the opportunity to petition for his removal to more comfortable quarters. They asserted that his life would be in great danger if he remained where he was much longer. He was soon afterwards removed to a private house under a strong guard. The sentence of death, however, still remained suspended over his head. About the end of April, 1778, he made his escape; a horse was provided for him by his friends and he rode out a free man into the valley of the Mohawk, where all the roads were known to him from boyhood. Although weak and greatly emaciated, he accomplished the perilous journey of nearly four hundred miles to Fort Niagara in safety, At the Seneca village of Canadasaga (near the present town of Geneva. N.Y.) he found his father encamped with his corps of rangers swelled by new recruits to upwards of 200 men. Col. Butler was preparing for his descent upon Wyoming, but observing that his son was quite unfit for service in the field, he despatched him to Quebec in the hope that the journey would re-establish his health. He travelled swiftly. On the 17th of May he arrived at Niagara; on the 4th of June he laid before General Haldimand, in Quebec, a careful memorandum describing the movements of the rangers and Indians, and stating his father's proposals for adding two companies of French Canadians to his regiment, for the purpose of counteracting the efforts of La Fayette and other French officers to detach the Six Nations.

Sir John Johnson's correspondence with his brother-in-law, Daniel Claus, throws some striking and suggestive light upon the heartburnings and intrigues which prevailed among the Loyalists themselves. The letters of both constantly breathe a spirit of most intense hostility to the Butlers.

On the 29th of June, Johnson wrote:—"Young Butler attends at Headquarters constantly, though I cannot perceive there is any great notice taken of him. He says he waits orders before he can proceed up the country. I should be sorry his flight should occasion the death of any of our poor friends."

Again, on the 16th of July, he said:—"I have given him (General Haldimand) a very plain and honest account of Butler and his son, not concealing a single circumstance of his whole conduct which has come to my knowledge, and I think I can discern that a change in his opinion of this great man's merit and services will surely take place, if not already the case. He asked me yesterday what he would be about all this time;

that he thought he would have struck a blow ere now. I told him I thought I might venture to assure him that it was not his intention; that he would remain where he was or thereabouts till he could join the army from York with safety, or till it would be too late to do anything. He told me the other day that young Butler was a pretty genteel man. I took the opportunity to give my opinion of him pretty freely."

Walter Butler did not return to Niagara till the end of July, and consequently had no part in the destruction of Wyoming. Soon after he joined his company at Oquaga, an Indian village near the east branch of the Susquehanna, his father was forced by a severe attack of rheumatism in the head to hand over to him the command of the entire corps and leave the Indian country altogether for the remainder of the year. During August, the main body of the rangers remained in the vicinity of Oquaga in readiness, if a favourable opportunity offered, to make a raid on the enemy's frontier, or if need be to protect the Indian villages from attack, but their scouts and reconnoitering parties ranged the entire border from the Susquehanna to the Mohawk and Oswego. Early in September an avenging force from Wyoming advanced in the direction of the Seneca country, but retired after burning two small villages before Butler could gather a party strong enough to attack it with any prospect of success. When he found that the invaders had evaded pursuit he sent Captain Caldwell with the main body of the rangers to destroy the German Flats, where extensive magazines of provisions had been formed for the supply of the enemy's army and garrisons in New York. This was swiftly and thoroughly accomplished without the loss of a man. During Caldwell's absence Butler continued to collect the Indians and enlist recruits for the rangers, with the intention of dealing a still more effective blow at Cherry Valley, where a great quantity of grain and many cattle were collected for the use of Washington's army. This movement was delayed by the sudden advance of a second column of nearly 1400 men from Wyoming which reached and destroyed the village of Oquaga, but then hastily retired. Captain Butler had awaited the invaders' approach at Canadasaga, where he was joined by 400 Senecas and a few volunteers from the King's regiment in garrison at Fort Niagara. When the Americans commenced their retreat he felt that the time had arrived for his counter-stroke at Cherry Valley, if it was to be executed that year, for it was already the beginning of November. The forest paths were fast becoming impassable, and the settlement he designed to attack lay within sixty miles of Albany. He began his march at once with 200 rangers and volunteers and 321 Indians. The journey was tedious and fatiguing from the condition of the roads and stormy weather. On the 9th of November they met and captured the whole of a scouting party,

composed of a sergeant and eight men sent out from Cherry Valley, by whom they were informed that the garrison, consisting of a Massachusetts regiment of continentals, numbering 300 men and 150 local militia, occupied a strong palisaded fort near the centre of the settlement, but that most of the principal officers lodged in a house about a quarter of a mile outside its walls. They had already been warned of Butler's approach by an Oneida Indian, but apparently felt quite secure against any attack.

When darkness overtook Butler's party next evening they had advanced by a forced march within six miles of the fort, and he proposed to the Indians that as soon as the moon rose they should make a dash forward and surround the officers' quarters while he attempted the surprise of the fort itself with the rangers. To this the chiefs readily agreed, but it then began to rain heavily, and the Indians at once scattered for shelter in a pine wood and obstinately refused to move an inch till morning. It was then decided to send Captain McDonnell with fifty picked rangers and a body of Indians to surround the house where the officers lay and cut off all communication with the adjacent settlement, while Butler himself, at the head of the remainder, made a rush for the fort. They had advanced with this intention quite unobserved along a bye-path until within a mile of the place, when some Indians in front fired at two men cutting wood. One of these escaped, although badly wounded, and gave the alarm by his cries as he ran. The remainder of the Indians rushed off in pursuit as soon as they heard the sound of the firing and gained a long start of the rangers, who were halted for an instant by their officers to reprime their rifles. The major of the Continental regiment, with one or two others, succeeded in getting into the fort, but Colonel Alden, five other officers, and twenty men were killed in the attempt, and Lieut.-Col. Stacy, three subalterns, and ten privates were taken prisoners. The colours of the regiment were abandoned in the house and burnt with it in the general scene of destruction which followed. The garrison of the fort, to favour the escape of their officers, opened a fire of both cannon and musketry upon their pursuers, and although this was briskly returned by the rangers for ten minutes all hope of taking the place was seen to be futile.

In spite of the greatest efforts on the part of the officers in charge of them the Indians at once dispersed in small parties, killing the inhabitants or taking them prisoners, and plundering or burning their houses. A vigorous sally of even a small part of the garrison might be sufficient to drive the whole in headlong flight from the valley. To guard against the evident danger to which they were exposed by their own heedless-

ness and misconduct, as well as to provide for the safety of his own men, became Butler's first duty in this distressing situation. He quickly assembled the rangers, and after destroying an abandoned blockhouse, took possession of a rising ground near the fort. It was then about noon, and he found it necessary to retain possession until nightfall, while his men were stiffened with cold and drenched by the pitiless November rain. Meanwhile the valley for many miles was ablaze with burning houses. Released from the constraint imposed upon them by the presence of the troops, the Indians quickly threw off the control of their chiefs, and the handful of white officers attached to them, and began to execute indiscriminate vengeance for the recent destruction of their villages. Many of the hapless inhabitants, including some women and children, were killed, and the lives of the remainder saved with much difficulty. When at last night came, Butler ventured to retire about a mile, having for six hours overawed by his defiant attitude a force of at least double his numbers, which had every incentive that passion could furnish to leave their intrenchments and attack him. He next rescued as many of the prisoners as possible from the hands of their captors. Large fires were built for their comfort, and they were protected by a strong guard during the remainder of the night.

At day-break, Captain McDonnell, with fifty rangers, and Brant with an equal number of Indians, were despatched to complete the work of destruction. The remainder of the Indians and the weakest men among the rangers were directed to begin their retreat in charge of a great herd of captured cattle destined for the supply of the famished garrison of Fort Niagara. The main body of the rangers was formed near the fort to repel a sortie. But even the sight of fresh ravages failed to draw out the garrison, and when at length every building outside the fort was consumed, Butler quietly began his homeward march. So slight had been the resistance they encountered that only two rangers and three Indians were wounded.

Before he finally left the valley Butler released seven men, ten women, and thirty-two children whom he had recovered from the Indians with a letter addressed to General Schuyler, in which he said :—

"I am induced by humanity to permit the persons whose names I send you herewith to remain, lest the inclemency of the season and their naked and helpless situation should prove fatal to them, and expect that you will release an equal number of our people in your hands, amongst whom I expect you will permit Mrs. Butler and family to come to Canada, but if you insist upon it, I do engage to send you moreover an equal number of prisoners of yours taken either by the

rangers or Indians, and will leave it to you to name the persons. I have done everything in my power to restrain the fury of the Indians from hurting women or children, or killing the prisoners who fell into our hands, and would have more effectually prevented them but they were so much incensed by the late destruction of their village of Oquaga by your people, and shall always continue to act in that manner, as I look upon it beneath the character of a soldier to wage war upon women and children.

"I am sure you are conscious that Col. Butler or myself have no desire that your women or children should be hurt.

"But be assured, sir, that if you persevere in detaining my father's family with you that we shall no longer take the same pains to restrain the Indians from hurting prisoners, women and children, that we have hitherto done."

In his despatch to Colonel Bolton, he frankly admitted the shocking misconduct of the Indians. "I have much to lament," he stated, "that notwithstanding my utmost precautions and endeavours to save the women and children, I could not prevent some of them falling victims to the fury of the savages. They have carried off many of the inhabitants and killed more, among them Colin Cloyd, a very violent rebel. I could not prevail on the Indians to leave the women and children behind, though the second morning, Captain Johnson (to whose knowledge of the Indians and address in managing them I am much indebted) and I got them to permit twelve who were Loyalists, and whom I had concealed with the humane assistance of Mr. Joseph Brant and Captain Jacobs of Oquaga, to return. The death of the women and children upon this occasion may, I believe, be truly ascribed to the rebels having falsely accused the Indians of cruelty at Wyoming. This has much exasperated them, and they are still more incensed at finding that the colonel and those who had laid down their arms, soon after marching into their country intending to destroy their villages, and they declared they would be no more falsely accused of fighting the enemy twice, meaning they would not in future give quarter."

Apparently the only reasonable foundation for the odium which has been so long attached to Walter Butler's name, is the charge that he connived at, or it is even said, encouraged the cruelties of the Indians on this occasion. This he indignantly and vehemently denied at every opportunity. When at length a tardy reply was received from General Clinton in February, 1779, to his letter to General Schuyler already cited, levelling a distinct accusation against him and other officers, but

assenting to the proposed exchange of prisoners, he warmly replied at once in these terms :—

"We deny any *cruelties* to have been committed at Wyoming, either by whites or Indians; so far to the contrary that not a man, woman or child was hurt after the capitulation, or a woman or child before it, and none taken into captivity. Though, should you call it *inhumanity*, the killing *men in arms in the field*, we in that case plead guilty. The inhabitants killed at Cherry Valley do not lay at my door; my conscience acquits me. If any are guilty (as accessories) it is yourselves; at least the conduct of some of your officers. First, Col. Hartley of your forces sent to the Indians the enclosed, being a copy of his letter charging them with crimes they never committed, and threatening them and their villages with fire and sword and no quarter. The burning of one of their villages, then inhabited only by a few families—your friends—who imagined they might remain in peace and friendship with you, till assured a few hours before the arrival of your troops that they should not even receive quarter, took to the woods; and to complete the matter, Colonel Denniston and his people appearing again in arms with Colonel Hartley, after a solemn capitulation and engagement not to bear arms during the war, and Colonel Denniston not performing a promise to release a number of soldiers belonging to Colonel Butler's corps of rangers, then prisoners among you, were the reasons assigned by the Indians to me after the destruction of Cherry Valley for their not acting in the same manner as at Wyoming. They added that being charged by their enemies with what they never had done, and threatened by them, they had determined to convince you that it was not fear which had prevented them from committing the one, and that they did not want spirit to put your threats against them in force against yourselves.

"The prisoners sent back by me, or any now in our or the Indians' hands, but must declare I did everything in my power to prevent the Indians killing the prisoners or taking women or children captive, or in any wise injuring them. Col. Stacy and several other officers of yours when exchanged will acquit me, and must further declare that they have received every assistance before and since their arrival at this post that could be got to relieve their wants. I must, however, beg leave by-the-by, to observe that I experienced no humanity or even common justice during my imprisonment among you."

There seems to be no just reason to doubt the truthfulness of his defence. Even had he been abnormally deficient in humanity the simple fact that his mother, three brothers, and a sister were held as hostages by his enemies, besides fifty other women belonging to the families of some

of the principal officers of the rangers and Indian department, must have operated as a powerful motive to induce him to exercise all possible restraint upon the Indians, and his instructions were most direct and explicit upon that point.

Owing to the lamentable slaughter attending it, General Haldimand expressed but a qualified approval of the expedition, while he warmly commended the conduct of its leader. In a letter to Colonel Butler of the 25th December, 1778, he said:—"I have received Captain Butler's relation of the operations at Cherry Valley, the success of which would have afforded the greatest satisfaction if his endeavours to prevent the excesses to which the Indians in their fury are so apt to run, had proved effectual. It is, however, very much to his credit that he gave proofs of his disapprobation of such proceedings, and I hope that you, and every officer serving with the savages, will never cease your exhortations till you shall at length convince them that such indiscriminate vengeance even upon the cruel and treacherous enemy they are engaged against, is as useless and disreputable as it is contrary to the disposition and maxims of the king in whose cause they are fighting."

In March, 1779, Captain Butler was again despatched to Quebec with the pay-lists and accounts of his regiment. It was during this journey that he made the notes which have been already read. On the 10th of May he touched at Carleton Island on his return. Ten days later he was again at Fort Niagara. When he arrived, his father, with the main body of his corps was a hundred miles away in the heart of the Indian country, and Col. Bolton, having been informed that an expedition was preparing at Fort Pitt against Detroit, directed him to proceed at once to the latter place with twenty-five rangers in the hope of rousing the western Indians for its defence. Later information changed his route in the direction of Venango and Presque Isle for the purpose of alarming the garrison of Fort Pitt. He appears to have spent the month of June among the Indians of the Ohio or in hovering on the western frontier of Pennsylvania, but before the middle of July he rejoined his father at Canadasaga. When he arrived there he found that many of the Indians were absolutely starving, and the rangers were living on scanty supplies of salt provisions brought painfully by batteaux and pack-horses from Niagara. At length, when his men were suffering "everything that hunger and disease could inflict," and being reluctantly driven to the conclusion that if they remained there any longer they must soon become totally unfit for duty, Colonel Butler instructed his son to take command and march to the Falls of the Genesee while he remained alone among the Indians and undertook the difficult task of

keeping them in spirits. The place selected for the encampment of the rangers was much more convenient for the supply of provisions from Niagara, and fish abounded in the river. There is yet in existence a laconic note, written by Walter Butler at this place on the 3rd of August, 1779, to Francis Goring, at Fort Niagara, in which he says:—

"I am obliged to you for the hooks, for sure it is that he that will not hunt or fish, must not eat."

While encamped at the Genesee he learned with great indignation and pain that Lieut. Henry Hare and Sergt. Newberry, of the rangers, had been taken prisoners while scouting and hanged in cold blood by the enemy in front of Hare's own house. In the heat of his resentment he penned a strong remonstrance to General Haldimand, protesting that unless steps were taken by him to restrain the enemy from the commission of such barbarous deeds the rangers themselves must be forced to retaliate in self-defence.

The advance of General Sullivan's army compelled him to march hastily to the Chemung river to oppose the invaders. On the 15th of August the rangers were encamped at Chuckmet, within fourteen miles of the enemy. On the 29th, he commanded them in the battle near Chemung, or Newton, and when forced to retire by superior numbers brought them out of action with very slight loss, although at one time nearly surrounded. On the 10th of September he was at Canadasaga with Rowland Montour and a handful of Indians watching the movements of the Americans, and covering the retreat.

In November, he again accomplished the fatiguing journey to Montreal to settle the regimental accounts; and to facilitate the exchange of his father's family, which had at length been arranged. On this occasion he was accompanied by Captain John McDonnell, of the 84th, then serving with the rangers. One of Butler's letters gives a stray glimpse of their life in that town during the winter. "We do little else but feasting and dancing," he remarked, with heroic disregard of the English grammar "It has nearly turned my head; I find it as hard as scouting. In order to change the scene, McDonnell and me intend to make the tour of the mountain every other day on snowshoes."

McDonnell returned to Niagara early in the spring of 1780, but from some unexplained cause, probably ill-health, Butler was detained at Montreal until the beginning of July. However, on the 24th of that month he was again at Fort Niagara, busied in building quarters for his regiment. Apparently his health was too much impaired to permit him to take the field, and on the 30th of September, on the eve of a most

important raid upon the Mohawk Valley, in which the entire available force of the rangers was engaged, his father stated that he was so ill that he had given him permission to go down to Montreal. In December he returned, and spent the winter at Fort Niagara. In April, 1781, he again went down on regimental affairs.

On the 30th May, he informed Major Matthews that he had arrived at Niagara in eight days from Montreal. "The journey has fatigued me not a little," he added, "and returned the ague on me, but this I owe to falling into the water more than travelling. However, I am feeling better, and I hope with care and thinking that something may be done in the active line in some part of the province to get the better of it, but I fear we shall be idle in this quarter. Clark is not in earnest. Should Allen and his Green Mountain Lads return to their duty I would wish, if it would be for the good of the service, a few companies of the rangers were sent to join them. I should like the service, as being convinced we should be doing essential service in that quarter. I have now given over all prejudices against serving with persons who were formerly our enemies. The good of the service requires we shall give up sentiments of this kind."

In July, he again earnestly entreated to be ordered on active service. A few weeks later he complained with bitterness that "the rangers are made drudges of for Mr. Stedman (contractor at the portage) and others."

After months of weary waiting the coveted opportunity for seeking distinction arrived. In the beginning of October he was ordered to take command of a detachment of ten officers and 160 men of the rangers, and join Major Ross at Oswego, for a descent on the Mohawk Valley. The particular object of this expedition was the devastation of the country at Duanesboro', within eight miles of Schenectady, the only part of the entire valley that had hitherto escaped the ravages of war and which, indeed, was thought by its inhabitants to be perfectly secure from invasion, lying in a central situation between that town, Fort Hunter and Schoharie, all of which were strongly garrisoned and fortified. Consequently the attempt would be attended with great hazard. The force employed consisted of 420 soldiers of six different corps and a hundred Indians. Success and even the lives of the party must depend on the speed and secrecy of their movements. The soldiers were all picked men, selected with an eye to their marching qualities and the endurance of fatigue, but the Indians were the "refuse of the tribes."

Their orders were to destroy effectively "all kinds of grain and forage, mills, etc., and all articles which can contribute to the support of the

enemy. They will as usual have the strongest injunctions to avoid the destruction of women and children, and every species of cruelty."

After a harassing march of eight days, in most distressing weather, they gained the Mohawk River by a very circuitous and unfrequented route, as much to the surprise of the panic-stricken inhabitants as if they had sprung out of the earth itself, although they had been forewarned of their arrival at Oswego. Their appearance at Corrystown on the morning of the 24th October was known in a few hours in all the surrounding forts. There they took a number of prisoners, by whom they were informed that there were 600 militia and 400 regular troops at Schenectady, 500 at Scholharie, and 400 more at Canajoharie, besides garrisons in twenty or more smaller forts along the river. They were consequently threatened by the attack of a force at least four times their number and in a manner surrounded by enemies. Major Ross saw that he must make a forced march during the night if he hoped to reach his destination unmolested. The rain fell in floods and the roads were rapidly becoming almost impassable for his jaded troops, still the fourteen miles that lay before them were accomplished before dawn, but although they struggled manfully to keep together and help along their weaker comrades, several became so completely exhausted that they had to be left by the roadside to the tender mercies of an exasperated enemy. They were allowed to rest on their arms for an hour, and at daybreak the work of destruction began. The Indians and a party of rangers were detached for this purpose, while the remainder of the column marched along the road to support them. The settlement was found entirely deserted. By ten o'clock the devastation of the country for seven miles along the river was completed. Three mills, a public granary, a hundred farm houses with their outbuildings were in flames. The troops then reassembled about twelve miles from Schenectady and retraced their steps to Fort Johnson. Shortly after noon they crossed the river there with some difficulty, as the garrison sallied out to oppose the passage, but the commanding officer being killed his men retreated hastily to the shelter of their works. The British column then marched rapidly through the streets of Johnstown under fire from the stone jail as they passed, and halted in the fields beyond the hall for an hour or two to collect provisions. Major Ross then directed Captain Tice with the Indians to lead the way by the nearest route to Carleton Island, carefully concealing his intention from all others to prevent deserters or prisoners giving information to the enemy. He had sent out scouting parties but they failed to gain any intelligence of the movements of the enemy. However, Colonel Willett, who had advanced to Caughnawaga with 500 regulars and a hundred militia the day before, was already close in pursuit. The Indians

had penetrated about a mile into the forest back of Johnstown, and the rear of the column was just entering it, when this force appeared in such a position that Ross saw that he must fight or permit the rear-guard to be cut off. Accordingly he hastily formed his men to receive the attack about a quarter of a mile after entering the woods. Exclusive of the Indians, very few of whom could be induced to return to the fight, he had 354 officers and men in line.

Willett's force had been largely increased during his advance by the junction of fresh troops from Schenectady and other places, and had become so numerous that he was enabled to detach a large party by a path through a swamp to turn the flank of the British and cut off their retreat. His scouts on penetrating the woods were greeted by a volley from the rangers and Indians, who charged at once with their usual yells and whoops and drove them headlong into an open field where the main body was drawn up with two field pieces. Pressing forward rapidly in support, Ross charged it with his entire force and Willett's men instantly gave way, abandoning one of their guns and much ammunition. In the pursuit, which was continued for half a mile, a number of prisoners was taken and many were killed, others owing their escape solely to the weariness of their assailants. So complete was the rout that Major Ross asserted that if the Indians had behaved with any spirit at this moment he could have "crushed the spirit of the rebels on the Mohawk."

