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TO THE REPORT OF THE

MINISTER OF EDUCATION
ONTARIO.

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ARCHÆOLOGICAL REPORT.

To the Honorable G. W. Ross, LL.D., M.P.P., Minister of Education:

SIR,—The material in the Ontario Archæological Museum is now so generally representative in character (although still far from being complete), that anxiety need no longer exist to procure specimens, unless such as may possess peculiar value as types, or come from some new locality, or are needful for purposes of comparison.

On this account more time may hereafter be devoted to the examination of places for the purpose of recording all available information relative to the occupancy and distribution of peoples, and the marks by means of which their limits may be determined, apart wholly from any possible or probable return in the shape of relics, although the bringing together of good specimens should not be overlooked.

The work of the past season was signalized by the identification of the principal earthwork on Mizang's Point, Otonabee, as a serpent mound, the only one known in Canada, as it is perhaps the only effigy mound of any kind, and it is not displeasing that we should thus be enabled to mark in Ontario, the last year of the first hundred that have elapsed since the birth of Pre-Historic Archæology at Hoxne, in Suffolk, England.

One of Europe's most distinguished anthropologists wrote a few years since, "The master-key to the investigation of man's primæval condition is held by Pre-historic Archæology." The statement is as true now as it was then. Every day the subject attracts more and more attention.

Interest in Ontario has very much increased, and it is safe to say that there are now a hundred intelligent thinkers on this subject where not long ago there was scarcely one.

The removal of the Museum to the Educational Department should render the collection more popular, and add to its value as an important educational factor, failing which, any museum is worse than useless.

I have the honor to be,

Yours respectfully,

DAVID BOYLE.

ACKNOWLEDGEMENTS.

For donations and courtesies of various kinds, thanks are tendered to Messrs. H. T. Strickland and G. W. Hatton, Peterboro'; Adam Whetung, Indian Village, Chemong Lake ; Dr. J. M. Shaw, Dr. W. T. Harrison, Messrs. James Miller, Robert Borland, Thomas Borland, Thos. Wallace, J. A. McIntyre, Archibald Weir, and Mrs. W. Foley, Keene ; Messrs. F. Birdsall and Adam Humphrey, Birdsall ; Messrs. John Preston, J. H. Scriver, and Dr. Coghlun, Hastings ; Thos. Blezard, M.P.P., Villiers ; Pashageezhik, Alderville ; Mrs. James Houghtailing, Alnwick ; Squire Thomson, Hiawatha : Mr. George Braithwaite, Gore's Landing ; Messrs. Aaron Main, James Hay and J. Humphrey, Beverly ; Dr. James McDermott, and Messrs. E. Richardson and James Tocher, Sunderland ; Messrs. Geo. E. Laidlaw, James Laidlaw and M. Irwin, Bexley ; Mr. A. F. Hunter, B.A., and Dr. Addison, Barrie ; Mr. Henry Smith, New Hamburg ; Mr. Chadd, Weller's Bay ; Mr. E. B. Biggar, Toronto ; Dr. Hamilton, Parkdale ; Mr. Alfred Willson, Toronto ; Dr. G. S. Schwalbe, Strasburg, Germany ; Dr. T. W. Beeman, Perth ; Dr. S. H. Collins, Lawrenceburg, Ind. ; Mr. James L. Hughes, P. S. I., Toronto ; Prof. C. C. Willoughby, Cambridge, Mass. ; Mr. Wm. A. Brodie, Bethesda ; Rev. Joseph Annand, M.A., Santo, New Hebrides ; Messrs. David Martin, Robert Martin and Jonathan Ashbridge, Scarboro ; Peter Campbell, Duntroon, and Prof. Clarence B. Moore, Philadelphia, U. S.

ADDITIONS TO THE MUSEUM.

515 copper beads from mounds on Sugar Island, Rice Lake, Otonabee Township.

300 shell beads (*marginella conoidalis*), Otonabee Township.

865 " wampum disks, Otonabee Township.

1 double-ended copper axe, three and a quarter pounds, Otonabee Township.

1 gorget of "Mexican onyx," Otonabee Township.

1 half of gorget, " " "

2 stone axes or celts, " " "

3 bone tools, " " "

2 horn tools, " " "

6 skulls, " " "

10 skulls, mounds on north shore of Rice Lake.

1 large turtle-shaped (*busycyon*) gorget. The only engraved shell in the museum. Mound No. 2, Miller's farm, Hiawatha, Otonabee.

Several fragments of large conchs, " " "

2 halves of bone harpoons " " "

1 half of a slate gorget, " " "

2 stone axes, " " "

2 horn tools, mound No. 1, " " "

1 bone arrow or knife, mound No. 1, " " "

1 stone pendant, centre mound, Preston's farm, Asphodel Township, Trent River.

1 shell (*unio*) scraper, lot 8, concession 8, Beverly Township.

12 shell beads (*marginella conoidalis*), Bald Head, Weller's Bay, Prince Edward County.

1 piece of Huronian slate in course of preparation for a gorget. H. Mayor's farm, Innisfil Township, Simcoe County.

1 large mealing-stone, Hatrick's Point, Otonabee, Rice Lake.

1 large mealing-stone, Birdsall's Bay, Rice Lake.

1 large mealing-stone, near Troy, Wentworth County.

1 small mealing-stone, Mizang's Point, Rice Lake.

1 large mealing-stone, " "

70 miscellaneous specimens from shore and islands, Rice Lake.

DR. JAMES McDERMOTT, SUNDERLAND.

1 turtle-shaped (limestone) pipe, found near Sunderland, and not far from the Tocher embankment, Brock Township, Ontario County.

1 perfect, plain clay pipe, Brock Township.

1 imperfect, square-mouthed clay pipe, Brock Township.

JAS. L. HUGHES, PUBLIC SCHOOL INSPECTOR, TORONTO.

1 turtle shaped (soapstone) pipe, Darlington Township, Durham County.

1 good clay pipe, with human figure facing the stem. Has been broken and repaired. Ball's Point, Lake Scugog, Ontario.

3 imperfect clay pipes from the same locality.

5 flints from various places in Durham County.

1 fragment of well-marked pottery. Ball's Point, Lake Scugog.

JOHN A. MCINTYRE, OTONABEE.

1 stone pipe (dusky white soapstone) of the platform variety. Base much diminished. Pipe shows marks of long use and wear. Lot 15, concession A (W. $\frac{1}{2}$), Otonabee.

1 very good flint from the same farm.

JOHNSON PAUDUSH, HIAWATHA.

1 bird amulet, Oneida, Middlesex County.

HENRY SMITH, NEW HAMBURG.

2 bird amulets (casts), Oxford County.

1 bar amulet (cast), Oxford County.

AARON MAIN, BEVERLY.

1 shell (busycon) drinking cup. (This vessel was made by taking out the interior portion of the shell and leaving only the outer wall), lot 8, concession 5, Beverly, Wentworth County.

6 skulls from ossuary, lot 8, concession 8, Beverly.

JAS. HAY, TEACHER, SHEFFIELD.

1 skull from ossuary, lot 8, concession 8, Beverly.

J. HUMPHREY, TROY.

1 skull from the Main ossuary, Beverly.

MRS. WM. FOLEY, OTONABEE.

1 stone adze, lot 12, concession 9, Otonabee.

H. T. STRICKLAND, PETERBORO' CITY.

1 stone gouge, Stony Lake, Douro Township.

1 double-ended celt, Stony Lake, Douro Township.

ARCHIBALD WEIR, OTONABEE.

2 stone gouges, Otonabee Township.

1 simple form of celt from naturally shaped stone, Otonabee Township.

THOMAS WALLACE, OTONABEE.

1 stone gouge, lot 9 concession 7, Otonabee Township.

ROBERT BORLAND, OTONABEE.

1 copper spear or knife, lot 13, concession 2, Otonabee.

THOMAS BORLAND, OTONABEE.

1 large stone gouge, lot 13, concession 2, Otonabee.

THOMAS BLEZARD, M.P.P., OTONABEE.

1 stone chisel, lot 20, concession 2, Otonabee.

P. QUINN, OTONABEE.

1 copper axe, found on field adjoining the Serpent Mound on Mizang's Point.

1 semi-circular slate, (woman's knife).

E. B. BIGGAR, TORONTO.

1 grooved axe, (Micmac), New Brunswick.

DR. S. H. COLLINS, LAWRENCEBURG, INDIANA.

1 celt made from water-worn stone, grooved to form a means of handle attachment, Kentucky.

1 large meal-ing-stone with two oval cavities, from farm of Mr. Hayes, near Lawrenceburg, Indiana. Very fine specimen.

DR. C. S. HAMILTON, PARKDALE, TORONTO.

1 square-sided celt, Durham County.

GEORGE BRAITHWAITE, GORE'S LANDING.

1 slightly grooved adze, with ridges above and below the groove, Hamilton Township.

THOMAS THOMSON, OTONABEE.

1 small bone specimen, having a resemblance to a whistle, Block A, Indian Reserve, Hiawatha, Otonabee.

DR. G. S. SCHWALBE, STRASBURG, GERMANY.

6 recent European skulls.

6 mummy heads from tombs near Thebes, Egypt.

MRS. JAMES HOUGHTAILING, ALNWICK.

1 long bone awl or needle.

ALLAN COMEGO, ALDERVILLE.

2 rice threshing sticks.

DR. T. W. BEEMAN, PERTH.

1 stone gouge, Rideau Lake, Lanark, Ontario.

2 unfinished pipes of soapstone, roughly blocked out. In one the boring has been begun to make a stem-hole.

2 worked pieces of soapstone, perhaps in preparation for small pipes.

1 hematite celt. This is the only specimen made of this material in the Museum, that has been found in Ontario.

103 flints, fragments of pottery, rubbing stones, etc., all from the County of Lanark, Ont.

REV. D. B. MACDONALD, BENDALE.

1 remarkably singular clay pipe, lot 5, concession 1, Scarboro.

ALFRED WILLSON, TORONTO.

1 very fine bird amulet, Thedford, Lambton County.

1 fragment of bar amulet, showing section of diagonal hole, Bosanquet, Lambton County.

1 bone case, made from part of a large rib, and engraved on both sides, Bosanquet Township, Lambton County. See figure following.

PROF. C. C. WILLOUGHBY, CAMBRIDGE, MASS.

1 cast of the Neanderthal skull.

HENRY MERRIAM, HARWOOD.

14 celts, mostly of rude form, Hamilton Township, Northumberland County.

1 small chisel, Hamilton Township, Northumberland County.

1 roughly made hammer-stone, " "

1 small unfinished tablet, " "

1 broken tablet, " "

1 broken bird amulet, " "

2 flints, " "

2 soapstone pipes, " "

ADAM HUMPHREY, BIRDSALL.

1 mealing-stone, Cameron's Point, Asphodel Township.

————— ?

1 large mealing-stone, Troy Wentworth County.

JONATHAN ASHBRIDGE, SCARBORO'.

1 skull from grave on lot 26, concession B, Scarboro.

WM. A. BRODIE, BETAESDA.

- 1 excellent human mask from a clay pipe bowl.
- 1 grotesquely formed (human figure) clay pipe bowl.
- 1 imperfect bird-form from bowl of clay pipe.
- 1 flattened (vase-form) imperfect soap-stone pipe.
- 1 small human face on fragment of pottery.
- 1 small human figure, rudely carved in soapstone—an inch and five-eighths long. See figure following.
- 1 oddly shaped and rudely made stone pipe.
- 1 small slate bead, badly bored.
- 1 copper arrow, $2\frac{1}{2}$ inches in length.
- 10 bone beads from $\frac{5}{8}$ to $2\frac{7}{8}$ inches long.
- 2 shell beads—shells simply perforated.
- 1 small, bead-like tube of iron, perhaps a concretionary form.
- 3 bears' teeth—from grave.
- 1 small stone used as a sharpener, probably for bone awls.
- 11 imperfect bone awls.
- 2 flint scrapers.
- 1 small stone chisel.
- 1 very small stone chisel.
- 1 upper portion of clay pipe bowl, ground smooth to remove marks of fracture and form a coarse ring.
- 2 roughly made clay disks from fragments of pottery.
- Numerous celts, hammer-stones and fragments of pottery, horn, bone, and shell.