As it happened, few of the Indians ventured to leave the shelter of the woods. Colonel Willett with that part of his force which still remained unbroken took up a new position on a rising ground on the flank of the rangers, whence he annoyed them so much by the fire of his remaining field piece and musketry that they were forced to discontinue the pursuit and return to dislodge him. While hotly engaged with this body, the detachment Willett had sent to intercept their retreat issued suddenly from the woods on their right and rear. Obliged to face about to oppose this fresh attack, they drove this party back into the woods, from which, however, they kept up an intermittent but harassing fire for some time. They were briskly pursued and nearly surrounded, but darkness enabled most of them to escape. On this Willett retreated to Johnstown, re-crossed the bridge, and occupied the stone church built there by Sir William Johnson, where he stood on the defensive. The actual loss of the British in killed and wounded was trifling, but about twenty men were so completely worn out by hunger and fatigue that they were unable to continue the march.

The next morning Major Ross resumed his retreat, but owing to the weariness and half-starved condition of his men, who were then put upon

a daily allowance of half a pound of horseflesh and a few handfuls of corn, his progress was necessarily very slow. On the third day they struck the trail leading from the German Flats to Carleton Island, in the midst of a blinding snow storm. The Indians then parted company, taking the direct road to Oneida Lake to recover their boats. Meanwhile Willett had followed in pursuit with 500 picked men, including many Oneida Indians, and when Ross was preparing to cross Canada Creek, appeared unexpectedly in his rear. Captain Butler with a few of the rangers promptly engaged the pursuers to cover the passage of the stream, then much swollen by rain. In the performance of this service he was killed, with three of his men. Major Ross said that he behaved very gallantly, but gave no particulars of his death. Willett reported that he was shot in the eye and instantly killed. A tradition which has been repeated by various writers ran to the effect that he was mortally wounded by an Oneida Indian and begged for quarter. The Indian retorted "Cherry Valley quarter," and immediately killed and scalped him. On this tale the stamp of fiction is evident. Benton, in his "History of Herkimer County," has recorded a more probable version. A dense fog hung over the stream when the Americans reached it, but as they attempted the ford, it drifted away and exposed them for a moment to the fire of the British covering party on the other bank, which killed several men and compelled the remainder to retire to the shelter of the woods. The fog again settled down, and several volleys were fired across the creek quite at random. When the rangers retired, they crossed unopposed and found Butler lying dead. He was recognized by an Indian, and Benton grimly adds that "the scalping part of the tragedy was probably performed in the best style of Indian execution."

Observing that his pursuers had the advantage of the ground and an opportunity of firing at a distance, Ross retired to the first favourable position, when he sent the sick and wounded to the rear and waited an hour for a renewal of the attack. The retreat was then continued with such rapidity that his men quite distanced the enemy, and marched, or rather ran thirty miles with scarcely a halt. A seven days' journey through a barren wilderness intersected by several streams, passable only on rafts, still lay before them, and they had lost or thrown away most of their blankets and packs, yet this was accomplished with little actual loss of life, though at the price of tremendous physical discomfort and suffering.

Walter Butler's activity and importance had been greatly exaggerated, and his death became the subject of general rejoicing among his enemies. Willett, of course, was not inclined to underrate his own services, and thinking that this event reflected great credit upon him, declared that in

four years Butler "had exhibited more instances of enterprise, had done more injury, and committed more murders than any man on the frontiers. Such was the terror in which he was held by the inhabitants of the frontiers, so cruel an enemy had he been to them that although Cornwallis's surrender took place about this time, yet the inhabitants expressed more joy at the death of Butler than at the capture of Cornwallis." Local traditions were long associated with his memory, and fifty years later the scene of his death was still known as Butler's ford. Still, with the single exception of the attack on Cherry Valley, he had had no share in the numerous incursions of the rangers. Caldwell, McDonnell, and others were much more active. But there was something in this man's personality that riveted the attention of friend and foe.

Haldimand, reporting his death to Lord George Germaine, spoke of him as "a very zealous, enterprising, and promising officer," and in another letter he expressed the hope that "Colonel Butler's good understanding, and the honourable cause in which his son fell, will console him in this heavy bereavement."

That he was not squeamish about bloodshed in fair fight is evident, but the other charges of cruelty laid against him appear to rest on the flimsiest of evidence. Quite recently he has been condemned for permitting himself to be employed in conjunction with the Indians at all. The same censure must rest upon Montcalm and Frontenac, on Sir William Johnson and Washington, on Brock and Drummond, and a host of others.

EARLY TRADERS AND TRADE ROUTES, 1760-1782.

(SECOND PAPER.)

By Capt. Ernest Cruikshank.

(Read 25th February, 1893.)

A most serious interruption to the fur trade during the revolutionary period, though fortunately of brief duration, was occasioned by the invasion of the Province of Quebec by the Americans in 1775-76. The merchants of Montreal attempted to guard against this by entering into a treaty with the invaders when they found that further resistance was useless. The third clause of the terms of capitulation, prepared on the 12th of September, 1775, by a committee of citizens, of which merchants of such eminence as James McGill and James Finlay were active members, reads thus :—

"That the trade in general, as well within the province as in the upper countries and parts beyond the sea, shall be carried on as freely as heretofore and passports shall be granted for that purpose."

To this, General Montgomery replied : "As far as it may consist with the safety of the troops and the public good, I shall be happy to promote commerce, and for that purpose to grant passports as heretofore."

General Wooster, who succeeded to the command of the army of occupation upon Montgomery's death, almost immediately withdrew the pledge so readily given by his predecessor.

"In January last," he informed a committee of Congress in a letter of the 5th of July, 1776, "I called the Indian traders of Montreal together and enquired of them whether they expected passports in the spring to carry their goods, etc., into the Indian country as usual ; they told me they expected that indulgence, but at any rate they should be permitted to carry provisions to their people in the upper country. As I apprehended the granting of passports for the upper country might be attended with unhappy consequences to the interest of the united colonies, as goods they make use of for that trade were much wanted for our army, and there was the greatest reason to expect that by this way our enemies would be supplied with everything they wanted, I did not incline to grant passports without the direction of Congress. I therefore advised them to choose a committee to wait upon Congress for their

direction. They sent Mr. Frobisher, who did not return till the month of April. Soon after I was informed that the merchants were determined to send off their goods in the spring with or without passports, upon which I gave out a general order prohibiting the carrying of any coarse goods out of the city, except such as were needed by the country-people."

When forwarding the petition from the Montreal merchants, borne by Frobisher, General Schuyler prudently took care to represent the situation in such a light as to effectually destroy all its chances of success.

"Mr. Frobisher," he wrote to the president of Congress on the 20th of February, 1776, "delivered to me a letter, signed by himself and several others, containing the substances of the memorial he will present, and requested the mediation of my good offices with Congress. I am very apprehensive, sir, that if these people shall be permitted to go into the Indian country they might, if unfriendly to our cause, be very prejudicial to it, and the sending of such a quantity of provisions will strengthen the enemy at Detroit and Niagara, for by whatever route they go it will be seized by some one of the garrisons and appropriated to their own use. Mr. Frobisher's letter urges the danger of their traders starving if a supply of provisions was not sent up. That may be the case if they were to remain there another year; but the same letter observes that what is sent away in the month of May seldom arrives in the trading country before the winter sets in. If this be a fact, then they have now near a twelve months' provision, and by sending up two or three canoes express (navigated by persons we can depend upon), these traders may be brought away, and their provisions will suffice at least until they can reach Detroit, where they can be in no danger of starving."

The British merchants of Montreal had already given decisive evidence of their loyalty upon more than one occasion. It was in no respect lessened by the arbitrary rule of the invaders. Accordingly we find James Stanley Goddard, a very noted trader, accompanied by Richard Walker, secretly leaving the town in March, 1776, and taking an active part in assembling a body of Indians to open the communication with the upper posts, which defeated the Americans at the Cedars in May.

It was probably from the knowledge of their determined hostility, and in the hope of conciliating them, that the recently appointed commissioners of Congress in Canada, among whom Benjamin Franklin was the ruling spirit, were then induced to reverse Wooster's policy. Shortly after their arrival in the province they announced that they "had directed the opening of the Indian trade and the granting of passports to all who shall enter into certain engagements to do nothing in the upper country prejudicial to the continental interests."

In a few weeks, however, the problem was solved for them by the entire reconquest of the province by Sir Guy Carleton, and trade resumed its accustomed course.

The fort at Oswegatchie had never been a favourite resort for traders. In May, 1778, detachments from this post and Niagara took possession of Deer or Buck Island at the foot of Lake Ontario. Henceforth it became known as Carleton Island. Hamilton and Cartwright established a trading station there and others followed. The importance of Oswego had steadily waned for years, and in July, 1778, the last remaining trader was driven off by a raiding party from Fort Stanwix. This incident was described in a letter of the 2nd August of that year from Archibald Cunningham, factor at Carleton Island, to Francis Goring.

"L. Parlow was sent by our commandant with a party to bring off his family and effects from Oswego, but on his arrival found that his government had about fourteen days before been burnt by the rebels, who took most of his effects, even the handkerchief from his lady's neck, and his son prisoner, yet he had the good fortune to find they had missed his bag of piasters, two milch cows, his wife and two daughters, with which he made his retreat to this place."

In the autumn of 1778 a military post, which received the name of Fort Haldimand in honour of the governor, was constructed on the upper end of Carleton Island. It was provided with wharves and storehouses and was designed as an *entrepôt* for the supply of all posts on the lakes. Stores of all kinds were brought up in batteaux from Montreal and landed here until they could be reshipped in sailing vessels for Niagara. Its position rendered it tolerably secure from attack, and some of the armed ships on Lake Ontario were usually laid up here for the winter. A quantity of land was brought under cultivation for the supply of the garrison, fruit trees were planted and the place rapidly developed into a trading station of considerable importance.

Trading houses existed for some years, between 1770 and 1780, at Pinewood Creek and Piminiscotyan Landing on the north shore of Lake Ontario, and occasionally a stray trader wintered in the Missassauga villages at Rice Lake and Toronto. A man named Cowan is said to have permanently established himself at Matchedash Bay as early as 1778.

The great difficulties attending the transportation of supplies impelled General Haldimand to attempt the improvement of the navigation of the St. Lawrence by the construction of a series of short canals in the vicinity of Coteau. These works were carried out under the superintend-

ence of Captain Twiss and Lieut. Glenie, of the Royal Engineers, in 1780 and 1781.

Thirty years later, the latter officer referred with pride, in a letter to Lord Bathurst, to his share in the construction of the Coteau canal.

"At Coteau there is a violent rapid where formerly the loaded batteaux in going up the river were obliged to be unloaded and every article had to be carried across a neck of land composed of limestone. I cut a canal through it and erected a storehouse on one side. It was the first canal with locks ever made in Canada."

The volume of trade at Niagara rather increased than diminished in consequence of the war, although the quantity of furs brought in was much less than formerly. There are no statistics available of the amount of merchandise and peltry passing the portage around the falls, but it was undoubtedly large.

A letter from General Schuyler, dated in February 1776, contains the statement that "Mr. Francis Phister, a half-pay lieutenant in the Royal Americans who has bought an estate and resides in this county (Albany), has a contract to supply the carriages on the Niagara Carrying Place, by which, I have been informed, he clears between three and four hundred a year." At the same time Philip Stedman had acquired a monopoly of the right of transporting all goods over this portage.

The traders frequenting the country of the Six Nations took sides in the contest as their inclinations or interests dictated, the great majority however remaining faithful to their allegiance. We hear on the one hand of "Peter Lyckman, an Albany trader," acting as a spy for General Schuyler at Niagara and regularly sending him intelligence, and on the other, that "John Johnson, formerly an Oneida trader," was established by Colonel Butler as his resident agent among the Senecas near Canandaigua Lake, and that despite habits of dissipation he rendered important services.

The official correspondence of successive commandants of Fort Niagara with General Haldimand, and a stray bundle of letters from Francis Goring, furnish occasional glimpses of the mercantile activity of that post.

Colonel Bolton wrote on the 10th of November, 1777:—

"Governor Hamilton writes me that the merchants at Detroit have come to an agreement to build a wharf at Fort Schlosser, and a store at the water's edge 60 x 30, and also another of the same dimensions at the landing place."

December 14th, 1777.—"This place is quite lumbered with merchants' goods, which the badness of the season prevented Mr. Stedman from taking over the landing place."

April 7th, 1778.—"Mr. Pollard, on account of his bad state of health, intends quitting business as a merchant."

May 10th, 1778.—"I have always endeavoured to forward the merchants' goods by rotation, but they are frequently sent here without a single person to take care of them, and you cannot conceive what a plague and trouble I met with last year, every place in this fort was lumbered with their effects and the vessels obliged to navigate the lakes until the 30th of November."

May 12th 1778.—"I have drawn a bill for £14,769 9s. 5d. in favour of Mr. Pollard for sundries furnished the savages, which Major Butler thought absolutely necessary, notwithstanding all the presents sent to this post last year."

Sept. 8th, 1778.—"Last winter this place was quite lumbered with merchandise; even the officers' barracks was filled with goods, as I would not allow any to remain at the landing during the winter, but ordered the soldiers of the garrison to bring down twenty-six batteau loads. Your Excellency very justly observes that the eagerness of the merchants in forwarding such immense quantities of merchandise may tempt the rebels to draw near this post, and I am astonished that last year, when there were goods to the amount of £50,000 on Deer Island, no attempt was made to destroy them; where they intend to lodge their goods this winter I know not, for it will be absolutely impossible to get half of them over this year on account of the provisions ordered for the upper posts."

Nov. 11th, 1778.—"Major Butler is building barracks on the opposite side of the river, and Captain Matthews is erecting a strong log-house to contain forty or fifty men at the upper landing."

R. Hamilton to F. Goring, 29th June, 1779.—"The general will allow no passes to any of the upper posts. He tells Mr. Matthews that when the commanding officer at Niagara writes for goods he will allow them to go forward."

Bolton to Haldimand, 6th July, 1779.—"The works are going on with all the expedition possible, considering the number of men here and the difficulties we have to encounter bringing home fire-wood, cutting logs, and batteauing provisions up to the landing, etc., at which place, as well as Fort Schlosser and Fort Erie, we have a great quantity of merchants' goods, owing to the large vessels being employed at Detroit this summer."

Goring to R. Hamilton, 14th September, 1779.—"Tobacco is a very scarce article at Detroit, and sells at from eight to ten shillings a pound. I have made out another Indian account for £5,808 17s. 9½d., which is now gone to the Indian country to be certified."

Bolton to Haldimand, 16th September, 1779.—"I have ordered the Haldimand to bring down 48 batteau loads of merchandise from the landing, and have sent orders to the officers at Fort Erie and Schlosser to hold themselves in readiness to join this garrison."

Memorandum on the fur trade, 1780.—"The least stop to sending goods into the Indian country may be prejudicial to the interests of those who trade there. The Indians are so long accustomed to the use of blankets, leggings, and other comforts that they are absolutely necessary to them. The advancement of trade will ever be the first object of attention; unhappily the traders do not consider the preservation of the country necessary to this end, but blindly grasp at all risks, the present means of making fortunes. If the goods they send into that country are disposed of, their sole purpose is accomplished. Under the pretext of the fur trade, an incredible number of persons since the beginning of the rebellion has been required, many more than before, though the Indians being employed in the war necessarily hunt less. The fur trade is not the object, it is the great consumption of rum and Indian presents, manifested by the enormous sums drawn for on those accounts by Government, purchased at a most exorbitant rate from traders."

Goring to Samuel Street, 15th March, 1780.—"Liquors are very scarce here and at Detroit. Lay in as large a stock as our circumstances will allow. Blankets are very scarce; Col. Johnson has sent down orders to buy up all the blankets in Canada. Be sure not to forget to bring something for the belly, as provision is very scarce here. If you could procure two or three cags of corned beef, I believe it will answer. We have experienced the longest and coldest winter ever known here. The river was frozen over from the 7th January to the 1st March, and passable for horses and sleds almost the whole time, which has put us back in our building, the snow being two and three feet deep in the woods; however, the weather has for this week past been milder, in which time we have got all the timber out and only wait for favourable weather to raft it home. Mr. Stedman has promised Col. Johnson all the boards he could cut. The spot is not fixed on as Col. Bolton has not dared to show his nose out this winter."

Bolton to Haldimand, September 14th, 1780.—"You have also, sir, a journal of the party I sent to Lake Huron by way of Toronto."

It is to be regretted that this journal has not been preserved either in the Haldimand collection or among the Colonial Office records.

"Return of batteau loads of merchandise ordered by merchants at Detroit for 1780—90 loads."

Col. Watson Powell to Haldimand, 25th May, 1781.—"The Detroit merchants having no cover for their goods at Fort Erie I desired the engineers to mark out ground for a storehouse there and have given leave to Mr. Garner who came from England last summer, to build one.

Walter Butler to Capt. R. Matthews, 2nd August, 1781.—"The rangers are made drudges of, for Mr. Stedman and others."

Col. H. Dundas to Major R. Matthews, 13th September, 1782.—"Mr. Thompson, a merchant here, has applied to me for leave to send a person to Toronto, opposite this, to trade with the Indians. I told him I could not grant his request until His Excellency's pleasure on that head was known. I must observe that Mr. Thompson is a very modest sort of man and has suffered much from the rebels on the Mohawk river."

Extract from the humble address of farmers residing on the west side of the river Niagara, 1783.—"We have no objection to furnish the garrison at a reasonable price what quantity they may want, fixed by the commanding officer, at the same time we beg leave to sell to the merchants and others at the price we can agree on from being obliged to pay merchants their own price for everything we want."

Haldimand's letters show that he kept a watchful eye upon the conduct of the traders everywhere, and that he was always anxious to promote the true interests of commerce.

In April, 1781, he wrote Capt. Sinclair, lieutenant-governor of Mackinac. —"The season for the departure of the trading canoes bound up the Grand River being arrived, and the traders very solicitous for their passes, I am obliged to gratify their wishes, although I should have been glad to have heard from the Indian countries before they set out, which the backwardness of the season has prevented. I have, however, taken the necessary precaution of laying on them the strictest injunctions of submitting implicitly to such restrictions as from circumstances unknown here and the good of his majesty's service you may see fit to lay them under, and I must earnestly desire that you will pay the utmost attention to the respective destinations of these traders who, I cannot help thinking, under a pretext of exercising the fur trade, abuse the indulgences granted them for that purpose, and do many things injurious to the king's interest and likewise to the reputation of the trade. I am not so well

informed of the complicated circumstances attending that remote trade as I could wish, or as it is necessary I should be. I enclose to you a few hints and memorandums upon that subject, and I request you will with your leisure correct them and suggest to me all such as your long experience and knowledge of that country, and your late observations may have furnished you with, that I may be the better enabled to give that encouragement I wish to so essential a branch of trade, but at the same time carefully avoid giving latitudes, which in the present state of affairs might tend to prejudice what we most want to preserve. So heavily do the traders complain of the losses they have sustained that to content them I have given passes for 100 canoes upon the conditions I have already mentioned to you, that whenever you see the least prospect of danger you will not suffer a single article to be sent."

Again, on the 31st of May, he said: "The Pottowatamies and all other Indians at trading posts may be informed that if they ever again permit the enemy to pillage the traders they may rest assured that a trader will never be permitted to return to them—they being on their hunt or any other evasive argument will not be any more admitted as an excuse. If traders are sent amongst them at their request, it is their duty to protect them, and they must never leave their villages defenceless. If they keep out proper scouts and support that intercourse with each other which the times require, they can never be surprised. Much credit should be given to the Indians towards the Mississippi, who have so faithfully protected their traders."

In August, 1782, the reckless misconduct of some traders caused the adoption of more stringent regulations than ever before.

"As the traders will not conform to regulations established for the last year, recommended by his excellency the governor-general, although their passes oblige them to conform to such regulations, it is not judged necessary to stop trade on account of the obstinacy and demerit of the trader; therefore another scheme is proposed to them to avoid the ruin of the most worthy. Goods will be permitted to go to a certain number of wintering grounds. Proper people will be chosen by the lieutenant-governor for these places. The others must lodge their goods in the fort under a proper person also chosen by the lieutenant-governor, and they will be permitted to take an equal quantity out weekly, giving bond that they will sell none but by retail at the post."

During the same summer a commission composed of Lieut.-Col. Henry Hope, Sir John Johnson, and James Stanley Goddard, was sent to Mackinac to inquire among other things into the condition

of the Indian trade and the state of the military posts on the lakes. They left Montreal on the 21st of August and arrived at their destination on the 15th of September, having been delayed for three days by high winds on Lake Huron. Their course was described by Hope in these terms:—"Up the Grand River (Ottawa) from Canesadago to Matouan (where we quitted it), 117 leagues with 16 portages: up the Little River to the entrance of Lake Nipissing, 18 leagues with 15 portages; across that lake 12 leagues; down the French River, 25 leagues with 3 carrying places, and across Lake Huron to the Island of Machilimakinac 79 leagues; the whole making 251 leagues with 34 carrying places, after which, when I observe to your excellency that the shallowness of the water and rapidity of the current in these rivers are such as to render it absolutely impossible to navigate them in any other craft but bark canoes, it is of course unnecessary almost to add that this communication can serve no other military purpose than to forward expresses to the upper country, or perhaps to throw a very small reinforcement of men into either of the posts of Machilimakinac or Detroit upon emergency, in case of any part of the other by the lakes being intercepted for a time."

He returned by way of Niagara and examined the conditions, terms, and mode of transport across that important carrying place. "On the 11th of October arrived at Carleton Island. I embarked in a batteau next morning and after visiting the post of Oswegatchie and seeing those very ingenious and useful cuts and canals that have been made to facilitate the navigation up these amazing rapids at Coteau du Lac and some other adjacent spots, the current brought me down to Montreal in something more than 48 hours, though a distance of near seventy leagues, and which to ascend with loaded batteaux even in the longest days of the summer season seldom takes less, I am given to understand, than fourteen days and at this time of the year nearer twenty."