PROF. CLARENCE B. MOORE, PHILADELPHIA.

Several cinerary clay urns from Georgia sea islands. These urns were found in mounds, and contained the cremated remains of infants. The vessels are in a fragmentary condition, but with some care and time may be restored.

A. F. HUNTER, M.A., BARRIE.

- 1 grotesquely modelled black clay pipe, bearing human face, farm of Mr. Jas. Davis, Oro township, Simcoe county.
- 1 gorget (slate), Scott form, Vespra township, Simcoe county.
- 1 bone needle, from farm of Mr. Neil McNevin, Oro township Simcoe county.

GEORGE MONKMAN, BARRIE.

- 1 small and very beautifully made, bone scoop or gouge, from farm of Mr. Wm. Roadhouse, Albion township, Peel county.

REV. JOSEPH ANNAND, M.A., NEW HEBRIDES.

Mr. Annand, the well known Presbyterian missionary of Santo, New Hebrides, writes. "In August, having spent a few days in voyaging around this island looking for eligible openings for the settlement of missionaries, I was fortunate enough to get a few things for your museum, which, for purposes of comparison, may prove useful. They are now packed and ready for shipment by the "Dayspring" when she sails for Sydney early next month (November). I will instruct our agent (the Rev. James Cosh, D.D.,) to forward the box to you by the Huddart-Parker line to Vancouver, thence by the Canadian Pacific Railway to Toronto.

I am sorry that my collection is so small and unsatisfactory, but I have done what I could, and I trust that even these few things may prove of interest to you and others. Most of the things are marked so that you can see to what use they have been put, also, a reference to the manner of production is added.

The only expense connected with these things that the museum is expected to bear, is the cost of transport from Sydney, home. The cost of goods here I cheerfully contribute to the museum, in the success of which ethnologically, I am deeply interested.

Yours faithfully,

J. ANNAND.

- 3 stone axes.
- 4 chisels and adzes.
- 1 three-pronged Santo spear made from human bone.
- 2 single-pronged Santo spears made with wooden points.
- 1 wooden spear.
- 2 "pudding" dishes.
- 2 "pudding" pounders.
- 1 Santo bow, with assorted arrows.
- 1 Malekula bow with arrows.
- 1 Eromangan bow with arrows.
- 1 Ngunu club, (for war purposes.)
- 1 Epi club, (for war purposes.)
- 4 Santo war clubs of different kinds.
- 1 figure-head of a canoe, representing a man.
- 1 bamboo staff.
- 1 Santo mouth-organ.
- 2 pandanus-leaf Oba mats.
- 1 pandanus-leaf Santa basket.
- 2 pandanus-leaf Futuma basket.
- 1 Ngunu breast-plate.
- 4 boar's tusks (use explained on label).
- 1 belt made of bark.
- 1 belt made of twine.

- 1 Kava cup.
- 2 Kava plates.
- 1 Kava spoon.
- 1 East Santo dress, with block and beads, etc.
- 1 Santo cocoanut milk-dish.
- 1 Santo clay pot.
- 2 strings of native beads (shell).
- 2 combs.
- A bundle of arrows.
- 2 sticks with which fire has been made—to show method of making fire.
- 1 piece of sleeping mat from Efate.
- 1 very old 'pudding' dish from Malo—made with the old stone and shell instruments."

[The example of the Rev. Mr. Annand is commended to Canadian missionaries and business men elsewhere. We desire especially to procure specimens to illustrate religious life, and the domestic life of women and children. Contributions should be accompanied by copious notes respecting the manufacture and use of each object.]

GEORGE E. LAIDLAW.

3 large mealing stones, Bexley Township, Victoria County.	
4 stone gouges, Bexley Township,	"
1 cylindrical hammer stone, Bexley Township,	"
1 long stone chisel, Bexley Township,	"
1 pestle-like stone, Bexley Township,	"
19 celts and chisels, Bexley Township,	"
1 celt, highly polished, perhaps jadeite,	"
1 slick stone, Bexley Township,	"
3 pieces of graphite, from village sites,	"
1 celt of hematite, not polished, Bexley Township,	"
1 degraded tablet, Bexley Township,	"
1 roughly blocked-out tool, Bexley Township,	"
1 partly worked slate pebble, Bexley Township,	"
4 small rubbing stones, Bexley Township,	"
1 brass tomahawk pipe, pattern chisel, Bexley,	"
1 ghost arrow of brass, Bexley Township,	"
1 trader's clay pipe, Bexley Township,	"
1 piece of worked red slate, Bexley Township	"
1 unfinished tool of Huronian slate, Bexley,	"
1 blocked out soapstone pipe, Bexley Township,	"
1 worked (small) piece of soapstone. Bexley,	"
1 quartz drill, Bexley Township,	"
1 quartz arrow head, Bexley Township,	"

		Victoria County.
7	flints, Bexley Township,	“
1	flint scraper, Bexley Township,	“
1	flint spear or knife, Bexley Township,	“
2	woman's (slate) knives, Bexter Township,	“
24	small stone disks, Bexley Township,	“
19	Small clay disks, Bexley Township,	“
2	stone beads, Bexley Township,	“
1	circular piece of baked clay, Bexley Township,	“
1	white soapstone pipe, Bexley Township,	“
1	soapstone pipe—human figure seated, Bexley,	“
1	soapstone vase-shaped pipe, Bexley Township,	“
1	small stone pipe, Bexley Township,	“
1	pipe, woodpecker figure, Bexley Township,	“
1	double-faced clay pipe, Bexley Township,	“
3	human faced pipes, Bexley Township,	“
2	square-mouthed clay pipes, Bexley Township,	“
1	flat bottomed clay pipes, Bexley Township,	“
20	imperfect clay pipes, Bexley Township,	“
3	pipe-stems and numerous fragments showing cord-marks in the holes, Bexley Township.	
13	miscellaneous fragments of quartz, etc., Bexley Township, Victoria County.	
1	pear-shaped slate pendant, Bexley Township, Victoria County.	
5	bone beads,	“
1	bone bangle—fish head ?	“
1	worked piece of bone,	“
1	bone bangle—numerous holes,	“
1	wolf's tooth, bored,	“
2	wolf teeth unbored, from grave,	“
1	bear's tooth, ground smooth at point,	“
2	long bone beads,	“
2	horn arrow-tips(?)	“
19	bone awls or needles,	“
1	horn club-spike (?)	“
1	bone club-spike (?) unfinished,	“
1	piece of deer-horn, worked,	“
1	deer foot bone, worked,	“
2	shell disks,	“
8	dog-whelk beads,	“
3	bored mussel shells,	“
3	worked mussel shells,	“
1	small, black, roughly oblong, but slightly tapering piece of argillite, $\frac{3}{8}$ inch thick, and deeply hollowed on both sides, evidently used in sharpening tools.	

- 1 small, grey, syenite, hammer-stone.
- 2 small pieces of hematite, oxydised to a very bright red,
- 2 perforated stone disks $1\frac{1}{2}$ inch in diameter and $\frac{1}{2}$ an inch thick.
- 2 unbored stone disks—one a naturally water-worn pebble.
- 1 small piece of worked soapstone, rubbed considerably on one edge.
- 1 piece (4 inches) of a long clay pipe stem. May have been at least an inch longer.
- 1 fragment of clay pipe showing a well-made human face.
- 1 small, imperfect oval hematite ornament.
- 1 half of a semi-circular slate knife
- 1 shell bead.
- 1 wolf-like stone pipe, Bexley Township, Victoria County.

PETER CAMPBELL, DUNTROON.

- 5 stone pipes, Nottawasaga, Simcoe County.
- 3 clay pipes, " "
- Several stone beads, " "

BY PURCHASE.

- 14 choice flints from various places in the United States.
- 11 quartz arrow-heads from Georgia.
- 12 flints, Baby Farm, York Township.
- 24 flints from various places in Ontario.
- 1 obsidian arrow-head, California.
- 10 small arrow-tips, Oregon, U.S.
- 1 bone bead used as a tally, Wentworth County, Ontario.
- 3 bone awls, York County, Ontario.
- 2 horn tips, showing marks of work, York County, Ontario.
- 1 small oval shell ornament, apparently made from a quahog.
- 3 clay pipe-heads, plain and slightly ornamented.
- 1 clay pipe-head with strongly marked human face.
- 1 North-west pipe-head inlaid with lead and catlinite.
- 1 North-west pipe-head, on which has been carved a long-tailed quadruped, the head of which is broken.
- 1 large clay pipe, Udora, Ont.
- 1 bird amulet, Quinn Farm, Dufferin Street, N.W. corner of Toronto.
- 7 pieces of discoidal wampum.
- 2 women's (slate) knives, Bowes' Farm, Oakwood, Ontario.
- 10 bone, shell and glass beads, Baby Farm, Lambton, near Toronto.
- 1 large gouge, Clayburn Farm, Albion Township, Ontario.
- 1 small gouge, very finely made, York Township, Ontario.
- 1 grooved stone hammer, Minnedosa, Manitoba.

1 stone chisel, Quinn Farm, Dufferin Street, near Toronto.
 1 stone adze, plain, Chester, near Toronto.
 8 small celts from various places in Ontario, from Dr. Rear.
 8 photographs illustrative of the Sun Dance near Battleford in 1895, Mrs. G. Moodie, N.W.T.
 1 Iroquois dance-mask, formerly owned by Chief Crow. Miss E. Pauline Johnson, Brantford.
 Total additions this year, 2,500.

MOUNDS.

There is apparently no more fascinating belief than that which attributes the construction of our American mounds to a semi-civilized and peacefully disposed race, which was ruthlessly exterminated by the savage Indian. It is a poetic belief. It affords material for homilies on "man's inhumanity to man," and those who are fond of repeating the silly saying that "history repeats itself," find here a new-world parallel to numerous old-world events. It gratifies the *survivals* among us who deplore the departure of "the good old times," and affect to regard, with deepest grief, present-day degeneracy. It appeals to man's mythologic sense very powerfully; and it pleases people who are morbidly minded to picture to themselves the awful horrors that must have been inflicted on the poor, industrious, and happy mound-builder, whose reeking scalp was torn from his head by bloodthirsty human fiends, who also destroyed houses, farms and gardens, and drove away herds of domestic cattle!

Squier and Davis thought the mound-builders were connected with the "semi-civilized nations which formerly had their seats among the Sierras of Mexico, and upon the plains of Central America and Peru." Sir Daniel Wilson thought the Aztecs on their way south [south, whence?] constructed the mounds. Short, in his North "Americans of Antiquity," thinks the Toltecs built them. (Dr. Brinton doubts that there ever was a *people* called Toltecs.) Sir Wm. Dawson believes that some who were called Tallegwi were the mound-makers; General Thruston connects them with the ancient Mexicans; Morgan thought they were akin to the Pueblo Indians, but even the names of authors need not be mentioned by whom the mounds have been ascribed to the Phoenicians, Jews, and Egyptians!

Perhaps the poet Bryant has had as much to do as any writer in perpetuating a belief in the high-class mound-builder. His beautiful poem has found its way into numerous school readers, has been spouted ten thousand times at "receptions" and "examinations," and is fully accepted by the reciters, by their parents, by all the members of their families, and by those who have sorrowfully, almost tearfully, listened to the pathetic verses.

It seems vain to explain that the mound-makers could not have had cattle, that they knew not how to temper copper, that in mechanical



FIG. 1.—OTONABEE SERPENT MOUND. EGG MOUND TO LEFT. SERPENT'S TAIL TO EXTREME RIGHT.

Photo. by DR. W. T. HARRISON, Keene.

skill they were not superior to Indians as we know them, and that a similar statement may be made regarding them as tillers, that morally and socially they do appear to have been a superior people, and that they did not possess at all an elevated kind of religion.

It is probable that the majority of those who entertain so much reverence for the mound-builders, and corresponding regret for their disappearance, will die in the faith, and indeed it seems a pity to deprive them of what yields so much comfort.