The only trader who published a record of his experiences in the country to the north of Lake Superior during this period, that has come to my notice, was J. Long, whose travels appeared in 1791.

After serving seven years as an articled clerk to a Montreal merchant, Long entered the Indian department as an interpreter. In 1777 he left his employment and became a trader in the service of a northwest fur company at a salary of £150 per annum. Leaving Montreal on the 4th of May with two *canoes de maitre*, each manned by ten Canadians, he arrived at Mackinac on the 17th of June. He then proceeded to Sault Ste. Marie and on the 4th of July reached Pays Plat, where his goods were unpacked and made into smaller bales, as it was estimated there were a hundred and eighty carrying places to cross before arriving at

the place where he intended to winter. Twenty Indians were then hired to assist them in passing La Grand Cote de la Roche, the steep and difficult portage at the mouth of the Nipigon. The journey to Lake Alempigon or Nipigon was accomplished with ease. On the first of August he began his march for Sturgeon Lake, accompanied by fifteen Indians, and on the 25th of September arrived at Lac La Mort (Dead Lake), where he proposed to remain during the winter. In January, 1778, he ran short of provisions and was obliged to remove to Lake Manantoye, where Mr. Shaw, a brother trader, was wintering. The severity of the season was so great that James Clark, a trader in the employ of the same company, had five of his men starved to death at Lake Savan. Between Red Lake and Salt Lake, Long states that there were "fourteen portages and twenty-two creeks." From the latter to Cariboo Lake it was eight days' march and there were five creeks and three portages to cross. At this lake a French trader had been settled some years before, but Long found it deserted. The Indians estimated the distance to Lake Schabeechevan (Weed Lake) at ten days march across thirteen portages and the same number of creeks. The trail to Lake Arbitibis passed through three small lakes, and over five portages and eight creeks, and thence to Crow's Nest Lake was a short journey. In April, Long received a letter from one Jacques Sameron, a trader in charge of a party in the service of his employers that had wintered at Lake Schabeechevan, informing him that he intended "to make a *grand coup*," by selling his packs to the Hudson Bay Company and embezzling the proceeds. In the hope of preventing this act of dishonesty, Long made a forced march to Sameron's station only to find on his arrival that the delinquent was several days' march on his way to Hudson Bay. On the 23rd of May he finally abandoned his station at Lac La Mort and returned to Pays Plat with 140 packs of furs.

Remaining there only five days to deliver his furs and receive supplies Long set out on his second expedition, proceeding by the river La Pique, Portage La Rame Nipigon River, Great Crow's Nest Lake and Skunk Lake to Lake Schabeechevan, where he built a house. During the same winter Mr. Fulton established a post at Shekarkestergoan. Joseph La Forme, who led a party to Lac Le Sel, was killed by an Indian, and Long took his men into his own service. In February, 1779, he was visited by a Hudson Bay Company's agent from Fort Albany, which is described as "thirty d[illegible]narch distant from his station at Lake Schabeechevan, over nineteen portages and creeks, and fourteen rapids." In the spring, Long returned to Mackinac, where he became the adjutant of a militia company formed by the fur traders for the defence of that place.

In that capacity he accompanied the expedition to Prairie du Chien next year.

The formation of the Northwest Fur Company in 1783, marks the beginning of a new era in the Canadian fur trade. The number of "adventurers" engaged in the Northwest trade had by this time been reduced by keen competition, mismanagement, or ill-success to twelve. Among these, the brothers Benjamin and Joseph Frobisher were particularly distinguished by their activity and energy. When the treaty of peace was published and it became probable that the Grand Portage would be found to lie within the United States, they at once began explorations for a new route within British territory, in which they succeeded beyond their expectations. They next took an active part in the organization of a company to include all the traders still concerned in that business. "Being convinced by long experience of the advantages that would arise from a general connection not only calculated to secure and promote their mutual interests but also to guard against any encroachments of the United States on the line of boundary as ceded to them by treaty from Lake Superior to Lake du Bois, they entered upon and concluded articles of agreement under the title of the North-west Company, of which we were named directors, dividing it into sixteen shares, of which each proprietor holds a certain number proportionate to the interest he then had in the country."

With this event the first period of the history of the fur trade naturally terminates.

NAVIGATION OF THE GREAT LAKES—1760-1782

Much of the commerce on the lakes continued to be carried on in batteaux or large canoes, although these were being gradually superseded by sailing vessels. The attendant perils of this kind of navigation were not restricted to the danger of shipwreck and drowning. The Annual Register for 1770 records this ghastly tale.

"Letters from Detroit by Monday's New York mail inform us that several boats with goods had been seventy days in crossing Lake Erie, in which time the distress of the people was so great that they had been obliged to keep two human bodies which they found unburied on the shore, in order to collect and kill the ravens and eagles which came to feed on them, for their subsistence. Many other boats have been frozen up within forty miles of Detroit and several traders' small boats, with goods had been lost."

On Lake Ontario, even at that date, much of the transportation was done in the "king's ships."

Under date of the 29th of May, 1767, the Register notes, with evident satisfaction, the growth of shipping on that lake.

"There are now four brigs from forty to seventy tons, and sixteen armed deck-cutters on Lake Ontario; by this means the navigation of the great lakes and a mart of trade will soon be established equal to that of the Caspian Sea."

An official return of the 30th of July, 1778, gives a list of all vessels built on the lakes since the year 1759.

ON LAKE ONTARIO.

Scow Mohawk, of 16 guns, built at Niagara in 1759 and 1760, cast away in 1764.

Ship Onedago, of 18 guns, built at Oswego in 1760, cast away in 1764.

Sloop Missassago, of 8 guns, built at Oswego in 1760, cast away in 1765.

Schooner Mercury, of 6 guns, built at Oswego in 1760, laid up and decayed.

Scow Johnston, of 12 guns, built at Oswegatchie, taken from the French in 1760, cast away in 1764.

Schooner ——, of 12 guns, built at Oswegatchie, taken in 1760, cast away in 1761.

Schooner ——, of 6 guns, built at Oswegatchie, taken in 1760, cast away in 1761.

Schooner Brunswick, of 10 guns, built at Oswego in 1765, in service till decayed.

Scow Haldimand, of 18 guns, built at Oswegatchie in 1771, still in service.

Scow Seneca, of 18 guns, built at Oswegatchie in 1777, still in service.

Sloop Charity, of six swivels, built at Niagara in 1770, cast away in 1777.

Sloop Caldwell, of two guns, built at Niagara in 1774, still in service.

ON LAKE ERIE.

Sloop ——, of 8 guns, built at Navy Island in 1763, cast away in 1764.

Schooner Victory, of 6 guns, built at Navy Island in 1763, laid up and burned by accident.

Schooner Boston, of 8 guns, built at Navy Island in 1764, laid up and burned by accident.

Schooner Gladwin, of 8 guns, built at Navy Island in 1764, in service till decayed.

Sloop Charlotte, of 10 guns, built at Navy Island in 1764, in service till decayed.

Schooner Gage, of 16 guns, built at Detroit in 1773, still in service.

Schooner Dunmore, of 12 guns, built at Detroit in 1773, still in service.

Schooner Hope, of 4 swivels, built at Detroit in 1771, still in service.

Sloop Angelica, of 4 swivels, built at Detroit in 1771, still in service.

Sloop Chippawa, of 4 swivels, built at Pine River in 1769, cast away in 1775.

Schooner Faith, of 4 swivels, built at Detroit in 1774, still in service.

Sloop Felicity, built at Detroit in 1775, still in service.

Sloop Adventure, of 4 swivels, built at Detroit in 1776, still in service.

Sloop Wyandot, on the stocks.

Paquet, on the stocks.

Scow Ottawa, on the stocks.

ON LAKE HURON.

Sloop Welcome, built at Machilimakinac in 1777, still in service.

ON LAKE MICHIGAN.

Sloop Archangel, built at Detroit in 1774, still in service.

The manner in which these vessels were employed was described by Col. Bolton in a report of the 10th of May, 1778.

"The scow Haldimand, the scow Seneca, the sloop Caldwell and one more of the same burthen very useful for Lake Ontario. The schooner Gage, the Ottawa (when built) for Lake Erie. The schooner Hope, the schooner Faith, from Fort Schlosser to Fort Erie. The schooner Dunmore for Lake Huron. The sloop Felicity not wanted in the service. The sloop Angelica not worthy of repairs. The sloop Welcome, the property of Mr. John Askin. The sloop Archangel, the property of Messrs. Barth & Son, Lake Michigan, useful by report of Major De Peyster. The Wyandot, packet, burthen 30 tons, when launched to be employed from Detroit to Fort Erie."

A memorandum from Capt. Andrews of the same date requested permission "to enlarge Niagara Navy Hall wharf, there being too little water at the present wharf to careen large vessels at, and it being too small for three vessels to winter at; to build a vessel at Niagara in lieu of the Haldimand, informed that she cannot last above another year, therefore no time should be lost to provide timber; and to erect barracks at Navy Hall for the seamen, a rigging and a sail loft absolutely necessary to fix rigging and make sails in the winter."

The vessel built to replace the Haldimand was the ill-fated schooner Ontario, which foundered with all on board on her first, voyage in October, 1780.

Of this vessel Glenie remarks, "I told Capt. Shank when he was building the Ontario that he was making her too flat-bottomed and that she would overset. Accordingly she overset a few leagues from Niagara, and Col. Bolton and 132 others perished in her."

From another return of the 1st of December, 1782, I extract the following statement of ships then on the lakes.

ON LAKE ONTARIO.

Haldimand, 150 tons. 14 guns, 35 men.

Seneca, 130 tons, 18 guns, 35 men.

Mohawk, 50 tons, 5 guns, 14 men.

Caldwell, 37 tons, 2 guns, 14 men.

Limnade, 220 tons, 16 guns, 45 men.

Four scows.

ON LAKE ERIE.

Gage, 114 tons, 12 guns, 30 men.

Dunmore, 70 tons, 10 guns, 25 men.

Hope, 70 tons, 6 guns, 18 men.

Wyandot, 37 tons, 10 men.

Faith, 37 tons, 10 men.

Angelica, 59 tons, 12 men.

Felicity, 45 tons, 12 men.

Adventure, 18 tons, 8 men.

Welcome, 136 tons, 35 men.

The new vessel Rebecca, 136 tons, 35 men.

A new vessel built at Mackinac.

During this period, and in fact for a full half century, from 1763 until his death at a very advanced age in 1812, the senior officer on Lake Erie was Captain Alexander Grant. According to the authoress of "Letters from the Mountains," he was a younger brother of the house of Glenmoriston in Inverness-shire. In 1792, Grant was appointed a member of the Executive Council of Upper Canada, on which he continued to serve to the end of his life. As president of that body in 1805, he became administrator of the government of the province upon the death of General Hunter.

NOTE ON A MEMORABLE EPOCH IN CANADIAN HISTORY.

BY SANDFORD FLEMING, LL.D., C.M.G., ETC.

(Read 11th February, 1893.)

On the 22nd of July, 1793, a traveller from Montreal reached the shores of what is now the western province of Canada. This traveller was the first civilized man who had traversed the continent between the Atlantic and Pacific oceans in any latitude. In a few months a century will have elapsed since he first looked upon the waters of the Pacific.

On the 20th of July, 1871, seventy-eight years after the consummation of the first transcontinental journey, British Columbia, only a few years emerged from the wilderness, was included in the Canadian Confederation. On that day Canada attained magnificent geographical proportions; the Dominion extended across the entire width of the northern continent. There are not many of our people who are capable of grasping the immensity of this extent or who are impressed with the full value and importance which this acquisition confers on our country. Even the best informed amongst us who contemplate the vast breadth of our possessions can form but imperfect theories of the immeasurable natural wealth it contains, and there are few who would venture to assign a limit to the national prosperity which in the future we may enjoy.

No single division of the British Empire wherever situated, in the Indian seas, in the south of Africa, or in the Australian antipodes, can compare with the Dominion in geographical extent. Of all countries owing allegiance to Queen Victoria no single land can more truly claim the appellation "Greater Britain."

The eve of the completion of a century since the greatest triumph of the famous traveller, Sir Alexander Mackenzie, suggests that we may recall his life and labours, and consider the results which have sprung from his remarkable discoveries or which have been influenced by them.

In 1789 Sir Alexander Mackenzie, then about thirty years of age, discovered the great river which bears his name, and descended its waters to the Arctic Ocean. He thus established the important truth that the northern part of this continent extends unbroken to the Arctic circle. Three years later he undertook his more famous expedition with the

design of penetrating the Rocky Mountains and pursuing his journey in a westerly direction until he found the Pacific. By the discoveries which Mackenzie effected on these expeditions new realms were brought within the influence of the Empire, and the great fact became established that the shores of the vast territory, now the Canadian Dominion, are buffeted by the billows of three oceans—the Atlantic, the Pacific and the Arctic.

The world is familiar with the story of the persevering and heroic efforts to find a north-west passage. We all know that many lives and an enormous amount of treasure have been sacrificed in fruitless attempts to discover a navigable channel in the northern hemisphere, from Europe to Asia. It is not so well remembered, however, that three centuries back the "North-West Passage" was alleged to have been found. I allude to the claim advanced by Juan de Fuca, that he had discovered open water through the continent and that a ship could pass in a given number of days from one ocean to the other. He set forth the character of the discovery claimed by him and described it as extending from the Pacific coast in the latitude of British Columbia on the west to Hudson Strait on the east, and that it was an open waterway generally direct in its course, with a width ranging from 30 to 40 leagues and upwards.

Belief in the alleged discovery among cartographers appears to have been universally entertained. De Fuca promulgated the statement in 1592, and maps published by the French and English Royal geographers in 1752 and 1768 show the defined passage I have described. The whole turned out to be a pure fiction. The first consequence of Mackenzie's travels was to prove irrefragably the non-existence of De Fuca's channel and to sweep away all belief concerning it. The only trace left of the geographical fraud is the name which is still retained by the inlet extending between Vancouver Island and Washington Territory, leading from the Pacific to the Gulf of Georgia. We are unable at the present day to estimate the great influence exercised on geographical science by this disclosure. The facts brought to light by the discoveries of Mackenzie distinctly established beyond all question that the shores of the continent on the Pacific side continue northward until they terminate within the Arctic circle.

An account of Mackenzie's travels was published in 1801. We possess in this volume a detailed narrative of his voyage from Montreal through the continent in 1789, 1793 and intervening years. The maps which accompany the volume present the true position of the lakes and rivers which he discovered; they likewise show the route he followed through

the mountains of British Columbia to the sea. These publications, the record of years of labour, set at rest the pretensions of De Fuca and demonstrate the absolute impossibility of any practicable passage for ships between the Atlantic and the Pacific through the northern continent; to attain which passage so many futile attempts have been made, and which have occupied so long and so fruitlessly the attention of governments and called forth the enterprising spirit of so many navigators.

On his second voyage, commenced early in 1792, Mackenzie left Montreal and penetrated to Fort Chipewyan on Lake Athabasca, reaching the latter in October the same year. He had started with the design of finding a way through the Rocky Mountain range to the western coast. Whatever difficulties might present themselves he had resolved if at all possible to reach the Pacific Ocean. Without more delay than was necessary in preparing for the journey to the westward, he left Fort Chipewyan and proceeded up Peace River until his progress was impeded by ice. He was then forced to remain winter-bound until the following spring.

On May 9th, 1793, when the river opened, the voyage was resumed. The expedition followed the Peace River to the Forks; one branch is named the Finlay, the other the Parsnip, the latter of which he traced nearly to its source. Arrived at this point, Mackenzie abandoned these waters and proceeded overland, cutting a passage through the woods so that he could carry the canoe. He continued by the trail formed until he reached a stream, the waters of which were flowing in the opposite direction to the current he had left on the eastern slope. This led to a great river called by the Indians of the locality Tacoutche; it is now known as the river Fraser; Mackenzie formed the opinion that it was the upper waters or a branch of the Columbia which river is known to discharge into the Pacific in about latitude forty-six. This was the common belief until 1808, when Simon Fraser descended the Tacoutche to the Gulf of Georgia, proving it to be an entirely independent stream, a discovery held to be so important that the name of Fraser was given to the river and which by common consent it still retains in honour of the man who first followed it to its mouth.

Mackenzie embarked in his canoe, floated down the Tacoutche five days; the party met Indian tribes, with some of whom difficulty was experienced. He learned from the Indians that the river they were descending was of great length and its navigation attended with many perils; his men became discouraged and mutinous; under the circumstances in which he was drifting he determined to abandon the attempt

to descend to the mouth of the supposed Columbia, and resolved to make the effort to reach the sea by a land route. In order to find the Indian trail which he learned would conduct him to the Pacific, the explorer had to turn back and ascend the Tacoutche for some distance. Although depressed at what he held to be a misfortune, this change of route led to the accomplishment of his purpose and enabled him to reach the sea in the space of sixteen days after leaving the main river. Mackenzie again had adventures with the different Indian tribes; he and his men underwent much hardship, and from the state of their provisions were placed on short allowance. The traveller, however, finally attained his long cherished purpose, he reached the shores of the Pacific overland from the Atlantic by a journey through the northern continent of such extent that it must be counted by degrees of longitude. The whole country he traversed is now embraced within the Dominion of Canada.

Every page of Mackenzie's journal shows that his explorations were not effected without constant toil and privation. The discouragements arising from the difficulties and dangers he experienced, and they were incessant, had no influence on his cool determination and dauntless spirit. The many tedious and weary days of physical labour and mental strain, the gloomy and inclement nights to which he was constantly exposed, were not, however, passed in vain; he gained his great reward in the knowledge that he had in the interest of his country attained the object of his long premeditated design; he had penetrated a vast continent for the most part in a condition of wild nature; he had overcome the obstacles imposed by rapid rivers previously unknown, by rugged mountain ranges, by distance, by intervening forests and by extremes of a variable climate. From time to time obstacles presented themselves in the enmity of hostile native tribes, who had never before looked upon the face of a white man, but on the day he arrived at the Pacific coast he had the unqualified satisfaction of feeling that his undertaking had been crowned with complete success. His discoveries settled the dubious point of a practicable north-west passage through the temperate zone: he set at rest forever this long agitated question with the disputes which had arisen regarding it; he added new regions to the realm of British commerce, and in doing so extended the boundaries of geographical science. He did much more, although the full effect of all he had accomplished was unknown to him, we can now, however, attribute to the enterprises to which Mackenzie's discoveries led, that the territory west of the Rocky Mountains became a British province; indeed it is problematical whether in the absence of his discoveries any portion of that country would at present constitute part of the Dominion of Canada.

Many, I think, will agree with me that among the men who have distinguished themselves in the annals of our country there is no name more illustrious than that of Sir Alexander Mackenzie. In my judgment there is no event which we can point to with greater interest and satisfaction than the completion of his perilous enterprise on that day, July 22nd, 1793, when, with his Canadian comrades, he floated in a small canoe on the tide-water of the Pacific.

THE PRESENT ASPECT OF THE OSSIANIC CONTROVERSY.

By Rev. Neil MacNish, B.D., LL.D.

(Read April 1st, 1893.)