Recent writers like Sir John Lubbock, and Dr. W. H. Dall, hold the opinion that the mound-makers were simply Indians. Dall says they "were the immediate predecessors in blood and culture of the Indians described by De Soto's chronicler and other early explorers—the Indians who inhabited the region of the mounds at the time of their discovery by civilized man." Schoolcraft, for a wonder, took this view. Major J. W. Powell, Director of the United States Bureau of Ethnology, says: "For more than a century the ghosts of a vanished nation have ambuscaded in the vast solitudes of the continent, and the forest-covered mounds have been usually regarded as the mysterious sepulchres of its kings and nobles. It was an alluring conjecture that, that a powerful people, superior to the Indians, once occupied the valley of the Ohio and the Appalachian ranges, their empire stretching from Hudson Bay to the Gulf, with its flanks on the western prairies and the eastern ocean; a people with a confederated government, a chief ruler, a great central capital, a highly developed religion, with homes and husbandry, and advanced textile, fictile and ductile arts, with a language perhaps with letters, all swept away before an invasion of copper-hued Huns from some unknown region of the earth, and prior to the landing of Columbus."*

Even, however, some of those who agree that the mass of evidence favors acceptance of the view that Indians were the mound-makers, write and speak as if all the mounds were constructed by the same tribe of Indians: There is no more reason to believe this than that all the mounds were built at the same time. The mound-habit was not thus limited—it was ethnic, and we find, therefore, that it extended almost from the 25th to beyond the 51st northern parallel, and from the 69th to the 101st west meridian, the greatest length being in the direction of a line from Cape Sable, Florida, to Lake Winnipeg, Manitoba, and the greatest breadth from Point Penobscot in Maine, to Bismarck in North Dakota. Nor would it be reasonable to claim that the mounds dotting this vast territory represent the wanderings of a refugee people not necessarily numerous, but whose migrations covered a considerable expanse of time. Face to face as we are with facts accumulated mainly during the last half century, if, indeed, it would not be more correct to say during the last quarter, we conclude that American mound-makers were not of one "nation or tongue," nor were they of one way of thinking, even in the construction of the tumuli.

The making of mounds, cairns and pyramids seems to be inseparable from human nature, embodying ideas of safety, strength, advantage, superiority, dignity, honor or worship, connected with the living or with the dead.

* Report of the Bureau of Ethnology, 1890-91, p. xli.

In the pyramids of Egypt we see the most marvellous examples of a proclivity which is typified in the children's game, where one takes possession of a bank or a sand-heap, announcing that he is "King of the castle" and each of the other players is "a dirty rascal."

Nor does it appear hard to trace the genesis of constructing "high places." It is allowable to suppose that in the very first burials, the bodies were laid upon the ground, and covered with leaves, or branches, and in course of time with earth.* This practice may have been incited from a respect for the dead, or out of a desire to protect the remains from the attacks of wild animals, which, after all, is but one way of showing the same feeling. When a notable one dies the thought is natural that his resting-place should be distinguished, and the simplest way to accomplish this is to increase the size of the heap that covers him. As thus the memory of individuals was maintained why not similarly that of events? The idea of sacredness would come in due course, and by the time man reached this stage, he would be capable of elaborating his conceptions in extensive structures, more or less artistic in design, for there is nothing in human experience upon which he will bestow more attention, more time, and more labor, and lavish more expense than on what is connected with his religious duties. Viewed in this light it is less difficult to account for the prevalence of mounds than for the almost universal use of the bow, and the equally universal pattern of the arrow-head; and we need be at no loss to account for the Maya and Aztec masonry any more than for the earth-works thrown up by the Chickasaws in the upper valley of the Mississippi; by the Shawnees in Georgia and Kentucky; by the Muskoki in some of the Gulf States; by the Cherokees in Tennessee and West Virginia; by Miemae in Maine, and by Algonkins of one kind or other in western New York, Pennsylvania, Ohio, and southern Ontario. Thus too may we in some measure account for the peculiarities that distinguish groups of widely separated mounds, the characteristics of which are no doubt in keeping with the prevailing tastes, notions, superstitions, or dispositions of the builders.

It is perhaps safe to affirm that the largest number of mounds have been made for burial purposes, which we have supposed to be the original *motif* in the construction of such earth-works, yet some of us are very much puzzled to account for the other very large number that do not appear to have had anything to do with human interments, and here, of course, are excepted such as were most probably defensive entrenchments. But there are people who, without much hesitation, prate fluently about 'beacon mounds,' 'sacrificial mounds,' 'temple mounds,' 'sacred mounds,' and so on, as if by the book. There are only two kinds of tumuli respecting which it is sometimes possible to speak with assurance as to their purpose, and one, as to its appearance. The former are burial and fortification works, and the latter, what is known as 'effigy,' representing an animal of same kind—man, beast, or bird. Of burial heaps certainty is reached only after a thorough

* "The simple tumulus seems the most ancient sepulchral monument. It was raised by the Greeks and Trojans, and was common to Romans, Gauls, Germans, and other European nations 2,000 years ago. Charlemagne, wishing to put a stop to heathen practice, decreed that Christians should have grave stones and not pagan tumuli.—From *The Scottish Gael*, by James Logan, p. 482."

examination ; there is nothing in their exterior to indicate their purpose. Defensive banks form an enclosure, and it is understood that these were probably surmounted by some sort of wooden structure. In many cases the intention of enclosures may have been something quite different. Some effigy mounds were also burial mounds.

Lacking proof as to the purpose of the other thousands of such earthworks that are scattered over the territory whose limits have been named, there is, perhaps, more reason to look upon them simply as memorial mounds, or monuments of important events, than as structures for any other purpose whatsoever. More recently it became the custom in some countries to mark historical spots with cairns and monoliths, and the practice has come down to our own day.

Occasional references have been made since early in the century to the existence of mounds in this province, but in a few instances at least, it would seem that the chroniclers meant ossuaries.*

In 1820, a Rev. Dr. Reed observed mounds (?) on the " Beach at Burlington Bay " (see Appendix A.) About 1855 a mound is said to have been opened in Augusta township. In 1860 Mr. T. C. Wallbridge reported mounds, some of which he examined on the Bay of Quinte shore (see Appendix A), and within the last few years one mound was discovered in Humberstone township, Welland county, and another on Tidd's Island. Dr. Cyrus Thomas's map showing the " Distribution of Mounds in the Eastern United States," places four groups on the western side of the Niagara river ; of these we have no record, and if to the foregoing we add a few on Rainy River, more than five hundred miles north-west of Toronto, and most likely the work of a people who constructed similar works in Manitoba and North Dakota, we shall have named nearly all the hitherto known localities in Ontario possessing, or reputed to possess, *mounds* as distinguished from enclosing embankments.