James MacPherson was the translator of the poems of Ossian. He might with all fairness have applied the well-known words of Horace to himself, *Exegi monumentum aere perennius:* so wonderful and far-extending was the impression which the poems of Ossian in their English dress speedily made in the literary world, and so firm is the position which, after the lapse of more than a hundred years, those poems occupy in the literary annals of mankind. Professor Blackie thus writes: "On the 2nd day of October, 1759, Dr. Carlyle, of Inveresk, came from the neighbourhood of Dumfries to Moffat and found there John Home, the author of "Douglas," with whom he took up his quarters for the day. In the course of conversation, Home mentioned to Carlyle that he had long been on the scent for some old Gaelic poems which Professor Ferguson, an Atholl man, informed him were current in the Highlands, and that he had at last stumbled upon a person who could give him some definite information on the subject. This was a young man, by name James MacPherson, from the district of Badenoch, in the centre of the Highlands, of good family and well educated, an excellent classical scholar and no stranger to the Muses, and who was at that time acting as tutor to young Graham of Balnagown, afterwards Lord Lynedoch. From this young man Home had learned, that he had in his own possession some of those old poems, which Home eagerly solicited him to translate." MacPherson produced, after much solicitation, an English version of the "Death of Oscar," *Bas Oscair.* The poetical genius which that poem, even in its English dress, displayed, gave immense pleasure to Home and to Dr. Blair, who was then in the zenith of his literary fame. A small volume was subsequently published by MacPherson with the designation, "Fragments of Ancient Poetry collected in the Highlands of Scotland." The public interest in Gaelic poetry at once became deeper and wider, insomuch that the prominent patrons of literature in Scotland, Lord Elibank, Dr. Robertson, Mr. John Home, Sir Adam Ferguson, Dr. Blair and others, determined to send James MacPherson on what they termed a poetical mission throughout the Highlands, for the purpose of collecting all the Ossianic poetry that could be procured, and thus of rescuing from oblivion

poems which could not be otherwise than valuable and entertaining in an eminent degree. MacPherson, accordingly, entered on his labours in 1760 under the most favourable auspices. Wherever he went, in the prosecution of his laudable mission, he received kindly recognition and ready assistance. So successful were his efforts, and so indefatigable was his diligence, that in 1762 he published in one volume his translation of Fingal and sixteen other poems; and that in 1763 he published another volume containing Temora and five other poems. As Dr. Clerk remarks, "The publication of these poems excited the wonder of literary men throughout Europe. They were translated into French, German, and Italian, and speedily ran through various editions. They commanded the admiration of Napoleon, of Goethe, who in his 'Werther' gives 'the Songs of Selma,' and of Schiller, who speaks of the 'great nature of Ossian.'" The Abbé Cesarotti, a professor in the University of Padua, who translated the poems of Ossian into Italian, thus lucidly sets forth the general impression which those poems made. "The appearance of the poems of Ossian was a phenomenon so unexpected and extraordinary, that it is not surprising they should have excited, during even a period of enthusiasm, doubt and astonishment. In a country scarcely known to history, mountainous, difficult of access and almost constantly shaded with mists; in a state of society the most unpolished, wretched and barbarous, without trade, without learning, without arts and sciences, how could such a transcendent genius arise who may be said to dispute the palm with the most celebrated poets of the most civilized nations, and with those even who for so many ages have been considered models of art? This novelty was too much at variance with the generally received opinion, to be implicitly believed without controversy. Was there truly an Ossian? Was he really the author of the poems which have been published under his name? Can this be a spurious work? But when? How? By whom? Those are questions which for a length of time have agitated and divided public opinion in England, while Europe regarded with veneration this surprising phenomenon." Davies, the famous Welsh scholar, after examining the *Claims of Ossian* with critical severity, was led thus to write: "These poems do credit to Caledonia. The Gaelic originals constitute a splendid monument of its language. The Fingal and Temora, upon subjects so interwoven with the feelings of the people, set this corner of the island far above poetic competition, not only with any Celtic tribe, but we may almost say with any nation in Europe."*

There were not wanting those who maintained, that it was impossible

*The Claims of Ossian, p. 326.

for poems such as those that had been ascribed to Ossian, to be handed down during many centuries, mainly by oral tradition. Johnson and Hume and Laing were conspicuous among those who opposed the unambiguous asseverations of MacPherson regarding the poems of Ossian and the manner in which he came to obtain possession of them. Those influential writers went the length of imputing very unworthy motives to MacPherson, and of casting severe aspersions on his literary honesty. In writing to Dr. Blair, Hume makes use of this caustic language: "You need expect no assistance from MacPherson, who flew into a passion when I told him of the letter I had written to you; but you must not mind so strange and heteroclite a mortal, than whom I . . scarce ever known a man more perverse and unamiable. He will probably depart for Florida with Governor Johnstone, and I would advise him to travel among the Chickisaws or Cherokees in order to tame him and civilize him." There are not wanting witnesses to attest that the names of Fingal and his heroes were known long before MacPherson published his translation of Ossian. Barbour in his "Bruce," which was published from a MS. that bore the date 1491, makes a distinct reference to Fingal and Goll MacMorni—Gol MakMorn, one of his greatest heroes. In his Gaelic edition of the Psalms of David, which was published in 1684, Kirke makes special mention of Fingal in the author's address to his book. Bishop Carswell of Argyll published in 1567 his Gaelic version of John Knox's Liturgy—the first book that was ever printed in Gaelic In the preface, mention is made of those who are desirous of composing histories concerning warriors and champions, and Fingal the son of Cumhall, with his heroes. Dunbar mentions Fyn MaKowll and Gow MacMorn, *i.e.*, Fionn MacCaomhail and Goll MacMorni. The poems contained in the Dean of Lismore's book were collected by James MacGregor, Dean of Lismore, who died about the year 1551. The book in question is, therefore, more than three hundred years old, and a great portion of it may be assigned to as early a date as 1512. It contains twenty-eight Ossianic poems, extending to two thousand five hundred lines. It thus appears that, apart from the evidence which MacPherson was able to adduce, other writers of a much earlier date place the existence of poems belonging to the age of Ossian beyond a doubt.

It must be difficult for us, with all our modern appliances, to form a correct estimate of the retentiveness, which, under particular cultivation, the human memory is capable of acquiring. We learn, on the authority of Caesar, that the Druids of Britain were in the habit of committing to memory a great number of verses, insomuch that some Druids expended twenty years in completing their education. "They seem," he writes, "to have instituted this method for two reasons: because they would

not have their learning divulged to the vulgar, and lest those who learned by depending on their writings would be less assiduous in cultivating their memory, and because it frequently happens that by the assistance of letters persons take less pains in getting by heart or remembering." Grote informs us that there were educated gentlemen at Athens, who could repeat the Iliad and Odyssey by heart. In the preface to MacCallums' Ossian these very judicious remarks are made: "That until the present century almost every great family in the Highlands had its bard, to whose office it belonged to be master of all the poems of reputation in the country; that among these poems the works of Ossian are easily distinguished from those of later bards by several peculiarities in the style and manner; that Ossian has always been reputed the Homer of the Highlands, and all his compositions held in singular esteem and veneration; and that it was wont to be the great entertainment of the Highlanders to pass the winter evenings in discoursings of the times of Fingal and rehearsing these old poems, of which they had all along been enthusiastically fond." Than Dr. John Smith, the author of the Sean Dana, no one is entitled to greater respect in connection with the Ossianic controversy. He was born in the classical portion of the Highlands of Scotland, and his devotion to Gaelic and Gaelic literature was great and successful. He thus writes: "That there have been in the Highlands of Scotland for some time back a good many poems that were ascribed to Ossian, and repeated by almost all persons and on all occasions, is a fact so indisputable that nobody can be hardy enough to deny it. There is not an old man in the Highlands but will declare, that he heard such poems repeated by his father and grandfather as pieces of the most remote antiquity, long before the translation of them had been thought of. Bards who are themselves several centuries old quote them, imitate them and allude to them. Just now in the parish of Kilninver is a tradesman and poet of the name of MacPhael, whom I have heard for weeks together repeat ancient tales and poems—many of them Ossian's—from five to ten o'clock in the winter nights. In Glendonan, Kilchrenan Parish, is a family of the name of MacDugal; and at Arivean, Glenorchay Parish, another of the name of MacNicol, now almost extinct, both of whom were such senachies for some generations back, that they could entertain at this rate for a whole winter's season. What wonder if the poems of Ossian, where such was the custom, have been so long preserved." Those in our day who are disposed to call the authenticity of the poems of Ossian in question, must find very much to modify their opinion in the citations which I have made—citations which could easily be multiplied, in favour of the extensive prevalence of Ossianic poetry in the Highlands of Scotland during

the last century, and of the consequent facility that MacPherson must have experienced in collecting these poems, which, after he had collated and arranged them, he gave to the world as the poems of Ossian. Dr. Smith had abundant reason on his side when he thus wrote: "Within a century back, the Highlands of Scotland have undergone a greater revolution than for ten centuries before that period." With still greater reason, may we affirm that during the hundred and thirteen years that have elapsed since Dr. Smith published his Gaelic Antiquities, the Highlands of Scotland have undergone a great transformation by extensive emigration from many a strath and glen, so that comparatively imperfect facilities now remain for determining the manner in which Ossianic poems were respected, and preserved, and recited in the past. In a paper which Dr. MacNeill, the author of the Literature of the Highlands, read before the London Gaelic Society a few months ago, he asserts, that shortly after Dr. Clerk's edition of Ossian was published, Campbell, the author of Leabhar na Feinne and of the Popular Tales of the West Highlands, reviewed the work in question so ruthlessly and successfully that all the scaffolding of the authenticity, elaborately erected by Dr. Clerk and others, was laid in ruins. Dr. MacNeill further asserts, that MacPherson's Epics are the clever work of an exceedingly able but irascible Highland genius of the central land of the Gael, by whom they were composed and translated about one hundred and thirty years ago. He contends, without adducing sufficient evidence in favour of his averment, that the prominent Gaelic scholars of our day entertain a similar opinion concerning the poems of Ossian. So patriotic was the spirit which animated Mr. J. F. Campbell, and so enthusiastic was he in connection with the folk-lore and ancient poetry of the Highlands of Scotland, that his memory deserves to be kindly perpetuated. On one side of the monument which the Islay Association, with praiseworthy affection and liberality, erected to commemorate his many excellent qualities, these Gaelic words occur:

Iain og ile
Fior Ghaidheal, sar dhuin' uasal agus ard sgoileir
A choisinn urram agus clu anns gach cearn.
Ged nach do shealbhaich e oighreached aithrichean,
Shealbhaich e gradh nan Ileach,
Agus
Bithidh a chuimhne buan-mhaireann am measg
Chlanna nau Gaidheal.

He was the implacable opponent of MacPherson and Dr. Smith, and his excellent brother Donald Smith. He says "that MacPherson undoubtedly tried to deceive. The two brothers, John and Donald Smith, were

no deceivers, but their ideas as to authenticity differed from modern ideas on that subject." It is apparent, therefore, that Campbell made strong insinuations against the honesty and veracity of MacPherson and John and Donald Smith. A new edition of his Popular Tales of West Highlands was issued during last year. Were a critical examination made of his statements regarding the Ossianic controversy, it would be easy to show, that his views are at times contradictory, and that he could not have had a consistent theory to advance regarding the poems of Ossian. It was to himself that, so late as 1861, trustworthy correspondents sent such information as this from Bembecula and Skye: "A great variety of other poems that go under the name of Ossian's poems are commonly recited by the people. I have frequently questioned old men concerning the Fingalians in almost all parts of the Highlands, from Cape Wrath to the Mull of Cantyre. All had heard of them, and all firmly believed in their existence. Donald Stewart, Skye, 92 years of age, often heard the poems of Ossian. Every person knew them, most could recite them, and all admired them. Another old man had as much Ossianic poetry as would take him whole days in the recital, yet he could recite for whole nights together without the slightest hesitation. A certain schoolmaster affirmed that his father had more Ossianic poetry than all ever MacPherson translated, and that he himself when a boy could repeat what would form a tolerably sized volume. He was personally acquainted with many old men who could repeat lots of Ossianic poetry." Those citations, and citations of a similar kind, which could be made from Campbell's Popular Tales of West Highlands, are of themselves extremely valuable, because they allow us to understand that after the lapse of an entire century since MacPherson went on his poetical mission through the Highlands, Ossianic poetry still survived in the Western Isles, and among Gaels who never heard of MacPherson and who never read a verse of his Ossian. As, therefore, Ossianic poetry was found in large abundance in 1861, the question naturally presents itself: How very extensive must the same poetry have been in 1760. The inference is irresistible, that MacPherson could have found, and doubtless did find, abundance of Ossianic poetry in the Highlands, and that he had no occasion, even if he had the ability, to excogitate, or, in other words, to forge, the poems of Ossian.

That the power of oral tradition is very great, so far as the perpetuation of poetry is concerned, appears very clearly from the remarks which Max Müller makes with regard to the Finns. "The Epic songs still lived among the poorest, recorded by oral tradition alone. From the mouths of the aged, an Epic poem has been collected equalling the Iliad in length and completeness. Kalevalà possesses merits not dissimilar

from those of the Iliad, and will claim its place as the fifth national epic of the world."*

Campbell may be regarded as the leader of those who in our day are opposed to the contention, that MacPherson gave to the world a *bona fide* translation of poems which he collected in the Highlands, and which he doubtless corrected and collated before he published them. Campbell's categorical averment is thus expressed by him: "My theory, then, is that about the beginning of the 18th century, or at the end of the 17th century or earlier, Highland bards may have fused floating popular traditions into more complete forms, engrafting their own ideas on what they found, and that MacPherson found these works, translated and altered them, published the translation in 1760, made the Gaelic ready for the press, published some of it in 1763 and made away with the evidence of what he had done when he found that his conduct was blamed. I can see no other way out of the maze of testimony." No unkindness is done to Campbell when it is stated, that his imagination must have acted no insignificant part in leading him to the conclusion which has been cited. It will be of advantage to advert to the evidence which remains with regard to the use that MacPherson made of the material collected by him in the Highlands. Dr. Blair states that "after MacPherson returned to Edinburgh he took lodgings in a house immediately below where Dr. Blair then lived, and that he busied himself in translating from the Gaelic into English." Dr. Blair goes on to say: "I saw him very frequently. He gave me accounts from time to time how he proceeded, and used frequently at dinner to read or repeat to me parts of what he had that day translated. Gentlemen who knew Gaelic looked into his papers and saw some that appeared to them to be old manuscripts."

Mr. Alexander MacAulay, Highland chaplain in Edinburgh at that time, thus writes: "I saw the originals which Mr. MacPherson collected in the Highlands. Mr. Fraser will assure you that he saw them likewise, and was frequently present with Mr. MacPherson when he was translating them, and no man will say that he could impose his own originals upon us, if we had common sense, and a knowledge of our mother tongue. The world may say of him and his translations what they please, but I am convinced for my part that I heard most of these poems repeated since I remember anything at all." The testimony of Mr. Lachlan MacPherson, of Strathmashie, is most valuable: "I assisted MacPherson," he writes, "in collecting the poems of Ossian, and took down from oral tradition and transcribed from old MSS. by far the greater part of

*Science of Language, 1st series; 317, 318.

these pieces he has published. Since the publication, I have carefully compared the translation with the copies of the originals in my hands, and find it amazingly literal, even in such a degree as to preserve in some measure the cadence of the Gaelic versification." It is unnecessary to adduce any other evidence in order to indicate, that MacPherson did in reality translate the poems of Ossian from poetical material that he was successful in obtaining in the Highlands; and that he did not depend, as his modern assailants persist in maintaining on very insufficient grounds, on his own imagination for the thoughts and sentiments which he arrayed in an English attire and to which he was pleased to give the appellation of the Poems of Ossian. Any amount of importance is attached by his modern adversaries to the fact, that MacPherson failed, as they contend, to disclose what his MSS. were, if any, and where he found them. A certain clergyman thus writes: "When MacPherson returned from his tour through the Western Highlands and Islands, he came to my house in Brae-Badenoch . . . He produced several volumes small octavo, or rather large duodecimo, in the Gaelic language and characters, being the poems of Ossian and other ancient bards. Many of these volumes were said to have been collected by Paul MacMhuirich, Bard Chlanraonuil, about the beginning of the 14th century. Mr. Macpherson had these from Clanronald. Clanronald told me that Macpherson had the Gaelic MSS. from him."

The statement of a writer in South-Uist is to the effect, that he saw Neil MacMurrich deliver to Mr. MacPherson a MS. containing the poem Berrathon, with three or four more MSS. Neil MacMurrich and his predecessors for nineteen generations were the bards and historians of Clanronald. The testimony of Malcolm MacPherson is to the effect, that he had a brother who was noted in the country for his knowledge of the poems of Ossian; that when James MacPherson was in the country, he employed himself for four days and four nights at Portree in taking down a variety of poems from his brother, and that the latter gave MacPherson a MS. in quarto and about 1¼ inches in thickness. Captain Morrison states, that he had access in London to Mr. MacPherson's papers, and that he saw many MSS. in the old Gaelic characters containing some of the poems translated, which MSS. they found difficult to read. Lachlin MacVuirich states, that he remembers that his father had a book called the Red Book, which he had from his predecessors, and that Clanronald made his father give up the Red Book to James MacPherson. Professor MacLeod, of Glasgow, assured a friend that he had seen and examined several Gaelic MSS., partly written upon vellum, and apparently of great antiquity, in the possession of Mr. MacPherson, con-

taining portions of poetry mixed with other compositions. MacPherson wrote to a certain clergyman that he had met with a number of old MSS. in his travels, and that he had endeavoured to secure the poetical part of them. He further writes, that he has been lucky enough to lay his hands on a pretty complete poem, and truly epic, concerning Fingal. The testimony of a clergyman who resided in Mull, is to the effect that he was assured by a certain man that the latter in his younger days heard Fingal repeated very frequently in the original, just as Mr. MacPherson has translated it. Is it not apparent now, that, after all, some reliable evidence is available to show, that MacPherson found Gaelic MSS. in the Highlands, and that his modern assailants are by no means justified in dismissing with contemptuous indifference the testimony of reliable men concerning the having in his possession of Gaelic MSS. which he found during his poetical mission through the Highlands? In referring to the intimacy which he had with MacPherson in London, the famous clergyman, Dr. Carlyle, is led to remark, that he was never able to discover in MacPherson's most unguarded moments that he was any other than the collector and translator of the works of Ossian. We have the authority of Dr. Blair for believing, that MacPherson for some months left all the originals of his translations open to inspection and examination in Becket the bookseller's shop, London, and intimated by advertisement in the newspapers that he had done so. Dr. John Smith states, that the Gaelic poems of Ossian lay for a considerable time in the hands of the bookseller for the inspection of all who chose to see them; and, as if this had not been enough, they were offered to the public, had subscribers been found to encourage the undertaking. In his able Essay on the authenticity of the poems of Ossian, Dr. Graham intimates that he saw in the London Magazine for the year 1784 or 1785 an advertisement by Becket, a bookseller in the Strand, certifying that the originals of Ossian had been at his shop for subscription for the space of a whole year, but that the number of subscriptions being inadequate to the expense of publication, the MSS. had been withdrawn. As Blair and Smith and Graham were gentlemen of the highest character, and, therefore, of great veracity, we have every reason to believe that MacPherson placed the Gaelic MS. or MSS. of his Ossian in the shop of the bookseller whose name has been mentioned. If MacPherson forged the poems of Ossian, there is no likelihood whatever, that he would be bold enough to submit his Gaelic MSS. for public inspection. It is somewhat extraordinary, that his modern assailants, who cannot be accused of having an unduly modest opinion of their own acumen, should virtually ignore the fact that MacPherson did submit the Gaelic MSS. of his Ossian to public inspection; and that, consequently, it is *prima facie* absurd to suppose, that he himself

fabricated the poems which he thus exposed to possible if not certain detection, if they were merely his own workmanship.

It is surprising to know, on the authority of Dr. Graham, that corroborative evidence came from an unexpected quarter when the poems of Ossian, in their English attire, began to be extensively read. Captain Parker, who was then residing in Virginia, relates that he was well acquainted with the Rev. Charles Smith, a native of the Island of Mull, who settled near Norfolk in Virginia. A copy of Ossian's poems was sent to Captain Parker, who carried it to Mr. Smith. After a few lines from Temora had been repeated in his hearing, he remarked that he knew that poem, and repeated a great part of it and explained it with an exactness which appeared to Parker to be astonishing and scarcely credible. He acted in a similar manner in connection with several of the other poems. Mr. Smith asserted, that if he had been with Mr. MacPherson, he could have given him some other poems of Ossian well worthy of preservation; that he remembered them almost from infancy, that repeating them was the amusement of the children and servants about his father's house, and generally in all the West Highlands, and that still, walking or riding alone, he was wont to repeat them. Mr. Smith died in 1772, and was about 70 years of age at his death. The indirect testimony of Mr. Smith is very valuable, seeing that he lived far away from the scenes of his youth, and that his references to the customs with which he was familiar in his earlier years go far to strengthen the argument that has weighty evidence on its side, in connection with the extensive prevalence and cultivation of Ossianic poetry in the Highlands. Sir John Sinclair, in his very interesting Dissertation on the authenticity of the poems of Ossian, inserts a somewhat extensive correspondence which he carried on with prominent Ecclesiastics of the Church of Rome respecting a Gaelic manuscript of the poems of Ossian that existed at one time at Douay in Flanders. It appears that a Mr. John Farquharson, when missionary in Strathglass, wrote the MS. about 1745 and brought it to Douay with him, where he was for a time Prefect of Studies. A Mr MacGillivray, who went to Douay College in 1763, affirmed that after the appearance of MacPherson's translation, the complaint among the Gaelic scholars of that College was, that it failed to do justice to the energy and beauty of the original. Mr. MacGillivray was convinced that this MS. contained all the poems that were published by MacPherson; because Mr. Farquharson remarked frequently in his hearing, after he had read the translation of MacPherson, that he had all these poems in his own collection. The testimony of another Mr. MacGillivray is to the effect, that Mr. Farquharson first saw MacPherson's translation in 1766 or 1767; and that after he had read it, he stated that he had all the translated poems in his

possession. "I have seen him an hundred times," Mr. MacGillivray adds, "turning over his folio, when he read the translation, and comparing it with the Erse, and I can positively say that I saw him in this manner go through the whole poems of Fingal and Temora." The important MS., which was at one time at Douay, was unhappily lost or destroyed amid the military disturbances which subsequently swept over that part of the continent of Europe. An accession of strength, of which too much cannot be made, is imparted by the MS. of Douay to the authenticity of the poems of Ossian, and consequently to the veracity and reliability of MacPherson. Even Mr. Campbell, who, unhappily for his lofty reputation for generosity of heart and mind, is most reluctant to award any praise whatever to MacPherson, is compelled, out of regard, doubtless, to the powerful evidence of the MS. of Douay, to admit that, "unless the statement of Mr. MacGillivray is a deliberate falsehood, there is an end of the argument which makes MacPherson the author, though no early copy of the entire poems is known."

Shortly after the publication of Temora, MacPherson accompanied Governor Johnstone to Florida, and, it is supposed, took with him the Gaelic poems of Ossian to that country. From 1773 until his death in February, 1796, MacPherson's time was much occupied in the discharge of the duties which his position as agent of the Nabob of Arcot imposed upon him. He had in contemplation to print the Gaelic poems of Ossian in Greek rather than in Roman characters. A sum amounting to £1,000 Sterling was collected in India among gentlemen who were natives of the Highlands of Scotland, and who were at that time in the East occupying eminent positions in the service of their country. Sir John MacGregor Murray took a prominent part in raising money among his Gaelic countrymen in India for the purpose of publishing the poems of Ossian in the original language. In the circular which he issued, he said, among other things, that his appeal was to "men who have Gaelic blood in their veins and Gaelic sentiments in their hearts—men who know and feel that elegant as Ossian's modern dress is, it is not equal to his native garb, and that Gaelic, barbarous and uncouth as it is represented, has expressions peculiarly nervous and sublime for every noble and exalted idea that can enlarge and elevate the human mind. The object of this address is to verify the prediction of Ossian that Fingal shall be clothed with fame, a train of light to other times." The munificence of the Gaelic gentlemen in India amounted to something like £1,200 Sterling. They exemplified in an excellent manner the truthfulness of the words of Horace:

Coelum non animum mutant qui trans mare currunt.