OTONABEE SERPENT MOUND.

Last summer my friend Mr. H. T. Strickland, of Peterboro', directed attention to an embankment of considerable extent on a piece of property owned by himself and Mr. G. W. Hatton, on lot 7, concession 7, township of Otonabee, and which embankment Mr. Strickland believed to be of artificial origin. Notwithstanding my confidence in his judgment it was not without more than a little misgiving that I visited the place, which is beautifully situated on Mizang's† Point, near the mouth of the Indian River, on the north shore of Rice Lake, about ten miles south-east of Peterboro'. The situation is one of the most commanding

* An ossuary is a pit formed to receive human bones, the earth to cover which did at first, no doubt, form an elevation of not more than thirty-six inches, but became a hollow as the bones decayed. The only object of the ossuary-makers appears to have been the covering of the bones, but, in accomplishing this, the replacement of the earth would naturally constitute a low mound. It will readily be seen, however, how different such a mode of burial is from merely placing the remains on the unexcavated surface, and subsequently forming over them an earth heap several feet in height. Every ossuary was, as its name implies, a sepulchre, but every mound was not.

Although in a few parts of the United States mound building has extended into the historic period, it is quite undeniable that many of the tumuli point to dates that are pre-Columbian, but how far beyond it is impossible to say.

†The common name for this point is " De Zang's," but on the authority of Pashageezhik, of Alderville, now a divinity student at Victoria College, Toronto, the spelling should be as above. Mizang was father of the late chief Paudush, of the Hiawatha band.

on the shore, the land rising with a sharp acclivity to a height of not less than seventy or eighty feet from the water.

On the very crest of this point lies an embankment nearly two hundred feet in length, in a generally easterly and westerly direction, one end pointing a few degrees north of east, and in line with an oval mound twenty-three feet distant, the longer axis of which measures

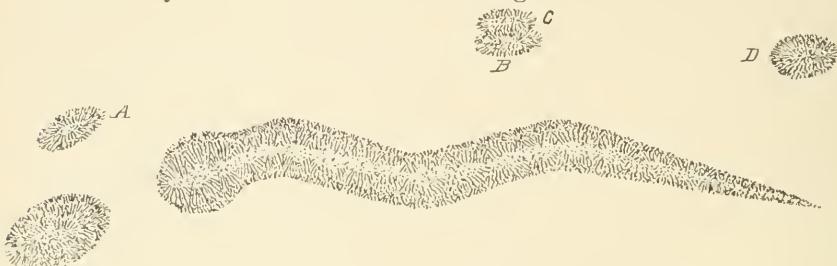


Fig. 2.—Ground plan of Otonabee Serpent Mound.

fifty, and the shorter axis, thirty-seven feet. South of these and just on the beginning of the slope are several small mounds, and a hundred and thirty-six feet north of the western end is a larger one, all of which will be referred to hereafter.

In view of the conclusion ultimately arrived at regarding the principle of these earthworks, it may appear strange that there should ever have been any doubt in my mind as to their origin, but this will be understood when it is stated that in the first place the conditions were wholly new to me, so far as Ontario is concerned, if, indeed, the bank was not merely an interglacial freak, which I strongly suspected; that in the second place the outline of the works was somewhat disfigured by the promiscuous digging of persons in search of skulls, and finally, that in any event, stronger evidence was required to prove the artificial origin of the ridge and other elevations than was yielded by external appearances alone. Every one who has paid any attention to topographical features in those portions of the continent that betray glacial action most markedly, knows how frequently works of human origin are simulated (if it be allowable so to say) as a result of deposition or of denudation. A critical examination of the situation from the geological standpoint resulted in the following conclusions: first, that as Mizang's Point is itself of glacial origin, it would seem improbable that the banks and mounds on and near the crest of the slope, towards the lake, could have been laid down with their longer axis across the line of deposition that formed the ground itself on which they stand; second, that for a similar reason their existence could not be attributed to erosion or denudation, and third, that no natural action could be held accountable for the fact that the ground immediately along the north side of the elevations is considerably lower than the general level. The apparently irregular shape of the long mound lent color to the supposition that the formation was a natural one, and the presence of the egg-shaped structure near its eastern extremity suggested a former connection between the two.

Whites, as well as Indians (Mississaugas), in the vicinity were agreed that the long mound had been thrown up as a means of defence

against the Mohawks. This supposition implies a much longer period of Ojibwa occupation than we are warranted in acknowledging on historical grounds, but at any rate the assumption is a baseless one, for the reason that as a fortification it must have lacked completeness, the whole of the neighboring area being accessible from the lake shore on the eastern and western sides of the point, besides which, the embankment exists where, on account of the steepness of the descent towards the water, such a work was less necessary than on the plain lying to the north.

The only reason for referring thus in detail to the conditions affecting the identification of the Otonabee earthworks is to impress upon readers the necessity that exists for the exercise of great caution, before venturing the assertion that any bank or mound is of human origin simply because of its external appearance.

As a rule, all doubt may be set at rest by making an examination of the structure interiorly. If it is of natural formation, the arrangement of the materials of which it is composed will differ very much from that of one erected by human agency. In the former case, and if of clay, a section three or four feet deep will present a homogeneous appearance—if of sand and gravel, these will be arranged in parallel layers; while, if artificial in its character, the soil will show a 'disturbed' appearance, that is, it will be mixed in small masses, or in streaks, of different colors, corresponding to the various depths from which it has been collected by the workers who were engaged in its construction.

It now only remained to make a deep cut through, or into, one of the mounds, with the permission of Messrs. Hatton and Strickland, who, with Dr. J. M. Shaw, of Keene, were on the spot, and in less than an hour the men employed to dig laid bare a section of the oval mound, which left no doubt as to its human origin.

Having become satisfied on this score, I determined to carry the trench clear through, ten feet east of the shorter axis of the mound, the men working on opposite sides. This line was selected at the outset because some skull-seekers had already done a little surface digging there to a depth of about eighteen inches, near the crown. Eight feet from the north edge, and two feet below the surface, were two human skeletons in a sitting position, and about the same distance from the south side were a skull and some of the large bones of the arms and of the legs—these also were within two feet of the surface, but somewhat more than twelve inches higher, measuring from the general level. From the western end another cut was made five feet wide to meet the former cut, the two thus forming a large T. The depth of the latter cut at the centre of the mound was six feet four inches, which carried us somewhat below the outside level, and in addition to this we made test-holes at intervals, to a depth of over a foot further, to be sure that no disturbed soil should escape observation.

The making of this opening revealed at various depths, all beyond three feet, a human skull, some dog or wolf teeth, the jaw of a small quadruped, small pieces of mussel shells and charcoal, until at a depth of four feet seven inches (at this point on the base level) we came upon a human skeleton lying on its right side. While there was no

doubt that the remains found in the first cut were those of intrusive, or comparatively recent burials, it seemed quite as clear that the bones here found on the base level had been so placed before the construction of the mound, and it appears probable that the same holds good in relation to the isolated skull found only a little more than a foot higher.

Within seven feet of the centre of the mound, and two feet from the surface, were burnt human bones, but not associated with ashes or charcoal, and a few inches below these were two or three small fragments of pottery, the only specimens of the kind observed. Still nearer to the centre, and twenty inches deeper, or three feet eight inches from the surface, was a bed of black earth mingled with ashes and mussel shells, and below this, on the base level, was a circle of stones rudely put together, about three feet in diameter. The stones were such as may be found in the neighborhood, but little or no choice had been exercised as to size or shape, for they varied from four or five pounds to twice as much in weight, some being angular and others water-worn. Although many (not all) of the stones bore evidence of having been subjected to considerable heat, there was no trace of charcoal or ashes near the circle.

At frequent intervals during the excavation of the oval mound, I travelled backwards, forwards, and around the long zig-zag embankment, now that I began to feel certain as to its origin, puzzled to account for its configuration, and its relation, if any, to the more easterly structure on which we were at work. On one of those occasions, when standing on top of the ridge some fifty feet from the westerly extremity, it struck me as being strange that this end of the bank should taper so gradually that its terminating point could not be distinguished accurately within a foot or more. This suggested the idea of a mere beginning, or of failure on the part of the builders to complete their work, and the next thought was to examine the other end. Here, however, there was a very marked dissimilarity, for the bank rose at a sharp angle to a height of four feet and was much more expanded than any other portion of the mound. In the course of another walk along the earthwork I was struck with the thought that this was a serpent mound, but the idea seemed absurd to one who, on account of frequent disappointments, is prone to cast doubt on fanciful resemblances of every kind. Still, there was the broad, abrupt head—there was the tapering tail, and between these were three well-marked convolutions—the zig-zags hitherto without meaning—not so prominent as those of the Adams County mound in Ohio, but, as I now think, much more natural.

It now remained to apply measurements for the purpose of ascertaining whether any plan had been observed in the construction. Stakes were driven at the tip of the tail; at the place where it seemed to me I could detect the barest trace of a connection between the tail (rattle?) and the body proper; at the central point in each bend, as nearly as I could guess; and at the nose. From the latter point to the first bend behind the neck is thirty-seven feet, between the first and second bends forty feet, six inches, between the second and third bends forty feet, between the third bend and what I judged previously

to be the end of the body, forty feet six inches, and from this to the tip of the tail thirty-one feet, giving a total of a hundred and eighty-nine feet.

It will be observed that the three middle measurements closely correspond, and when it is taken into account how difficult it is to fix upon central points by mere eyesight, in the curves of a bank upwards of twenty feet wide at the base, it may be assumed that the distances mentioned were exactly forty feet each. Even the head and tail proper may have originally reached the same lengths. In the latter case it is easy to account for the disappearance of several feet, and a slight extension of the nose would bring it within exactly twenty feet of the egg-mound, which is considerably steeper and less likely to have suffered much by wearing away, either from natural causes, or by the trampling of cattle.

On the identification of this earthwork as a serpent mound, it will readily be understood that more than ordinary interest became connected with every one of its details. Unlike the Scottish one on Loch Nell, in Argyleshire, and the Adams County one in Ohio, the head of the Otonabee serpent points in an easterly direction. It differs from both also in the number of its convolutions which exceed those of the Scottish mound, and are less than those of the Ohio one, the former having only two, giving the work an S-like look, and the latter having seven.

The position of the oval mound, too, at once suggested the ancient combination of the serpent and the egg, and here we are tempted to institute a comparison with the Adams County example, quite to the advantage of the Otonabee structures, for while the oval on the head of the former consists of an embankment enclosing a basin, the Otonabee mound is a solid structure throughout.

Reference has already been made to the morbid depredations of diggers anxious merely to lay bare human remains or to possess a skull. At numerous points along the top of the serpent mound excavations for this purpose have been made, but in no case apparently to a depth exceeding two feet. As the cast-up earth about these places is mingled with bone-fragments, there is little doubt that the earthwork has been used for burial purposes by a people who succeeded the mound-builder—a people to whom the structure possessed no significance, or, at any rate, a significance very different from what it had to those who, at infinite pains, labored to put the embankment into shape. It will be seen that as in every instance the vandalism holes have been sunk on the crown of the ridge, the result is serious disfigurement. Selecting the highest point of the mound left undisturbed, seventy feet from the end of the tail, I had a cut made five feet wide, extending from the north side to the middle of the bank, which is here twenty-four feet across the base, simply to examine the interior nature of the structure, the surface of which was here somewhat stony, a fact that no doubt accounts for its hitherto non-disturbance by white savages, some of whom are said to have searched (very stupidly) for hidden treasure, and not for bones. Human bones were exposed within two feet of the surface, but like those of the egg-mound, all much decayed. Some of the boulders taken from this cut

were all that a man could lift, but many of them did not weigh more than from ten to twenty or thirty pounds each. The placing of the earth was manifestly done by hand, layers and patches of dark soil being mingled with yellow clay ; beyond this there was nothing to indicate man's agency, but the proof yielded was ample. A slight examination was made at the head of the mound, the result being to show that here also comparatively recent burials had been made, but lower than eighteen inches from the surface there was no sign of bones.