To a communication which was addressed to him on behalf of the Highland Society of London, for the purpose of ascertaining when he intended to publish the original poems of Ossian, MacPherson sent this reply:

NORFOLK STREET, July 4th, 1784.

MY DEAR SIR,—I received the favour of your letter dated yesterday, and I am sorry the gentlemen should think of giving themselves the trouble of waiting on me, as a ceremony of that kind is altogether superfluous and unnecessary. I shall adhere to the promise I made several years ago to a deputation of the same kind, that is, to employ my first leisure time, and a considerable portion of time it must be to do it accurately, in arranging and printing the originals of the poems of Ossian as they have come to my hands. Funds having been established for the expense, there can be no excuse but want of leisure for not commencing the work in a very few months.

MacPherson died in 1796, without fulfilling his promise, although twelve years had elapsed since the Gaels in India with generous enthusiasm contributed £1,200 Sterling for publishing the original poems of Ossian. Mr. MacKenzie, Secretary of the Highland Society of London, was appointed as one of his executors by MacPherson, and £1,000 Sterling was bequeathed to him for publishing those poems. Mr. MacKenzie died before he was enabled to complete the work which was committed to him, and to which he applied himself with great faithfulness.

Mr. George MacKenzie was the only executor who chose to serve among those whom Mr. John MacKenzie had appointed. As he could not undertake the publication of the Gaelic poems of Ossian, he transferred the MSS. to the Highland Society of London. A Committee was appointed by that society on the 17th of May, 1804, to superintend the publication of the poems in their original language. The Committee examined the MSS. and found that, although some of the smaller poems were wanting, the principal poems were extant. It was resolved to publish the poems that were already available, and to employ every diligence in order to recover such poems as were missing. The proof-sheets were revised by the Rev. Alexander Stewart, who is favourably known as the author of a Gaelic Grammar. In 1807, nearly half a century after the publication by MacPherson of his translation of Ossian, the poems of Ossian in the original Gaelic were published in three volumes, with a literal translation into Latin, as the title-page sets forth, by the late Robert MacFarlan, A.M., together with a Dissertation on the authenticity of the poems by Sir John Sinclair, Bart., and a translation from the Italian of the Abbé Cesarotti's Dissertation on the controversy respecting the authenticity of Ossian, with notes and a supplementary essay by John MacArthur, LL.D. Sir John Sinclair, who was a scholar of great

refinement, and who had an enthusiastic affection for the poetry of the Scottish Gael, terminates his elaborate Dissertation with the statement of two important propositions which he established:

1. "That the poems of Ossian are authentic ancient poetry.

2. "That in a remote period of our history, the mountains of Scotland produced a bard whose works must render his name immortal, and whose genius has not been surpassed by the efforts of any modern or even ancient competitor." There was published in 1817, another edition of the Gaelic text of the poems of Ossian, under the editorship of the eminent Gaelic scholar, Ewen MacLachlan, of Aberdeen. Another edition of the poems of Ossian in the original Gaelic was published by the Rev. Dr Archibald Clerk in 1870. That edition contains a literal translation by Dr. Clerk of the poems into English. It has likewise a lucid and exhaustive Dissertation on the authenticity of the poems. The edition is both able and instructive. It is a singular coincidence that the Earl of Bute of that generation aided MacPherson very liberally, bearing as he did a portion of the expense of publishing Fingal and other poems, and the entire expense of publishing Temora and other poems; while the present Marquis of Bute is entitled to the credit of generously bearing the expense that was incurred by the publication of Dr. Clerk's magnificent edition of the poems of Ossian. There are other important collections of Ossianic poetry. No more honourable name than that of Dr. John Smith is to be found among the Gaelic scholars of his own generation, rich though it was in scholars of learning and critical acumen and patriotic enthusiasm. It was in 1780 that he published his Gaelic Antiquities, a Dissertation on the poems of Ossian and a collection of ancient poetry translated from the Gaelic of Ullin, Ossian, Orran, etc., in other words, an English translation of Gaelic poems which were published by him in 1787, under the designation of Sean Dana. The Sean Dana contain the purest, and in many respects the oldest and best Gaelic in the whole domain of Gaelic literature. Campbell insinuates that the Sean Dana were invented or fabricated by Dr. Smith himself, and that it is vain to look for any traces of them beyond himself. Had Campbell carefully read Dr. Smith's Dissertation, he would have found, that the latter tells in the most ingenuous manner how he was induced to prepare his Sean Dana and from whom he obtained his material. In a foot-note, Dr. Smith gives the names of several persons who aided him by oral recitation, as well as the names of other persons who acted the part of useful and faithful correspondents. "An original collection of the poems of Ossian, Orran, Ullin and other bards who flourished in the same age:" Such is the writing on the title-page of a collection of Ossianic poems, which were collected and edited by

Hugh and John MacCallum, and which were published at Montrose in 1816. A list is appended of the name and residence of the persons from whom the poems that form the collection were received.

In a letter from Ewen MacLachlan, of Aberdeen, which is inserted, these very sensible remarks are made: "If the works of Ossian are a forgery, we have sufficient grounds for believing that the imposition cannot be charged on modern times. Antiquity has ascribed the contents of your work to Ossian, as far as we can rely on the faith of Celtic MSS. and on traditions which we have imbibed with our maternal milk, and whose impressions on our minds will be as permanent as our existence." "The Dean of Lismore's Book, a selection of ancient Gaelic poetry, from a MS. collection made by Sir James MacGregor, Dean of Lismore, in the beginning of the sixteenth century:" Such is the writing on the title-page of a manuscript and a translation of the Dean of Lismore's Book which was published by the Rev. Dr. MacLauchlan, of Edinburgh, in 1862. It contains 2,500 lines of Ossianic poetry, and therefore sets forth a complete refutation of the statement of Johnson who visited the Hebrides in 1773, "that five hundred lines cannot be recovered in the whole Erse language of which there is any evidence that they are a hundred years old." "Leabhar na Feinne: Heroic Gaelic Ballads, collected in Scotland chiefly from 1512 to 1871:" Such is the designation which Mr. J. F. Campbell gave to the collection of Gaelic poetry which he published in 1872. "Reliquiae Celticae:" Such is the name which has been given to Texts, Papers and Studies in Gaelic Literature and Philology by the late Dr. Alexander Cameron. The book in question was published during last year. The editors assert that it may be called a complete corpus of Ossianic poetry. It contains an independent manuscript of the Dean of Lismore's Book. The quantity, therefore, of Ossianic poetry that is still available, is by no means insignificant.

In deference to the many objections which were raised against the genuineness of the poems of Ossian that were given to the world by MacPherson, the Highland Society of Scotland, towards the end of the last century so far as I can ascertain, resolved to submit a series of exhaustive questions to clergymen and others who resided in the Highlands of that country. The object of those questions was to ascertain whether poems similar to those which were collected and published by MacPherson still existed in the Highlands. Minute inquiry was made as to whether the poems published by MacPherson could be identified with poems that were still in circulation. The Report of the Highland Society was published in 1805. Conclusive evidence was adduced to show, that the history of Fingal and his followers, of Ossian and his poems, was commonly known, and that poems

similar to those which were published by MacPherson existed in many parts of the country and could be recited by men who had never heard of MacPherson. The Report terminates with this very decisive language concerning the prevalence of Ossianic poetry. "The Committee can confidently state its opinion, that such poetry did exist; that it was common, general and in great abundance; and that it was of a most impressive and striking sort, in a high degree eloquent, tender and sublime. The Committee is possessed of no documents to show, how much of his collection MacPherson obtained in the form in which he has given it to the world. The poems and fragments of poems which the Committee has been able to procure contain often the substance, and sometimes almost the literal expression—*ipsissima verba*—of passages given by Mr. Macpherson in the poems of which he has published the translations. But the Committee has not been able to obtain any one poem the same in title and tenor with the poems published by him. It is inclined to believe, that he was in use to supply chasms and to give connection by inserting passages which he did not find, and to add what he conceived to be dignity and delicacy to the original composition by striking out passages, by softening incidents, by refining the language—in short, by changing what he considered as too simple or too rude for a modern ear, and elevating what in his opinion was below the standard of good poetry. To what degree, however, he exercised these liberties, it is impossible for the Committee to determine." Nine hundred lines, and when the fragments are included 1,700 lines, of such poetry as that of which MacPherson published a translation, are inserted in the Report that we are now considering. Dr. Clerk is correct in his contention that from the material in their possession, the members of the Committee would be justified in drawing much stronger conclusions than they did in favour of the authenticity of the poems of Ossian. As to the utter lack of ability on the part of MacPherson to invent or forge the poems of Ossian, these citations are sufficient: "Of all the men I ever knew," writes Dr. Blair, "Mr. MacPherson was the most unlikely and unfit to contrive and carry on such an imposture as some people in England ascribed to him. He had none of the versatility, the art and dissimulation which such a character and such an undertaking would have required." Captain Morrison, who was intimately acquainted with MacPherson, writes that so far from composing such poems as were translated, he assisted MacPherson often in understanding some words and suggested some improvements, and that MacPherson could as well compose the prophecies of Isaiah or create the island of Skye as compose a poem like that of Ossian's. The Committee of the Highland Society showed no partiality whatever to MacPherson in the several ingenuous

asseverations which the Report contains regarding the manner that he adopted in all likelihood in arranging his material. It is obvious that, as many versions of the same poem or episode were current, owing to the universal tendency of oral tradition, MacPherson was compelled out of regard to lucidity and continuity of thought and sentiment, to make a judicious rearrangement of the poems or fragments of poems that fell into his hands. Pisistratus, or whoever collected and arranged the poems of Homer, must have followed a similar plan in the arrangement of the Homeric poems that came into his possession. There is, and must be, however, a wide diversity between such an arrangement of poetical matter that was available, and between the excogitation of such poems. Campbell is profuse in his admissions that traditional poems in abundance, written or unwritten and attributed to Ossian, were current in the Highlands and accessible to MacPherson. His grave objection is, that the Gaelic Ossian of 1807 and the Sean Dana of 1787 are almost unknown to the class that recite Gaelic poems which they attribute to Ossian. "The Sean Dana and the Gaelic Ossian are nowhere to be found in any of these collections made from the people." The modern opponents of MacPherson and of the Sean Dana fail, it is very much to be feared, in assigning its due significance to the fact, that almost half a century intervened between the translation of the poems of Ossian by MacPherson and the publication of the Gaelic Ossian—to employ Campbell's own phrase. During so long an interval, much useful poetical material must have been irrecoverably lost.

As a century, with all its changes and transformations in the Highlands of Scotland, intervened between MacPherson's poetical mission through the Highlands and the laudable labour of Campbell in gathering the material of Leabhar na Feinne; no injustice is done to Campbell when it is contended, that he must of necessity have been an imperfect judge of the facilities which MacPherson must have had in preparing the poems of Ossian for publication. And when every deference is made to the frequent allegation of Campbell, that he failed to find Gaelic similar to that of the Gaelic Ossian and the Sean Dana, it surely does not follow that such Gaelic did not exist, unless, indeed, we are to concede that Campbell had accurate knowledge of all the Gaelic that was either spoken or written in Scotland during the long years that passed between 1760 and 1872. It would surely be a violation of all honest criticism to admit, that poems must necessarily have been invented or forged, because, forsooth, an enthusiastic lover of his country's literature did not discover amid all his efforts to disentomb the records of an almost forgotten past, any poetry to correspond exactly in language and sentiment with those poems. Every Gaelic scholar will at once perceive that the Gaelic of

the Sean Dana and of the Gaelic Ossian is far more beautiful and musical than the Gaelic of Leabhar na Feinne; and that, indeed, the classical Gaelic of Scotland is to be found in those two books or collections. It has to be boldly and confidently maintained, that the modern assailants of MacPherson and Dr. Smith must produce much stronger arguments than the airy sentimentality in which they indulge, before they can convince any honest student of the entire controversy regarding Ossianic poetry, that those two men were forgers or literary impostors and nothing more.

It must be granted, in all candour, that were he so disposed, MacPherson could easily have lessened or avoided altogether the severity of the opposition which he had to encounter in connection with the poems of Ossian. It is evident, that he had a remarkable measure of that lofty independence and pride that lives on through every generation in the hearts and minds of the race to which he belonged. Who could blame him for thus reasoning, when Hume and Johnson were levelling the shafts of ridicule and disparagement against him, that, as he was successful in gaining a reputation in the world of letters, perhaps more enviable and more extensive than their own, he could afford, in obedience to the warmth of his Highland pride, to ignore themselves and their persistent abuse? It may be fairly held, that much of the Ossianic poetry which he once possessed, was lost during his sojourn in Florida, and while he was engaged in the discharge of important official functions, which must have occupied very much of his time and attention. Nor is it at all unlikely, that Gaelic poems of much value were mislaid and ultimately lost, during the time that passed between his death and the transmission to the Highland Society of London of all the material that remained.

Very forcible is the opinion of the Abbé Cesarotti: "But whatever may be thought on the subject, the works of the Celtic Homer (Ossian) do exist. They are all of the same brilliant and harmonious colouring, and they have a certain author. Let the author have existed in the times of Caracalla or of St. Patrick; let him be a native of Morven or of Ulster; let him belong to the family of a petty king or to that of a simple Highlander, it is all the same to those who consider him in the light of a poet. Let such as do not like to name him Ossian call him Orpheus. Doubts may be entertained whether Fingal was his father, but no one will say that he was not the son of Apollo." "I confess," says Dr. Blair, "I cannot avoid considering the discovery of the works of Ossian as an important era in the annals of taste and literature, and the share which I have had in contributing towards it as a part of my life by which I have deserved well of this age and posterity."

NIAGARA LIBRARY, 1800–1820.

BY JANET CARNOCHAN.

(Read 6th January, 1894.)

It says much for the members of any community when we find them providing reading of a high literary order, and especially would this be the case, at the beginning of this century, among a band of refugees just emerged from a great struggle, with the forest around them and everything speaking of a new country and all that is implied in this.

When by the merest chance, some months ago, I laid my hands upon an old, brown, leather-covered Record Book, I had no idea of the rich treat it was to prove. To my astonishment, by dint of much patient study of its thick, yellow pages covered with writing, though large yet very difficult to read, it was shown that in this old town of Niagara in those early days there was a most valuable public library well supported, the accounts showing regular payments and much interest, as evidenced by the money contributed and the regular records. To the boast made by Niagarians that here was held the first parliament for Upper Canada, that here was published the first newspaper, that it contains almost the oldest church records in Ontario, must now be added the honour of having had the first public library, and the first agricultural society The varied information to be gleaned from this book may be thus classified: 1st, a list of proprietors through the years from 1800 to 1820; 2nd, list of their payments and those of non-subscribers; 3rd, catalogue of library with prices of books; 4th, money expended; 5th, rules and regulations; 6th, account of annual meetings, contingent meetings, etc.; 7th, list of books taken out and date of return; 8th, alphabetical list of subscribers with separate page for entries for each during these years. When we think of the vicissitudes of the years 1812, 1813, 1814, and of the stirring events which took place here, military occupation by friend and foe, of fire and sword alternately doing their cruel work, we wonder how this library was preserved, for preserved in part at least it was, for the issue of books goes on, a new catalogue with spaces left perhaps for books missing, and in the accounts sums are paid to replace particular books. It is interesting to follow up the period of the war and in all these divisions note the latest entry, and then following an interval of two years without the break of a line even left as space

between such deeds as the glorious death of the Hero of Upper Canada, the rattle of guns and roar of cannons, the flight over frozen plains, watching the smoking ruins of once happy homes, still go on in the same handwriting, the payment of money, the purchase of books, the annual meetings, etc. It may be doubted if in this day of boasted enlightenment we are willing to pay so much for our reading. One thing at least is certain, against the proprietors of this library cannot be made the charge of light reading now brought so justly against the frequenters of modern libraries. Nothing light or trashy can be found on the list. Theology, history, travel, biography, agriculture, a little poetry, and later, a small amount of fiction. We in these days can almost envy the people of that time for the delight they must have experienced when "Guy Mannering" and "Waverly" appeared, for they knew that the Great Magician of the North was still alive and was sending out regularly those delightful stories, while we can never again hope for such pleasure as the first reading of these books evoked.

In glancing over the list of subscribers we meet with names of many who played no insignificant part—the church, the army, the civil service, the yeomanry, are all represented. We find several names from Fort Niagara, U. S., and also several names of women. Were there nothing in this book but the list of names, this alone would be valuable It seems strange to think that after all these years we can now take the name of a noted man of those days and follow it up through these pages, tell what style of reading he preferred, when a particular book was taken out, when returned, how he paid his fees, when he attended the meetings of managers, and many other particulars. How little did they think that they were thus providing for us a very interesting page of history now!

The first entry is: "Niagara Library, 8th June, 1800. Sensible how much we are at a loss in this new and remote country for every kind of useful knowledge, and convinced that nothing would be of more use to diffuse knowledge amongst us and our offspring than a library, supported by subscription in this town, we whose names are hereunto subscribed hereby associate ourselves together for that purpose, and promise to pay annually a sum not exceeding four dollars to be laid out on books as agreed upon by a majority of votes at a yearly meeting to be held by us at this town on the 15th August annually, when everything respecting the library will be regulated by the majority of votes.

Andrew Heron.	Wm. Musgrove.	G. Drake.
John Kemp.	Silvester Tiffany.	Wm. Hodgkinson.
John Boyd.	Burgoyne Kemp.	John Jones.
John Young.	John Harrold.	Alex. Stuart.

John McClellan.	John Chisholm.	Peter Ten Brouk.
John Burtch.	John Hardy.	Transferred to J. T. B.
Hugh McLaren.	John Reilley.	J. McFarland.
Wm. Dorman.	Ebenezer Cavers.	John Hill, jr.
Martin McLellan.	Peter Thomson.	Robert Addison.
Thomas Kerr.	John Willson.	Benjamin Pawling.
John Young.	Peter McMicking.	Robert Nelles.
Arch. Thomson.	George Keefer.	Daniel Servos.
Thos. Otway Page.	George Young.	John Decow.
Wm. Drake.	John Smith.	J. Murray.

41 subscribers at 24*s.* each £49 4*s.*, carried to account current page B. 15 August, 1801."

Of the original forty-one the names of only four can now be found in the vicinity, though descendants of several others may be found under other names.

The first on the list, Andrew Heron, was the secretary and treasurer of nearly all the period of twenty years. Robert Addison was the first minister of St. Mark's. Silvester Tiffany was the printer of the "Constellation," which followed the "Upper Canada Gazette." Then follows another list, continued down to 1820, of thirty-four names, making altogether seventy-five, in which we recognize other names.

George Forsyth.	John Powell.	John McNabb.
Robert Kerr.	Robert Weir.	John Robertson.
John Wales.	R. Hamilton.	George Read.
Charles Selick.	Wm. Dickson, A.C.	Robert Mathews.
Colin McNabb.	James Muirhead, A.C.	Dr. West.
Wm. Ward.	Thomas Powis.	J. P. Clement.
T. Butler.	Thomas Butler, A.C.	James Secord.
Wm. McClellan.	Isaac Swayzie.	Wm. Musgrove.
Alex. McKie.	John Symington, A.C.	R. C. Cockrell.
Wm. Mann.	Israel Burtch.	Tubal Parr.
George Havens.	John Ten Brouk.	Ensign Barnard.
John McEwan.	John Silverthorn.	Wm. Claus.

In this list we find the familiar names of Butler, Claus, Dickson, McNabb. That of Swayzie has been made familiar in the name of a delicious russet apple only found in this vicinity and probably first grown on the farm of this patron of our library. Dr. West was from Fort Niagara, and ten names on this list are quite familiar to us yet.

Now follows the account of the first annual meeting held on 15th August, 1800, when it was

"Resolved, that Andrew Heron and Martin McClellan be made commissioners to arrange the business of the society till the annual meeting

to collect the subscriptions and lay it out in books to the best advantage, and that they act by the following rules:

RULE I.

To receive from every subscriber three dollars and no more..

RULE II.

As soon as thirty dollars is collected to lay it out on books, none of which shall be irreligious or immoral.

RULE III.

Every subscriber may, if he chooses, when he pays his subscription, make the choice of a book not exceeding his subscription, which shall be procured for him with all convenient speed, provided nothing irreligious or immoral is contained in the same.

RULE IV.

As soon as a number of books can be procured, not less than fifty volumes, every subscriber shall be entitled to receive any book that remains in the library that he chooses, which he shall return in one month in good order.

RULE V.

No book shall be allowed to any of the subscribers unless they have first paid their subscription."

Here follows a catalogue of books received into the library 2nd March, 1801, No. 1 to 80.

It is remarkable that the first thirty volumes are all of a religious nature, volumes 1, 2 and 3 being Blair's Sermons, and 4 and 5 Walker's Sermons, 9 and 10 Fordyce's Sermons to Young Women; the names of Watts, Bunyan, Boston, Newton, Doddridge, Wilberforce, Watson, Owen and Willison are seen. An attempt is even made to give proper guidance to young people in an important crisis of life—as No. 28 on the list is Religious Courtship. It is not till we reach No. 34 that we see any history, travel or poetry. This first purchase of eighty volumes, costing £31 17*s.*, furnished the young people in these forty homes in poetry only Ossian, Cowper's Task, Campbell's Pleasures of Hope, but they might revel in the Citizen of the World and the Rambler, Bruce's Travels, or Robertson's History of Charles V., and if Religious Courtship pleased them not as No. 28, No. 70 is simply Letters on Courtship. The only work of a less specific gravity is No. 73, The Story Teller, which no doubt was popular with the children of those households. The catalogue goes on during the years, up to 937, and contains many expensive works; then follows a list of payments for books, and money received for dues, and several pages are then occupied with the account of the annual, always spelled Annuall, meetings. These always took place on the 15th August, and the record goes on without any break, except the year 1813, when the town was in the hands of the Americans.

and 1814, when heaps of ruins replaced happy homes; also 1819 no meeting was held. The question as to how many of the books were preserved and how they were saved is yet to me an unsolved problem. Of course a large number were in circulation in the houses of the town and township; while some would be burnt, others would be saved; but it is certain that a great many of the books in the library were not burnt, as afterwards from the issue of books, from the numbers given as taken out and returned day after day, it may be seen what books were not destroyed. That many were destroyed or lost is certain, as in the accounts for next year the names of many books are given as to replace those lost. There is a new catalogue with spaces left.

To resume the account of meetings.

"Niagara Library Annuall Meeting, No. 2, held this 15th day of August, 1801. Resolved, that in addition to the two trustees who have acted last year two others shall be chosen, to act jointly with them for the year ensuing, and in the next annuall meeting two others shall be chosen to act with these four, and afterwards yearly two fresh ones shall be chosen, and the two oldest shall go out in such a manner as to have always six acting trustees, and at all meetings for transacting business the trustee present who shall be oldest on the list shall take the chair."

Rev. R. Addison and Mr. John Young were the additional trustees this year. "Old members to pay $2, and new members $4." Members who lived out of town were allowed to take two books at once, the time of returning to be extended to six weeks to those in the township, and to those out of the township two months. "Members neglecting to return a book at the proper time to pay a fine of sixpence currency for every week of detention, also if any book be lost, the member to whom it was given shall pay for it at the original cost, if it belongs to a set the whole set to be paid for by the member who lost it, he being entitled to the remaining volumes.

"Resolved, that all members who shall not pay the two dollars above mentioned within six months from this day shall be suspended. Resolved, that every member who shall withdraw from the Society shall have a power of giving his right to any other person approved of by the trustees. Resolved, that the trustees shall meet quarterly, viz., on the second day of every Quarter Sessions of the Peace, and contingent meetings shall be called by the chairman at the request of any two of the trustees."

"Quarterly meeting held at Niagara, 14th October, 1801. Present, Martin McLellan, Rev. R. Addison, Jno. Young. Adjourned till the

next quarterly meeting held at Niagara, 13th January, 1802. Present, Andrew Heron, Martin McLellan, Rev. R. Addison, Jno. Young. Books in catalogue from 118 to 150 received at prices annexed, and that George Young shall make a case for the books, for which he shall be paid a reasonable price." This we find in the accounts to be £5 2s.

At the quarterly meeting, April 14th, 1802, "Ordered, that Mr. Tiffany print the laws of the Society, and be allowed three dollars for the same, and deliver not less than seventy copies to the trustees, one to be given to each subscriber, and that Mr. Murray be allowed one dollar more for Robertson's History of Charles V."

At the annual meeting, August 14th, 1802, No 3, "Robt. Kerr, Esq., and Mr. Jno. Hill, trustees added." A stringent law is passed that "that part of the fifth resolution of the second meeting of the Society which directs that every member who shall neglect to return the books shall pay into the hands of some one of the trustees sixpence currency for every week he continues to hold the same after the time limited is expired, be enforced by the librarian, he not being at liberty to let him have another book until that sum is paid, and that that be extended to every person, whether member or not."

New members were this year to pay $5, and next year this was raised to $6. In 1804 comes the first payment to the librarian, and this is certainly a modest allowance. This library seems to have solved the difficulty of keeping down the expenses, as through all these years there is no outlay for firewood, for rent, for light—the allowance to the librarian being a percentage on money paid by what are called non-subscribers. The original members are called sometimes proprietors and sometimes subscribers.

"Resolved, that Andrew Heron be librarian for the ensuing year, and be allowed 12½ per cent. of all the moneys collected for the last twelve months from non-subscribers, and the same for the year to come, and shall be obliged to make good all the books that may be lost by non-subscribers."

This seems very hard on the librarian, but he must have been a book-lover, for through all these years he remained faithful to his trust—the emolument sometimes being £1 7s. 6d., sometimes £2 12s. 6d. For the year 1817 it was only 5s. 7d., and the largest amount was £6, which for those days must have been munificent. In 1804, books admitted from 316 to 344, and in January, 1805, quite an addition was made to the library as well as to the members of the society, which item tells us what

we had seen mentioned elsewhere of the existence of an Agricultural Society with a number of valuable books.

"Resolved, that the books mentioned in the catalogue from 348 to 397 be received from the Agricultural Society at the annexed prices, and that in lieu of them the arrears of Robert Kerr, Robert Addison, George Forsyth, Colin McNabb and Robert Hamilton be remitted to them, and that a share in the library be given to Wm. Dickson, James Muirhead, Thomas Butler, John Symington and Joseph Edwards at £2 8*s.* each, all these sums amounting to £16 8*s.*"

In 1805, the trustees are John Kemp, Martin McLellan, John Young, John Waterhouse, Alex. McKie, Wm. Mann, and evidently it is found difficult to enforce the rules, for it is "Resolved, that each and every of the laws and regulations made at the last annual meeting shall continue for the year ensuing the same as they were made." At a contingent meeting, 12th November, 1805, "John McNabb be admitted as member as one of the Agricultural Gentlemen, and Ralph Clench."

At annual meeting, No. 7, August 15th, 1806, Geo. Reid and John Grier, the two new trustees; each proprietor to pay $1 a year; a share, always spelled shear, to be sold at $6.50. "Resolved, that Jacob A. Ball and Lewis Clement be admitted to a share in right of their fathers as members of the Agricultural Society, those gentlemen already having purchased shares, and that Jane Crooks, eldest daughter of the late Francis Crooks, be admitted to a share in right of her father as a member of the Agricultural Society."

Thus history repeats itself. As the daughters of Zelophehad demanded that the inheritance of their father should pass to them, Miss Crooks, over three thousand years afterwards, makes the same claim, and is as successful in obtaining her share of current literature as they in obtaining, their share of land. This is not the only woman's name on the list, as we find in 1815 list the name of Miss Hill in place of her father. Also in list of payments the names of Mrs. Sluny, Fort Niagara, N.Y., 6*s.*, Mrs. Stuart, one year, 15*s.*

Members in town were now allowed to take out two books at once, 500 tickets were to be procured with all convenient speed to continue the number to be pasted on each book as entered.

"At annual meeting, No. 8, 1807, shares to be sold at $7.00 each. Resolved, that one hundred copies of the catalogue be printed, and one copy to be given to each proprietor, and also one hundred copies of an abridgment of the laws, if it can be got done on reasonable terms."

"A contingent meeting, 24th Oct., 1807. Present, Alex. McKie, Wm. Mann, Robert Kerr, Jas. Muirhead, Geo. Reid, John Grier. Ralfe

Clench, Esq., offers to take charge of the library on being allowed his proportion of the annual payment. Resolved, that his proposal be accepted if he keep the library open from 10 to 12 o'clock every day, Sundays excepted. Ordered, that Mr. Jas. Turlin's proposal to make a book case, the same as we have, for $12 be accepted." The first book case was £5 2*s.*, so that prices must have decreased.

"A contingent meeting, August 1st, 1808. Andrew Heron having prepared a room for the library and offers to perform the duties of librarian, and be answerable for the books that may be missing as usual, Ordered, that his offer be cheerfully accepted. N.B.—Mr. Clench refusing to give up a *key* to the library, A. Heron will not become responsible for the books that may be missing."

From October, 1807, the entries of books are in an entirely different hand, but Mr. Heron still visited the loved books, for the name frequently occurs, and the next year the entries go on in the same large hand. The little difficulty of the key must have been settled. In the catalogue, books 568 to 611 are entered in a different hand, which is the period of Mr. Clench being in office.

Annual meeting, No. 9, August 15th, 1808. The new trustees are Hon. Robt. Hamilton and Mr. Jno. Symington. Members out of town to be entitled to three books at a time. "Resolved, that Andrew Heron be librarian and treasurer."

Annual meeting, No. 10, August 15th, 1809. Rev. Jno. Burns, minister of St. Andrew's, and John Powell to be the two new trustees, and in place of Hon. R Hamilton, deceased, John Wagstaff. Shares to be sold at eight dollars. Whether from the liberality of Mr. Heron in providing a room, or from his length of service, or some other reason not known, at this meeting it was "Resolved, that the librarian be entitled to receive 25% of all the money collected from non-subscribers and fines"; the additional title of clerk is now also given, thus, "A. Heron to be librarian, treasurer and clerk."

Annual meeting, No. 11, August 15th, 1810. "Resolved, that attendance on the library be required only one hour, from eleven to twelve on Tuesdays, Thursdays and Saturdays in every week."

Annual meeting, 15th August, 1811. The trustees this year are James Crooks, George Reid, Rev. John Burns, John Powell, James Muirhead and Martin McLellan. Shares are sold at $9—$1 to be paid by each proprietor and $3 by others, or $1 a quarter.

Annual meeting, No. 13, August 15th, 1812. Proprietors to pay $2 each. Books admitted at a contingent meeting 15th November, 1812, shortly after burial of Brock; books admitted, 781 to 827.

The next entry is 15th August, 1815. What a different state of affairs from that of 1812, when war had been declared and Brock was marching to Detroit; or from 1813, when an enemy held the town; or 1814, when the rubbish of bricks was being taken to build Fort Mississagua! But with intrepid courage our trustees meet and make arrangements for the work of the library going on as usual. The trustees were John Symington, George Young, James Crooks, John Burns, George Reid, Andrew Heron. Notwithstanding all the losses incurred by the townspeople, the charges are made somewhat higher, each proprietor to pay $2.50. Shares to be sold at $9, and non-proprietors $4 a year, or $1.50 a quarter, or $1 a month. At a meeting, 22nd January, 1816, books admitted, 882 to 90

Annual meeting, No. 15, August 15th, 1816. "Resolved that John Wray be librarian and clerk."

Quarterly meeting, 9th October, 1816. Books admitted, 901 to 909.

Annual meeting, No. 16, August 15th, 1817. "Resolved, that the meeting being thin that no new trustees shall be chosen, and shall remain to act as last year. Shares to be sold at $10." There seems to have been some difficulty about books circulating too much, as witness the next: "Resolved, that any proprietor or other person who receives books out of the library and allows any person to take them out of his house shall for every offence pay to the librarian £1 currency."

Annual meeting, No. 17, August 15, 1818. "Resolved, that the meeting being thinly attended no new trustees shall be chosen. All regulations remain as last year."

At a meeting of the trustees, held on 1st March, 1820, present John Burns, George Young, James Crooks and And. Heron, "Resolved, that whereas Andrew Heron offered to take charge of the books belonging to the library, that the books shall be transmitted to his house with all convenient speed, and shall there be inspected by Andrew Heron and James Crooks as soon as can be conveniently done."

Here is the record of the last meeting of the trustees of this library. "Whereas the Niagara library has been greatly wasted, first by being plundered by the army of the United States, and has since been greatly neglected, very few of the proprietors having paid their quota to support the same, we, whose names are hereunto subscribed, hereby relinquish our claims on the same to Andrew Heron (who has now opened a library of his own for the use of the public) in consideration of his allowing us the use of his library for three years; this he engages to do to all those who have paid up their yearly contributions to the year 1817 inclusive; to those who have not paid to that period he will allow according to

their deficiency in those payments. We consider those propositions as quite fair, and do thereto assent."

JAS. CROOKS,	JNO. MCEWAN,
J. MUIRHEAD,	J. BUTLER,
JNO. SYMINGTON,	GEO. YOUNG,
JNO. WAGSTAFF,	JNO. GRIER,

JOHN POWELL.

In turning now to the account of money expended and received, it tells something of the love of books in those days that, from the year 1801 to 1818, there was expended on books for this library about £500, the first outlay being £46 17*s.* on August 15th, 1800. The record book itself cost £1, and Mr. Tiffany received for printing £1 4*s* In reading the rather monotonous account of money paid yearly, monthly, or quarterly, we sometimes meet with a pleasing variety, as books sold by vendue, spelled vandue, fine for detain of books, money to replace a book lost, books and tracts presented, a book of sermons sold to some sermon reader. The list, scattered over many pages, of money expended for books is interesting.

	£	*s.*	*d.*
1801	46	17	0
1802	27	4	6
1803-4	92	10	6
1805	34	8	1
1806	36	8	0
1807	20	19	3
1808-9	20	13	3
1810	31	12	6
1811	43	4	3
1812	21	16	6
1815	24	4	6
1816	15	5	6
1817	43	6	7
1818	17	2	6

SUBSCRIPTIONS PAID.	£	*s.*	*d.*
1801—41 subscribers	49	4	0
1806— 5*s.* from 35 subscribers	8	15	0
1807— 5*s.* " 41 proprietors	10	5	0
1808—10*s.* " 44 "	22	0	0
1809—10*s.* " 42 "	21	0	0
1810—10*s.* " 44 "	22	0	0
1811—10*s.* " 45	21	5	0
1812— 5*s.* " 42	10	10	0
1815—$2 " 25	12	10	0
1816—12*s.* 6*d.* " 13	8	2	6
1817—12*s.* 6*d.* " 15	9	7	6
1818—12*s.* 6*d.* " 8	5	0	0

This sum of £500 does not give all the outlay for books, as many single books are entered alone and not in this way. The modest emolument of the librarian may be seen in the following list, culled from many pages, he receiving a per centage on all sums paid by non-subscribers and fines, the sum varying from 5*s.* 7*d.* one year to £6, but generally less than £2, the whole payment to librarian during these twenty years being £24, so that his must indeed have been a labour of love.

	£	*s.*	£	*s.*	*d.*
In 1804—12½ per cent. on	11		=1	7	6
1805— " " "	11		=1	7	6
1806— " " "	9		=1	2	6

			£ s.	£ s. d.
In 1807—	12½ per cent. on	.....	9	=1 2 6
1808—	" "	"	6	5= 13 6
1809—	" "	"	10	=1 5 0
1810—25	"	"	9	=1 5 0
1811—	" "	"	10	10=2 12 6
1812—	" "	"	10	10=2 12 6
1815—	" "	"	24	0=6 0 0
1817—12½	"	"	2	5= 5 7
1818—25	"	"	13	15=3 8 9

It would be interesting to us to know how so many books were saved. It is known where Mr. Heron lived in the time of the war. The story is told that his wife, with infant, was carried out on the street from a house in the centre of the town. It is likely, as there were forty subscribers and perhaps as many more non-subscribers, and each person might have out three books, there might be two hundred books in circulation, many of which might come back. Then as many articles of furniture were saved, being carried out to the street, many of the books might be saved from the library. The new catalogue gives a list of two hundred with spaces left between. The spaces I at first thought represented books missing, but I have now concluded that the numbers given represent books bought to replace the old ones burnt or lost, as very often the prices are different from the first catalogue, and that the spaces represent books either in the library or if lost not replaced, as in the list of issues of books after the war many numbers occur representing books in these spaces.

It may be worth recording, as forming another link in the history of our library, a strange coincidence which occurred while writing this paper, by which one of the books was heard from. So far I had not met a single person who had even heard of the existence of the library, but calling on an old lady a resident of the town, to inquire about it, a postal card was produced received that day from Ancaster, with this question, "Can you tell me anything of a public library in Niagara when the town was burnt, as I have a book which was the only one saved from the fire." I have since then seen the book. It is number 51 in the catalogue, Blossoms of Morality, or Blossom on Morality, and is remembered by the owner as charred with fire; but these burnt leaves are now torn away, and on an inner page is written, "This book was saved by my father, who was an officer in the British army when the town was burnt, December, 1813. The only book saved from the library. Thomas Taylor." As a matter of fact it is the only book in existence of which we know anything, but it might be worth inquiry if other books can be found belonging to the library, or what became of the library

after it came into the hands of Mr. Heron. We know that he kept a bookstore and published the Gleaner newspaper, bound copies of which for the year 1818 are in homes in the town. Also a copy of Mavor's spelling-book printed by him, with catechism of Church of England at the end, second edition date not plain, but some time after 1800. On another sheet of the record book, headed subscription paper number two, the exact words of the first page of book are copied and the names John Wagstaff, Richard Cockrell, James Hyslop, William Musgrove, Lewis Clement, Wm. Ball, Wm. Forsyth, Wm. Robertson, Alex. Rogers, Andrew Brady, Jas. Patterson, 16th August, 1815: to these are added afterwards A. Heron, T. Symington, P. Ball, W. Hodgkins, T. Jones, J. Muirhead, George Young, W. Burtch, John Robinson, George Reid, Geo. Havens, J. McEwan, Miss Hill. In 1816, names added are, Thos. Butler, Jas. Heron—a sadly diminished list of twenty-seven.

It is intensely interesting to follow all the different divisions of contents through so many years. There was no meeting in 1813, 1814, 1819. Books were taken out up to May 24th, three days before the town was taken. John Dodd paid 5*s*. and Capt. Roxborough 5*s*. There are few records while in possession of U. S. troops, but some money was paid and a few books taken out. "June 18th, 1813, Capt. Dorman, U. S., made a payment, three months, 5*s*." (there is a Wm. Dorman in first list of proprietors). In 1814, March, J. Rea, Ensign, 100th Regt., 10*s*., and the names of John Valentine, 100th Regt., and Jno. Gibson, Field Train Department. Then in 1815, different payments from officers, as Col. Preddy, Col. Harvey, W. E. Athinleck, Hospital Asst. Then Dep. Asst. Com. Gen. Lane, Capt. McQueen, Maj. Montgomery, Major Campbell, Lieut. Vigoreux, Col. St. George, Thos. Cummins, Sergt. 41st Regt., Capt. Claus, Capt. Lyons, Lieut. Vanderventer, Ensign Winder, Capt. Saunders, Capt. Reid, of Fort Niagara, Sergt. Jenkins, Fort Niagara, Dr. West, Fort Niagara, had a share in 1806. Many strange names occur. In the course of my reading the other day occurred the name of Jedediah Prendergast, and singularly enough from the thick, yellow pages of this record stands out conspicuously this identical name, Jedediah Prendergast. But in list of money paid we find Dr. Prendergast, also the names of John Easterbrook, Benj. Wintermute, Louis Dufresne. It is singular that the accounts are kept partly in Halifax currency, partly in York currency, and partly in dollars and cents. In the pages carefully ruled for proprietors, different years, the yearly payment is given as 10*s*. or 5*s*., as the case may be, while in the other list these are entered 16*s*. and 8*s*. In many cases the right of proprietorship is transferred to another. In 1815, several books are bought to replace those missing, such as Spectator, Burns' works, Don Quixote, and in 1816,

Joseph Andrews, Robertson's America, Watt's Improvement, Humphrey Clinker, Children of the Abbey, Josephus, Walker's Sermons, but Porteous' Sermons sold for 10*s.* In 1816, "by amount of books sold at vandue, £27 12*s.* 2*d.*, N.Y. cy., £17 5*s.* 1*d.*" In 1817, "received for damage done to Life of Wellington, 17*s* 6*d.*, Blackstone's commentaries, old copy, paid for being lost, £1 19*s.*" These seem high prices for injury to books. "December 17th, 1804, received from Pte. Nicklon a fine for keeping a book eighteen weeks at 6*d.* sterling, 14*s.* 4*d.*" Poor private, the law said 6*d.* currency, but from his scanty pay he is compelled to disburse this heavy tax.

One entry defeated every effort to decipher it till a happy guess makes it read, "November 12th, 1815. To a Gownd to Mrs. Nulin for taking care of books 15*s.* 6*d.*" Happy Mrs. Nulin, were she fond of reading, for not only might she gratify her inclination, but she also receives a *Gownd* as a reward. There seems in the last years to be a deficit, expressed as balance due A. Heron £11 9*s.* 9*d.* in 1818, showing our treasurer to have been a man of means, as shown also in the record book of St. Andrew's church, of which he was treasurer, when there was a balance due of £176. The last entries are, "By cash received from Mr. Smith for detain of books over the limited time, April 19th, 1819, 7*s.* 6*d.* Aug. 18th, By cash, Mr. Crysler, for detain of books over the limited time, 5*s.*" There are frequent entries of books presented, also tracts. In the catalogue, No. 444 is Abelard and Heloise, presented by Mr. Alexander Cameron, student-at-law. There are altogether 102 names of proprietors, the largest at any time being 45, in 1811, and the smallest eight, in 1818. Among the books in the catalogue are, in poetry, Pope's works, 10 volumes, £2 10*s.*; Shakespeare's, eight volumes, £2 12*s.*; Milton, Johnson, Dryden, Virgil, Thomson, Spenser, Ramsey, Burns, Scott. Fifty volumes on Agriculture, many of them very expensive works, came in 348-398 from Agricultural Society, although in report for 1892 Hon. John Dryden said the first Agricultural Society was formed in 1825.

Hume's History of England, continued by Smollett, 21 volumes, £7 4*s.*; Bruce's Travels, eight volumes, £7 4*s.*, also Cook's and Ansons' Voyages. The library was especially rich in works of travel and in magazines; regularly every year are catalogued, European Magazine, Edinburgh Magazine, Edinburgh Review, Scot's Magazine, Lady's Magazine, British Critic, Annual Register. The British Theatre, 25 volumes, £11, might cause some of our book committees to hesitate in these days, though it staggered not our brave proprietors of those early times. Altogether we think we have much reason to congratulate these pioneers of civilization in this peninsula that such a taste was shown for reading

of such a high order, and express the hope that the libraries of the future may be as well selected, that the public may make as great sacrifices and support as liberally these aids to culture, and that many such secretaries and treasurers may be found willing to give time and faithful service to secure good literature, not only for the present, but to hand down to those to come.

A few words may be pardoned in relation to other libraries in the town. A most interesting and valuable collection of books is to be found in the rectory of St. Mark's church, consisting of about a thousand volumes, with many folio editions quite rare. These were formerly the property of Rev. Robert Addison, sent out by S. P. G. Days—nay, months—might be pleasantly spent in loving examination of these rare editions from Leyden, Oxford, Geneva. Well was it that they were not in any house in town in December, 1813, but being at Lake Lodge (about three miles out in a log house, part of which may yet be seen) they were saved. They were lately in possession of Dr. Stevenson, but by the zeal of the Venerable Archdeacon McMurray they were procured and placed in the rectory. Every book has placed in it this inscription: "Presented to St. Mark's church by the heirs of the Rev. Robert Addison, to be the property of that church in perpetuity." There are altogether fifty-three folio volumes, many of them being specially interesting. One of these, the complete works of George Buchanan, 1715, poems, Latin works, History of Scotland, a Satyr on Laird of Lydington, printed 1570, all in one volume. Hooker's Ecclesiastical Polity, 1598. One folio has been well or rather much used; it is Historical, Geographical and Poetical Dictionary, 1694. No doubt many came, allowed by the kind old man, to consult its pages. On the first leaf, these words show that there were in those days restrictions on the publication of books (these were not removed till the time of William III.): "Whitehall, 28th January, 1691/2. I do allow this work to be printed. Sydney." Jeremy Taylor, Polemical and Moral Discourses, 1657; Burneton, 39 articles, 1700; Machiavelli's Works, 1680; Spottiswood's History of Scotland, 1666; Fuller's Holy State, 1642; Montague's Essays, 1632, Fiddes' Life of Cardinal Wolsey, 1724, with copper plates, one being View of Kitchen of Cardinal's Cottage, Christ Church. Another volume is Historical Collection, Rushworth, 1659, with strange picture of James I., and the awe-inspiring legend "Touch not mine anointed" bringing up thoughts of the length to which this doctrine was carried by that unhappy race. A prayer book, Breeches Bible, 1599, in black letter, and Psalms, version of Sternhold and John Hopkins, all bound together. In the prayer book is the prayer offered "That it may please thee to bless and preserve our Most Gracious

Sovereign Queen Mary, Prince Charles, and the rest of the *Royal Progenie.*" This book has been rebound in vellum.

Other works are Xenophon's Cyrus, 1713; Virgil, 1576; Quintillion, Oxford, 1692; Tillotson, 1675; Poli. Synopsis London (Poole's), 1669, five volumes, folio, Matthew's Commentaries, Plutarch's Morals, 1603; Xenophon's Cyrus, Cicero's works in Latin. A few others at random—Shakespeare, 1771; Spectator, 1726; Jonathan Edwards, 1699; Cicero's Orations, 1590; Lord Clarendon's, 1676; Latin Funeral Orations, 1611; Greek Grammar, 1683; Pope's Iliad, 1721; Erasmus, Rotterdam, 1526; New Testament (French), Geneva, 1577; Pliny's Epistles, 1640; Stillingfleet, 1681; Jeremy Taylor, 1676; Virgil, 1613; Plutarch's Morals, 1603; St. Augustus' City of God, 1610.

Another library, that of St. Andrew's church, singularly enough also numbering about 1,000 volumes as the two already referred to, came into existence Aug. 26th, 1833, and here we see the name of Andrew Heron in the issue of books. There is an index with reference to pages, 214 names, from 1833 to 1869, up to folio 274. Up to 1836 there are 120 names, showing that a large number of families attended St. Andrew's church. There was a catalogue costing 7½*d.* in 1835, and memorandum of copies sold up to 1843. The catalogue numbers 919 books. The only names on the list now attending the church are McFarland, Elliot, Davidson, Blake, Wynn, Carnochan. The first name is, as in Niagara Public Library, Andrew Heron. In 1836 occurs the name of one who afterwards became one of the Fathers of Confederation, Archibald McKellar. He attended the Niagara District Grammar School, was married by Rev. Dr. McGill: there are only two books marked against his name.

Many memories of the past are brought up by the names Barr, Lockhart, Crooks, Stocking, Whitelaw, Eagleson, Wagstaff, Miller, Malcolmson, McMicking. Many books were presented by friends in Scotland, but there are only a few old or rare books. The Harper's Library Series seem to have been well read. It may be recorded as worthy of notice that in the old record book of St. Andrew's church, dating from 1794, many of the names of the supporters are also found in the list of proprietors of the Niagara Library, 1800, showing the love of reading always remarked of the nationality most found in the Presbyterian church.

The successor to these libraries is the Niagara Mechanics' Institute, having been in existence since October 24th, 1848, as a copy of the constitution and by-laws, printed by F. M. Whitelaw, with names of members, one hundred and one, shows; Pres., W.H. Dickson M.P.P.; Vice-President, E. C. Campbell; Secretary, Dr. Melville; Treasurer and Libra-

rian, W. F. G. Downs. Among the committee are Thos. Eedson, John Simpson, Jas. Boulton, J. D. Latouche, B.A, Sam. Risley, Jno. Whitelaw. There is also a catalogue printed by Wm. Kerby in 1861, then numbering about 1,000 volumes. The library has gone through many vicissitudes; being closed for some time, it was greatly revived through the exertions of Dr. Withrow while a resident of Niagara, and has always owed much to the great interest shown in it by Wm. Kirby, F.R.C.S. It now numbers 4,000 volumes and has received much praise for its judicious selection of books.

When we think of the influence in any community of a good library, of the pleasure and profit derived, we think of the words of Ruskin. "We may have in our bookcases the company of the good, the noble, the wise. Here is an *entrée* to the best society. Do you ask to be the companions of nobles, make yourself noble; you must rise to the level of their thoughts, to enter this court with its society, wide as the world, multitudinous as its days; the chosen and the mighty of every place and time, here you may always enter. Into this select company no wealth will bribe, no name overawe; you must fit yourself by labour and merit to understand the thoughts of these great minds. You must love them and become like them." Judge, then, how much the people of this vicinity owe to the proprietors of the Niagara Public Library, furnishing to the young people of so many households reading of so high an order, fitting them to fight manfully the great battle of life.

CATALOGUE OF BOOKS.

Received into Library 2nd March, 1801—1 to 80.

1, 2, 3—Blair's Sermons.
4, 5—Walker's Sermons.
6, 7, 8—Divine Œconomy.
9, 10—Fordyce's Sermons.
11—Newton's Prophecy.
12—Smith's Prophecy.
13—Watt on Son of God.
14— " Improvement of Mind.
15— " Memoirs.
16— " Holy War.
17—Dyer's ———.
18—Willison on the Sabbath.
19—Boston's Character.
20— " Regeneration.
21—Anderson on Psalmody.
22—Cloud of Witnesses.
23—Scott's Essays.
24—Wilberforce's View.
25—Rise and Progress of Religion in the Soul.
26—Watson's Apology for Bible.
27— " " Christianity.
28—Religious Courtship.
29—Owen on Trinity.
30—Brown's Christian Journal.
31—Burton's Feeling.
32—Muirhead's Differentiation.
33—Brown's Oracles.
34—Robertson's History of South America, £1 12s.
35, 36—Robertson's History of South America.
37—Stanton's Embassy to China.
38, 39—Residence in France.

40, 41—Morse's Geography.
42—Bruce's Travels.
43, 44—Citizen of the World.
45, 46—Ossian's Poems.
47—Campbell's Narration.
48, 49—Croker on ———.
50—Caroline Lichfield. (Replaced in 3 vols.)
51—Blossoms of Morality.
52—Pleasures of Hope.
53, 54—Mirror.
55—Mental Improvement.
56—Lady's Library.
57—Cowper's Task.
58-60—Marvellous Magazine.
61—Bennet's Lectures.
62-65—History of Jacobinism, £2.
66, 67—Repository.
68, 69—The Rambler, £1 4s.
70—Letters on Courtship.
71—
73—Story Teller.
74-77—Emperor Charles V.
78—Burk's Revolution.
79—McIntosh's Revolution.
80—A letter to Burk.
81—Communicant's Companion.
82-89—Pope's Works, £2 10s.
90—Milton's Works.
91—Brydon's Tour.
92—Indian Concert.
93, 94—Burnet's Theory of Earth, £2.
95—Robertson's Proofs.
96—Young's Essays.
97-99—Robertson's History of Scotland.
100—History of War in Asia.
101-2—Burk's European Settlement in America.
103—Daniel and Revelation.
104—Gospel Its Own Witness.
105—Duty of Female Sex.
106-17—Rollins' History, £2, 8s.
118-19-20—Edinburgh Magazine, £3 18s.
39—Omitted in its place and carried to page 13, act. current, Boston's Memoirs.
121—Snodgrass' Revelation.
122-24—Gillies' Greece, £2 12s.
125-26—Moore's Letters.
127-28— " Journal.
129-30—Fuller.
131—Ray's Discourses.
132—Taplin's Farriery.
133—Female Complaints.
134-37—Wells' Geography.
138-39-40-41—History of British Admirals, £2.
142-43—Knox on Education.
144—Paradise Regained.
145—World Depths.
146-47—Boderick's Travels.
148—Constitution U. S.
149—Tracts presented by Andrew Heron.
150—History of Barbary.
To—more allowed for History of Charles.
151-52—Beattie's Essays.
153-54—Leland's Life of Philip.
155-56—Bloody Tribunal.
157—Bishop Burnet's History of His Own Times.
158-59—Quintius Curtius' History of Alexander.
160—Mendrill's Journey from Aleppo to Jerusalem.
161—Judah Restored.
162-63—Hervey's Meditation.
164—Goldsmith's Rome.
165—Adam's Views.
166—New Pilgrim.
167—Moral Repository.
168—Colet's Discourses.
169—Theological Magazine.
170-71—N. Y. Missionary.
172—Female Education.
173—Seneca's Morals.
174—Murray's Sequel.
175—English Reader.
176—Zimmerman on Solitude.
177—Fuller's Gospel of the Bible.
178—
179—Mackenzie's Voyage.
180-81—Morse's Gazetteer, £2.
182—Key to the Prophecies.
183—History of Iceland (presented by J. Young.)
184-85—Forbes' Works.

186-206—Hume's History of England, continued by Smollet (21 vols.) £7 4s.
207-212—Heine's History of Scotland, £3 17s.
213-17—Ferguson's History of Rome, £4 7s.
218—Kinneard's Edinburgh.
219—Heates' Pelew Islands.
220—Robertson's India.
221-22—Prideaux Connection.
223-28—Josephus' Works, £2 2s.
229-33—Edinburgh Magazine, £5 12s.
234-36—Edinburgh Review.
237-40—Johnson's Lives.
241-48—Shakespeare's Works, £2 12s.
249-52—Dryden's Virgil.
253-54—Silver Devil.
255-57—Gonsalvo of Cordova.
258—Joseph Andrews.
259-60—Humphrey Clinker.
261-62—Roderick Random.
263—John Bull.
264—Park's Travels.
265-70—British Tourists, £2 17s.
271-72—Heron's Journey.
273-76—Hawkesworth's Voyages.
277-80—Cook's Voyages.
281—Anson's Voyages.
282-83—Leland's Views.
284-86—Blair's Lectures.
287—Erskin's Discourses.
288—Campbell on Miracles.
289—Wall's World to Come.
290-91—Beattie's Evidences.
292—New York Magazine.
293—Fuller.
294—Thompson's Seasons.
294—Spenser's Shepherd.
296—Sherlock on Providence.
297—History of George III.
298-99—Knox's Essays.
300—Commerce of Ancients.
301—Thoughts on State of Religion.
302—Theological Magazine.
303—Memoir's of Gen.—
304—Fletcher's Appeal.
305—M. Magazine.
306—Forsyth on Trees.
307—N. Y. Missionary.
308—Saint's Everlasting Rest.
309—Gospel Sonnets.
310—Rushe's Charges.
311—Russian Empire.
312—Robinson's.
313-14—Talemachus' French and English
315—Aikins' Letters to his Son.
316-18—Adolphus' George III.
319-20—British Critic, £3 5s.
321-23—Edinburgh Review, £1 16s.
324-25—European Magazine, £2 8s.
326-27—Edinburgh " £2 6s.
328-29—Wilson's Egypt, £2 4s.
330-33—Pamela, £2.
334-36—Tom Jones, 18s.
337—Pictures of Palermo.
338—Vicar of Wakefield.
339-42—Burns' Works, £3 15s.
343—Percival's Ceylon, £3 12s.
344—Barrington's N. S. Wales.
345—Nisbet's Church History.
346—State of Europe. (Presented by Hon. R. Hamilton.)
347—Adams' Anecdotes.
348-61—Young's Agriculturist, £10.
362-66—Museum Rusticus, £3 4s.
367-68—Young's Tour in Ireland.
369-74—Wright's Husbandry, £3 12s.
375-76—Marshall's Midland County.
377-78—Adams' Agriculturist.
379-81—Doylin's "
382-83—Dickson's Husbandry.
384—Hart's "
385-86—Anderson's Agriculturist.
387—Gentleman Farmer.
388-92—Bath Papers.
393-94—Dickson's Agriculturist.
395—Dublin Society.
396—Small & Barrm.
397—Hume on Agriculture.
398-99—Horne on the Psalms.
400-7—Spectator, £3 4s. £5 5s. N. Y. currency is in Canada currency £3 5s. 7½d.
408—Mills on Cattle.
409-10—Pallas' Travels in Russia.
411—Whitman's Travels in Syria.
412-13—Adolphus' History of France.
414— " Reflections.
415-16—Winterbottom's Sierra Leone.

417—Card's Revolutions of Russia.
418—Pinkerton's Geography.
419—Gordon's Rebellion.
420—Population of Ireland.
421—Divernois on the Five Provinces.
422—Grant's Poems.
423-25—Palmerston's Letters.
426—Scot's Magazine, 1804.
427-28—European "
429-33—Edinburgh Review.
434—Sketches at Cape Good Hope.
435—War in St. Domingo.
436—Female Education.
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438—Brown's Sermons.
439—Religion of Greeks.
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446—Court of St. Cloud.
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448-53—Edinburgh Review.
454-57—British Critic, £4 10s.
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466-69—Blackstone's Commentaries.
470—Grant's Voyages to N. S. Wales.
471-72—Cyrus' Travels.
473—McHinnem's Tour.
474-79—Plutarch's Lives, £1 13s.
480—Peyrmsis' Voyages.
481-89—Witherspoon's Works, £2 8s.
490—Sir H. Moncrieff's Sermons.
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503-05—Edgeworth's Tales.
506-10—Tales of the Castle.
511—4—Peregrine Pickle.
515—Estelle.
516—Devil upon Two Sticks.
517-18—Excessive Sensibility.
519—Man of Feeling.
520-22—Ramsay's Works.
524—Tuckey's Voyages N. S. Wales.
525—Edwards on Baptism.
452-53—European Magazine, omitted.
526-28—Plains.
529-31—History of France.
532—Musical Repository.
533—Speechly on the Vine.
534—Selkirk on Emigration.
535—Fisher's Travels in Spain.
536—Bigland's Modern Europe.
537—Michavois Travels.
538—Scot's Magazine.
539-40—European Magazine.
541—Lady's Magazine.
542-45—Edinburgh Review.
546—Jackson on the Mediterranean.
547—Hinchley's Fall of Venice.
548-49—Repton's Odd Whims.
550-51—Father's Gift.
552-55—Children of the Abbey.
556—Lucas on Duelling.
557—Bravo of Venice.
558-60—Count de Valmont.
560-63—Men and Women.
564— of Seduction.
565-66—Tour of
567—Sermons.
568-79—Henry's History of Great Britain, £6 15s.
580-83—Edinburgh Review.
584-85—Scotch Magazine.
586-88—Annals of Great Britain.
589-90—Dick's Selections.
591—Cook on the Resurrection.
592-93—Robertson on Atmosphere.
594-97—Trevanion.
598—History of Masonry.
599-601-Kaines' Sketches.
602-3—Malthus on Population.
604-11—Goldsmith's Animated Nature, £2.
612-14—State of the Times.
615—Scotch Magazine.
616-17—European Magazine.
618—Lady's Magazine.
619-20—British Critic, £2 8s.
621-23—Edinburgh Review.
624-26—Smith's Wealth of Nations.

627-29—Ferguson's Lectures.
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662—Sterne's Sentimental Journey.
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664—Saville's Dissertation.
665—Pilgrim's Progress.
666—The Mountain Bard.
667-70—Medical Journal, £3 11s.
671-75—Fool of Quality.
676—Chesterfield's.
677—Scotch Magazine, 1809.
678-79—European Magazine.
680—Lady's Magazine.
681-82—British Critic.
683-86—Edinburgh Review.
687 to 711—British Theatre, 25 vols., £11.
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719—Moore's Tales.
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722-29—Enfield's Encyclopædia.
730-31—Count Fathom.
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733-34—More's Utopia.
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747—Letters from a Loyalist.
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752—Resources of Britain.
753—Scotch Magazine.
754-55—European "
756—Lady's "
757-58—British Critic, £2 8s.
759-62—Edinburgh Review.
763-64—Porteous' Sermons.
765—Moorehead's Discourses.
766—Gray's Letters.
767-68—History of Chili.
769—Trotter on Drunkenness.
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790—History of Charles XII.
791—Scotch Magazine.
792-93—European "
794—Lady's "
795-96—British Critic.
797-800—Edinburgh Review.
801-2—New Annual Register.
803-8—Gifford's Life of Pitt, £6 6s.
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814—Description of 300 Animals.
815-17—West's Letters to Young Men.
818—Park's Rudiments of Chemistry.
819-20—Tolney's Travels.
821-22—Walker's Sermons.
823—Lady of the Lake.
824—Island of Jamaica.
825-27—Tristram Shandy.
828-35—Edgeworth's Moral Tales.
836-37—British Critic, £2.
838-39—British Critic, 1813, £2.
840-41—Edinburgh Annual Register.
842-43— " " " £2.
844—Scotch Magazine, 1812.
845-47— " " 1813, 1814.
848-49—European Magazine.
850—Lady's "
851-53—Edinburgh Review.
854—British Critic.
855-56—Annual Register, 1811.
857-61—Edinburgh Register.
862-63—Goldsmith's ———.
864-67—Modern Geography.
868—Savage New Zealand.
869-70— Magazine.

871—Castle of Otranto.
872—History of Otaheite.
873-74— " the War.
875-77—Edinburgh Review.
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880-81—Edinbugh Register.
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888-90—The Jesuit.
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906-8—Waverly.
909—E. Annual Register.
910—Scotch Magazine, 1814.
911-12— " " 1815.
913—Clark's Life of Nelson.
914—Colonial Policy.
915-16—Life of Wellington, £2.
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918-20—Scot's Magazine, 1816.
921—Lady's Magazine.
922-27—Edinburgh Review.
928—Annual Register.
929— " " , 1815.
930-31—European Magazine.
932-33—Edinburgh "
934—Lady's Magazine.
935-37—Edinburgh Review.

NOTES ON THE HISTORY OF THE AMALGAMATION PROCESS.

By Robert Dewar.

(Read 27th April, 1893.)

The amalgamation process, although generally believed to be modern, is by no means so, but has really gradually developed through centuries of use to its present position in metallurgical science. We have reasons to believe that the ancient Egyptians were acquainted with this process. Indeed the attraction of mercury for other metals, especially gold and silver, but apparently more especially gold, appears to have been known from the most remote antiquity, and from time immemorial mercury has been used in "streaming for gold," as the process was called. Vitruvius remarks that gold might be recovered from embroidery and old clothes by the use of mercury, and Pliny mentions a process for the gilding of brass and other metals by gold amalgam, remarking that mercury dissolves gold, thus separating it from impurities, and on straining it through leather pure gold is left; to be sure it is really the gold amalgam that is left in the leather. The process called streaming was used to collect the fine gold disseminated through the sand composing the beds of streams or rivers, and consisted in first washing the sand, then triturating the residue with mercury and straining off the superfluous mercury through leather. By miners it was used in a similar manner. The gold ore was first ground and then triturated with mercury in mills; but these mills proved in the long run unsatisfactory as the residuum was found to retain a large quantity of the gold and it was necessary to subject it to a roasting, so that at the commencement of last century they were almost universally abandoned. An opinion prevailed among chemists about this time that unless both the silver and gold existed in the pure state in the substance under treatment by the amalgamation process, then the mercury would fail to dissolve them, and hence the belief, which there was sufficient reason for, that while fire treatment caused the ore to yield the whole of its gold, the amalgamation process did not. This opinion was supported by the most celebrated metallurgists of that period, such as Schlüter, Gellert, Wallerius and Cramer, the result being that the amalgamation process was relegated to that class of processes described as not applicable on the large scale. It may be added that the streaming process was, as used by different nations, exactly the same in procedure as the above.

According to the late Dr. Percy, the first mention of mercury in the metallurgy of silver is made in a treatise by one Biringuccio, an Italian, and published in 1540. The process is performed in a stone or timber basin in which a millstone revolves; the matter to be treated is ground in a mortar, washed and dried, then put into the hollow of above-mentioned basin and ground with the millstone, while being moistened with vinegar or water in which is dissolved corrosive sublimate, verdigris and common salt, the whole being covered with mercury. The millstone is then caused to revolve, stirring the material for two or three hours by hand or horse-power, according to plan adopted. When amalgamation is supposed to be completed the amalgam is separated by a sieve or washing, or passing it through a bag and then retorting or distilling, the gold, silver or copper is obtained. Dr. Percy also states that he (Biringuccio), in a prior description, mentions the use of vitriol and the bag as being made of deerskin leather. This is undoubtedly the result of a long development of the primal process in which merely the mercury was employed, and the earliest treatise extant on the amalgamation process in which "chemicals" (to use an expression common in some branches of the amalgamation process) are mentioned as being used in combination with mercury, thus marking the transition from a mere empirical operation to a scientific process, the result of experimental science. This process was restricted not solely to ores, but applicable to recovering gold or silver from the sweepings of mints, goldbeaters and goldsmiths. Schlüter mentions in his work, published in 1738, that the amalgamation process was used in treating the silver ores of Kongsberg, in Norway, as also the "sweep" of mints and goldsmiths' workshops was treated for recovery of metal by the amalgamation process in Germany when too far removed from smelting works or owing to poverty of stuff. Schlüter, seemingly, does not state how long prior to the appearance of his work the process had been in operation in Norway or Germany; but it is known—at least I find from a metallurgical work in my possession, printed last century—that the process was very unpopular in Europe, and, as I before stated, when Schlüter himself, and Wallerius, Cramer and Gellert thought it not practical on a large scale, it is not strange that Baron Inigo Born met with friction in his successful efforts last century to introduce the amalgamation process into European countries.

The Norwegian process, according to Schlüter, was conducted in mills consisting of a shallow cylinder surmounted by a tub, of which the cylinder is the bottom; the tub is constructed of wood, its inside walls being flush with inner surface of cylinder forming bottom, in the centre of the bottom of pan is a pivot, over which fits a cast iron cross, with arms almost touching side of pan, and being at right angles to one

another; into opposite ends of the cross fit fork-like prongs which are attached to a spindle, at the top of which is a pinion to which a rotatory motion is given by a horizontal crown wheel, as many as eighteen being driven in this manner—the power employed being water—by one crown wheel, although there were also small ones in use which a man could work. The front portion of the tub was pierced by two or three holes, in the same line on different levels, through which the sludge at different periods might be withdrawn from within. The substance was ground, if coarser than sand, and concentrated as much as possible; about two tröge (according to Dr. Percy=to from 40 to 50 lbs.) are thrown into the mill and water added, then 40 lbs. of mercury. Grinding now is started, but should the mill be able to take more it is added with sufficient water to prevent stiffness. Grinding is continued until the whole is brought to a state of mud, when the top plug in the top hole above-mentioned is now removed and the mud allowed to run off to this level, when another charge is added; this is continued until the mercury has absorbed sufficient gold or silver to make it stiff, thus impeding the rotatory motion of the cross, when the tub is emptied of slime and the amalgam taken out, cleaned and dried, and squeezed through a calf-skin bag and distilled; the distilled mercury always retaining a certain quantity of gold or silver, the retort broken and the silver taken out and melted. The amalgamation process as applied to silver had its primal demonstration on a large scale in Mexico, Chili, and Peru. Dr. Percy, in his Metallurgy of Gold and Silver, says that Bartolome Medina was generally admitted to be the inventor of the present "Patio process," having invented it in 1557 while a miner at Pachuca in Mexico; the authority for this statement being two documents, one, a report addressed to the Viceroy of Mexico, by Luis Berria de Montalvo, printed in the city of Mexico in 1643, and the other a memoir by Diaz de La Calle to Philip IV., printed in Madrid, 1646, both giving Medina the honour and credit of the invention. Dr. Percy then adds that this statement is not correct, as Don José Garces y Eguia, says that the first treatise on amalgamation as then conducted was that of Barba, published in Peru, 1639, the process being introduced into Peru by Don Pedro Fernandez de Velasco in 1571. Dr. Percy does not mention when the process was introduced into Mexico, but I have found by consulting the work before mentioned as in my possession, that the process was introduced into Mexico by the same person (Don Pedro de Velasco) five years before his introduction of it into Peru, namely, in 1566. Now, whether the Patio process was ever introduced into Mexico is a point that might be raised. The enormous amount of gold and silver that had been collected and stored by the Caciques that ruled the Aztecs, which was

found on the investiture of Mexico and Peru by the Spaniards, is a thing that is universally known and believed. Now as the Aztecs, or rather the Toltecs, whom the Aztecs subjected, were well advanced in the fine arts, is it too much to imagine that they were considerably advanced in metallurgical science, so far advanced as to enable them to have such a process? or how account for the enormous amount of metal that was in the country, as the present appearance and present existence of free metal in Mexico are not favorable to the theory that these metals were extracted by the Toltecs, and after them the Aztecs, from ore containing the metals in the free state? The objection may be made that for these ancient peoples to have had this process they must have mercury, to this the answer may be made that there are more deposits of mercurial ore in that country than is supposed, and these people would undoubtedly know how to reduce it, as at some of the localities it is found in the native or metallic state reduced by internal heat; but at the best this is merely a suggestion, and the existence of Vannocio Biringuccio's treatise which is identical in its principles with the Patio and published 26 years before the said introduction into America of the process is rather against it, and rather leads to the conclusion that it was long before known in Europe. It is unnecessary for me to describe *in extenso* the Patio process or Gallero process, as it is called in some parts of Mexico, as it has been exhaustively treated of by many metallurgists, among others Alonzo Barba, in his work published in 1639, and during this century by such as Philips and Dr. Percy; indeed, the section of Dr. Percy's work devoted to this process is the most complete extant. I might be allowed to add that there is an indiscriminate use made of the words *Arrastra* and *Tahona* by most authors in describing this process; arrastra is the name used when the motive power is given by mules harnessed to the arm, and tahona is used when the motive power is water—although when in Mexico three years ago I asked the name that was given to the arrastra which was in the Government mint at Guadalajara, and which was driven by steam, and was answered that it was an arrastra.

I might also say I noticed while in Mexico a thing which is not mentioned, at least I have failed to find it in any of the works at my command, and that was the use of men instead of horses in the Patio process. These men that tread the ore are called "Repasedors," and received four reales (4), about fifty cents Canadian or two shillings one penny (2s 1d) British, for every six (6) cargas (equal to (1800) eighteen hundred pounds avoirdupois) of ore which they amalgamated. Their motions are peculiar and indescribable, and require to be seen to be understood; the body is held erect, the right hand grasping a staff, or if a staff is not used to steady, the arms are swung in unison

with the movements of the legs, the legs are raised without bending the knee at an angle from the body, the toes turned out in descending, the heel striking the lamo first, and as the heel touches it the other leg is raised, in this way he proceeds all over his little lamero until it is finished. But notwithstanding all that has been said, there is a loss of the metal contained in the ore as well as the mercury, which is an expensive item; there is no doubt that during last century, especially towards the end, it (the Patio Process) was at its zenith in Mexico as a metallurgical process, which is borne testimony to by a report about that time by one Jose Acosta, who said that in Potosi alone seven thousand (7,000) quintals of mercury were used annually in dressing the ore, not to mention the mercury recovered from the first washing; but it has gradually lost ground since until it has been replaced at innumerable mines by other processes. In Mexico the cauldron or cazo process is one that has been used with much success. Without giving a description of it, it might be said that the apparatus instead of being as now a vessel formed either of blocks of stone or wooden staves like those of a tub, the bottom being a slab of copper 2½ inches in thickness, the metallic bottom retained the same as the head or bottom of a barrel being retained by a groove running round the interior of the vessel, the original cauldron, as invented by Alonzo Barba, was essentially "to be of copper pure, as any alloy present in the copper would involve the mercury taking it into solution; they must be in shape inverted cones and flat bottomed, the under part to have a rim of 6 or 8 inches high and half an inch broad, all beat of one piece; other plates of copper are fixed in the inside by copper nails, it must be water tight, the inside of the boiler to be lined with lime and ox-blood, the upper part surrounded by iron rings, to which is fixed a crossboard carrying at its centre a spindle with wings, which revolves, agitating the contents of the cauldron."

The cazo process or hot amalgamation was accidentally discovered by Alonzo Barba. When trying to fix mercury by boiling silver ore, mercury, and water, mixed in a copper dish, he found that he had a shorter method of amalgamation; he gradually improved on this and introduced it into practice in Peru, in which it was successful in its application to the treatment of chlorides, bromides and iodides of silver which are abundant in that country, and also the ores containing silver in the free state. It was introduced in the sixteenth century and has been in use ever since. There is no change in the process since it was invented, with the exception of the above mentioned replacement of the cauldron entirely made of copper for the one with merely a copper bottom; indeed it was averred by Barba that nothing but a cazo of solid copper would do, but the great corrosion of the copper and the consequent expense

led to the adoption of the present form; with the exception of the above mentioned change the process is identical as first practised.

In 1588 Don Juan De Corduba, a Spaniard, applied to the court of Vienna proposing "to extract silver from its ore whether poor or rich by mercury, and in a short space of time." He made several experiments on a small scale on several kinds of ore which succeeded very well, but on attempting with (20) twenty quintals he failed, and one Lazarus Erker, who was employed to give in a report on the process, disapproved of the method and here it dropped. Baron Inigo Born imputed the failure to his ore not being calcined, his not using salt and the weather being cold. A writer of that period adds to an account of this failure that "Corduba could have remedied the last cause of failure, namely, the cold weather," and I believe he could. The Tintin process-as practised in Chili was really a modification of the "streaming for gold" process, and though not generally known was invented by a Franciscan Friar; it was applicable only to ores containing free metal, the apparatus being a stone mortar nine (9") inches deep and 9" wide; the ore being ground along with mercury in it by an iron pestle; the metal contained in the overflow being caught and settled in tanks, afterwards to be treated by the Patio process. This was in use from the sixteenth century in Chili and Peru. The Trapiche and Maray were likewise a modification of the "streaming for gold" process, and some give Barba the credit of having invented them, although I believe he does not claim the honour. The Trapiche is the modern Chilian mill; both have been in use since the sixteenth century.

"The Tina System," or "Sistema de Cooper," as practised in Chili is really a modification of the old abandoned Norwegian process, which I before mentioned, and from about 1825 has been used very extensively and successfully, although only applicable to ores containing free metal. The machinery is greatly improved over the old Norwegian.

Stove amalgamation as practised in Mexico is merely a modification of the Patio, in which the regular process is interrupted in the middle, the ore being conveyed to an estufa or stove, where it is gently heated for two or three days when the Patio process is resumed.

During last century Baron Inigo Du Born succeeded, notwithstanding obstacles thrown in his way, in introducing his amalgamating process at Chemnitz, in Lower Hungary. The process consisted in first stamping the ore dry to a coarse sand (Du Born remarking that "wet stamping would bring on great loss of silver and expensive contrivances to prevent or recover it"). The battery consisted of three stamps to each mortar, the sole or bottom alone being cast iron, each stamp-head weighing

40 to 54 pounds. The stamping is proceeded with, the ore being damped from time to time to prevent loss by ejection; the ore is then passed through brass sieves, and that portion coarser than sand is returned to the stamps. It is then conveyed to a mill, the running stone of which is kept in a box and nothing but the admission funnel being left open. The mill stones were made of porphyry. The ore being ground fine enough was taken to the furnace to be roasted. The furnaces apparently were modified, double-hearthed reverbatories as far as I can gather from the description. When the furnace was at the proper temperature, about 30 quintals was spread evenly over the hearth and the required amount of salt and lime—the amount required being previously determined by assay—was spread over, then the whole turned with crooks and rakes until thoroughly mixed; the process then proceeded as calcination in double-hearth roasting furnaces of to-day. If during the calcination the material clagged, grinding and sifting were again resorted to. The ore was then, if properly calcined, conveyed to the boilers or amalgamators constructed according to the "recommendation" of Alonzo Barba, the stirring apparatus being put in motion by the crank of a water wheel and a horizontal rack with cogs, which being properly fixed in a groove by cross-bars, slid backwards and forwards on brass rollers and casters, the cogs of the rack catching in the perpendicular trundle and spindle of the stirrers which turned round twice by a three and a half (3½ ft.) foot motion of the sliding rack. The stirrers were circular segments corresponding with the sides and bottom of the boiler. The ore was mixed with sufficient water to make it fluid and the amount of mercury required being gauged from appearance; if the ore was light and voluminous more mercury was required than if it was heavy and compact, the presence of antimony or lead in the ore necessitating an excess of mercury to provide for the neutralizing effect of these metals on the mercury. The residuum or tailings were then washed in tubs provided with stirrers. The amalgam was then freed from excess of mercury by compressing small portions in the hand at a time, as the deerskin was considered too expensive a process. The distillation was then performed "per descensum" in iron pots; the under one standing up to the middle in cold running water, which passed under the hearth, the upper part appearing about two (2") inches above it. The amalgam made into balls and placed in an iron cullender fixed to an iron tripod was set in the bottom pot, covered on the inside with a coarse cloth. The upper pot was then inverted on the lower one and luted; fire then being put about it the mercury was sublimed and condensed in the bottom pot kept cool by the water; a strong red heat being kept up

for five or six (5 or 6) hours, the cloth is converted into a tinder and afterwards scraped off the cullender by a brass brush.

In 1790 the "Freiberg," or "Barrel. process," of amalgamation was introduced at Halsbrücke, near Freiberg, in Germany. The ore contained, beside the silver, antimony, arsenic, copper, lead, iron, and zinc, and sometimes gold, bismuth, nickel and cobalt; in small quantities the silver varied all the way from 15 to 200 ounces per ton, these were mixed to make an average of 75 to 80 ounces per ton; latterly the rich and poor were kept separate, as it was found to be more economical to do so. It was required at least that 25 per cent. of iron pyrites be contained in the ore. If the amount contained in the ore was less than this, addition was made either of pyrites or sulphate of iron, when the pyrites or other sulphides were in excess, the roasting was resorted to to get rid of it, as in the other processes. The ore was roasted in a state of fine division with salt, the oxidation of the pyrites causing the evolution of chlorine and hydrochloric gases, which coming in contact with silver sulphides and other salts of that metal, converts them into chloride; the ore was ultimately amalgamated in revolving barrels: a minute description of this process may be found in any of the standard works on metallurgy. This process was abandoned at Halsbrücke, in 1856, on account of its expensiveness and its unsatisfactory results when applied to certain classes of ore. Over half a century had changed the relationship existing between the prices of labour and fuel; so that it was found to be advantageous to give up the amalgamation process and smelt the ores with others containing lead. This process has also been in use to a certain extent in the United States and also in Mexico. The amalgamation process employed at the Mansfield Copper Works to obtain the silver contained in copper matter was similar to this, but has since been abandoned for Ziervogel's process.

In 1859 the Washoe or Pan process was invented to treat successfully the ores of the great Comstock lode, situated at Virginia City in the Washoe District, State of Nevada. It received the name "Washoe" from its first being introduced in this district. It really owed its invention to the failure of both the Barrel and Patio processes, as both from metallurgical and climatological conditions these processes were unsuited for and proved a failure in the attempts made to apply them to the ore, which contained from $30 to $150 per ton of 2,000 lbs., besides zinc blende, galena, argentite, iron and copper pyrites, and sometimes stephanite and polybasite. The gold occurring to the amount of one-third of the total value of the ore, one portion of the ore only could be treated by the Barrel amalgamation process, and this was that portion

which assayed above $150 per ton; all the rest of the ore below this being treated by the Washoe process. In this process the ore is ground wet in stamp mills; after having been reduced to a suitable size for feeding, the ore passes off in suspension in water through sheet-iron screens and is collected in reservoirs from which it is removed to the pans to be ground with mercury and hot water, with or without the addition of cupric sulphate and common salt—the amount of this used varying in different works but generally consisting of from one to three pounds—to each charge of ore which consists in the old pans—those of Varney, Wheeler, Hepburn and Peterson—of 1,200 to 15,000 lbs. of ore, but in the later and larger pans—those, for instance of McCone and Mountain —the charge is 4,000 to 5,000 lbs. The description of this process and the machinery employed in it have been so voluminously treated of that it would be superfluous for me to again describe it. Suffice it to say that the benefit of the "chemicals" is doubted by some and the real action of them is not understood. As far as the conducting of the live steam into the pulp is concerned, either loose or in the shallow chamber, it appears to me that its principal effect and value is that it keeps to a certain extent the mercury from flouring. The Boss continuous process, patented by Mr. Boss of United States, is a modification of this process, in which a series of pans are employed, into which the pulp passes, instead of it passing directly into the separators.

Although amalgamation of gold ores was effected in the streaming mills, arrastras and Chilian mills for centuries, it was not until this century that amalgamation was effected in the batteries of stamp mills, and at the present time the greatest portion of the gold ores are treated in this way, amalgamation being effected by the mercury added and the amalgamated copper plates fixed to the inside of the mortar boxes or caught on the amalgamated apron riffles of the sluices. A great many contrivances have been invented for the tailings besides the amalgamated rifles; blankets, sluices were used, and also various jiggers, buddles, vanners, etc., for concentrating these tailings, which are afterwards treated in such machines as the Attwood amalgamator, the Eureka rubber pans, the Hungarian mill (which was used at Chemnitz and other localities), and various other inventions. Stamps themselves date far back as grinding mills, though not so as amalgamators. Various mills of late years have been invented as direct amalgamators, notable among which is the Crawford mill. This mill consists of a pan or basin of cast iron supported on four iron uprights, which are attached at the bottom to a circular iron frame which forms the base. The bottom of the pan or basin is elevated at its centre and gradually slopes to the sides; a little over half-way to the sides the bottom suddenly is depressed,

thus forming an annular groove round the outer edge of the bottom of the basin. Through the centre of the bottom of the pan or basin, where there is an opening, a short upright piece of shafting passes, which fits at the bottom into a journal in the centre of the base. After passing through the opening in the bottom of pan, it is attached at its top extremity to a false bottom, which fits upon the true bottom, almost completely covering the above-mentioned groove, leaving only a small space open communicating with the upper part. The sides of this false bottom, as also the sides of the pan at the same level, have steel castings attached to them. On the area formed by the steel castings, which form also a groove which forms a half circle and a complete ring round the pan, balls of iron are placed which revolve when the false bottom, which is attached to the upright shaft, is set in motion by gearing attached to the shaft between the bottom of pan and base of stand; over the pan is bolted a dome, which at its apex continues perpendicular to form a pipe, round which near its top is a circular stage with a spout; inside this "pipe" fits a second, whose mouth is expanded to a filler; the bottom extends down further than the commencement of the apex of the dome to almost the level of the tops of the balls; this acts as the hopper through which the ore is fed. To the bottom, at one side of the first-mentioned annular groove, is attached a mercury pipe, through which the mercury is fed to the mill; a water pipe enters at that part of the centre of the bottom where the upright shaft, bearing the gearing for driving, enters; an oil supply pipe also supplies oil to the bearing of the shaft as it enters the bottom of pan.

The ore is fed by the hopper and is ground by the circular motion of bottom and balls to one hundred to two hundred (100 to 200) mesh. The first-mentioned annular groove, is filled with mercury, into which the finely divided gold gravitates through the water; the matrix and other minerals being finely divided and having a less specific gravity than gold are forced up and carried off by the water, the water passing off by the opening formed by the pipe of the hopper and the continuation pipe of the dome, it rises through this space, falls over on the circular stage and flows away by the spout; the water enters with a considerable upward pressure, which keeps everything but the gold from reaching the mercury, this pressure is exhausted by the lateral sweep of the balls and expansion in the wide dome. The mill is claimed to be able to treat any and every ore of gold, arsenical, pyritical, antimonial or the most refractory ore and save over (90%) ninety per cent., requiring less power than "stamps," and one-fourth (¼) less water, and one very good thing about it, I think, is that the tube by which the amalgam is drawn off is securely

padlocked, thus preventing the stealing of amalgam, which, as we are all too well aware, has been practised too often in the past.

Thus the amalgamation process stands to-day the result of development from the old "streaming for gold" mill to the stamp mills, and mills of Crawford type; from the process of Vanoccio Biringuccio to the Patio, Barrel or Freiberg, and Pan or Washoe process. The use of chemicals seems to have received a fair share of consideration, although we are a little startled by the statement made in an anonymous Latin account of amalgamation similar to the Patio in which ground horns, bricks, and sulphur are added to the usual complement of chemicals, and said to have been practised in Guatemala by the writer; the sulphur astonishes us when we know the dire results of its coming in contact with either the gold or mercury in the amalgamation process. The applications in November, 1864, by Dr. Wurtz, of New York, and in February, 1865, by Mr. Crookes, F.R.S., of London, for the patent for the use of sodium amalgam in the amalgamation process, Wurtz for America, and Crookes for Britain, revealed the fact that both had been experimenting on the same principle for the benefit of science without the knowledge of the other. This is at least one point of general interest in the amalgamation process; but although extensively tried both in California and Australia, the results obtained differed greatly, and it was not used as much as had been expected, although up to the present it has its partisans, and to a certain extent, it had a beneficial influence. I have noticed that mill men prefer mercury that has been formerly used which is known to contain gold or silver amalgam, as it is supposed to be more effective in absorbing the metals than the clean mercury. The amalgamation process, according to some, has reached its zenith; whether this is so or not is hard to say, whether more brilliant inventions and discoveries will be made in the application of the amalgamation process remains to be seen. Time alone will tell. One thing is apparent to all, namely, that other chemical processes are gradually gaining ground and recognition, although our dear old friend is holding the ground bravely, and it may be said in conclusion that it can look back at its past and honorable history, as a nobleman looks back over his long line of descent, and may treat with scorn the upstart claimants of a day for the honorable position of the Amalgamation Process in Metallurgy.

NOTE.—A number of attempts have been made to apply electricity in the amalgamation process by means of sending electric currents through amalgamated rifles, terraces and aprons; noticeable among others was the machine invented by one Charles M. Dobson in 1887, in Toronto,

considerable notice of which was taken and a full description given by the journals of that date. The electricity was applied in this machine by means of a carbon shod diaphragm, which moved backwards or forwards over the surface of amalgamated copper plates, the electricity being supplied by a small dynamo. The advantages claimed for this invention were that the electricity as conducted by the carbon shoes kept the surface of the mercury clean and bright, volatilizing any sulphur or arsenic which came in contact with it and agitating any other metallic constituent present, thus keeping them from coming in contact with the mercury and allowing the gold and silver the full benefit of the pure mercury. No further comment is required on this subject, further than that these inventions enjoyed existence for a very short time.