South of the serpent mound, on the slope facing the lake, are several small elliptical mounds. One of them near the head is forty-one feet in length and nineteen feet wide, another near the tail is forty feet long and twenty-two feet wide, and between these is what may be called a twin-mound, consisting as it does of two earth-heaps side by side and touching each other. The more southerly of these is thirty-seven feet long, and about twenty-two feet in width, while the other is shorter and only fourteen feet wide. In every instance the longer axis is east and west. A superficial examination of all these brought to light intrusive burials in each case, within a foot or eighteen inches of the surface.

In the smaller or northern portion of the twin mound were buried an adult and a child. The skull of the adult is in excellent preservation.

Only two other good skulls were procured from these mounds, and one of them from mound D, near the serpent's tail, presents the best example we have in the museum of what is known as the Inca bone. (See figures following.)

The mound referred to as lying almost due north of the serpent's tail is distant a hundred and thirty-six feet, its axes measuring thirty-three feet east and west, and twenty-eight feet north and south, but as this work has been completely gutted, the dimensions given may exceed the original size, for no doubt much of the earth now on the outside was thrown from the excavation. In any event, the original condition is so utterly destroyed that not much attention was paid to it.

The following table presents all the chief measurements of the serpent mound group :—

	Length.	Breadth.	Height.
Serpent mound	189 ft.	Average 24 ft. 30 ft. 9 in.	Average 5 ft. 4 ft. 6 in.
Serpent mound head			
Distance between serpent and egg mound	23 ft.		
Egg mound	50 ft.	37 ft.	6 ft.
Mound A, south of egg mound	41 ft.	19 ft.	3 ft. 6 in.
Mound B, north part of twin mound	28 ft.	14 ft.	2 ft.
Mound C, south part of twin mound	37 ft.	22 ft.	2 ft. 6 in.
Mound D, south of serpent's tail	40 ft.	22 ft. 6 in.	2 ft. 6 in.

Here occurs not only the oval form which in itself is noteworthy, but we are brought face to face with the fact that we possess a serpent mound of no mean proportions, and not only a serpent mound, but one

in combination with the egg, unless it can be shewn that the oval form thus named occupies a wholly adventitious position, which has no relation whatever to the widely entertained primitive myth connecting these two objects. Evidence, however, favors the belief that the two structures on Mizang's Point are complementary, for not only is the oval mound accurately in line with the head and neck of the serpent, but the great height of the former, as compared with that of those lying on the face of the hill, would seem to indicate, that its proportions were made to correspond with those of the serpent, while on the contrary the mounds lying along the south side are under half the height, are less regularly shaped, and are suggestive of being imitative structures—the work, perhaps, of another and more recent people.

With regard to serpents, (drawings, incisings, or effigies of which are found at wide intervals over the greater part of North America), it has been observed that in nearly every instance the model was a rattlesnake. Both, or either, of the extremities may aid in this identification. Unfortunately the outline of the Otonabee serpent's head is not sufficiently sharp to assist us, but the great length of the tail portion (all behind the last bend), was intended, we may suppose, to include a rattle. Indeed, there is a very slight bend about midway in this portion, which may have been meant to mark the feature in question.

Imagination may run riot in attempting to account for the origin and purpose of such earthworks. With regard to the Otonabee Serpent and Egg only two things are certain, namely, that the embankments are of human workmanship, and that they were made by a people—Indians of course—prior to the arrival here of the Huron-Iroquois. Of what stock these people were we have no knowledge. A lingering fondness for such structures among some tribes of Ojibwa origin, until very recently, if regarded as an evidence of heredity, might warrant us in attributing to some old-time Algonkins the making of these mounds. However this may be, our chief source of wonder is connected with the ideas that were entertained by the mound-builders in fashioning such serpent-and-egg embankments. It has been well observed respecting the similarities existing among primitive folk everywhere in the shaping of their weapons, and the tenor of their myths, that, given corresponding environments, human nature being the same all over the world, is bound to manifest itself along certain fixed lines.* In a general way it is easy to concede this proposition, but in a case like the one before us there is a difficulty. We may fully admit the probabilities favoring the respect paid by early man to the serpent on the one hand, and to the egg on the other, in connection with the great mystery of life, the latter symbolizing its origin, and the former, on account of its periodical skin-shedding, being suggestive of rejuvenescence and perpetuity—hence of eternity, but it is not so easy to account for the coupling of these symbols, by peoples widely separated in point of time, as well as of distance.

* "We are driven to the conclusion that the actions of men, being determined solely by their antecedents, must have a character of uniformity, that is to say, must under precisely the same circumstances always issue in precisely the same results."—Buckle's *History of Civilization*, Vol. I, p. 20.

The accompanying picture of the mounds on Mizang's Point is from an excellent photograph kindly taken by Dr. W. T. Harrison, of Keene. Part of the Egg-mound is seen at the left of the picture, which is from a point looking towards the south-west.*

The ground plan is from a rough sketch in my note-book, and is in no sense accurate, as it was hoped that we would have had a survey made by a professional man, shewing not only the proportions of the principal earthworks, but of the smaller, outlying mounds.

It would almost appear gratuitous to suggest the desirability of preserving this earthwork. Messrs. Strickland and Hatton would no doubt consent to sell a few acres here if they could be assured that as public property the place would be neatly fenced, and properly kept. As a summer resort the situation is unsurpassed by any on the lake, and the laying out of a small park enclosing this Serpent-mound would add very materially to the natural attractions. Failing action on the part of the local municipal authorities towards the restoration and preservation of these mounds, and the setting apart of the ground as public property, it may be suggested that the Provincial Government acquire a right to hold the place. The interest that attaches to such works is of a general character—it extends even beyond the country in which they are found, and it would be shameful either to neglect them utterly, or to let them remain in private hands. Wherever mounds of unusual form have been destroyed, as at Marietta, Ohio, the act is now deplored, and we accordingly find that in other parts of the state effective steps have been taken to preserve monuments of this kind for admiration and study in all time. By the efforts of Prof. Putnam and others the Serpent Mound on Brush Creek has been placed beyond the reach of vandalism, and more recently the state authorities have, at a cost of many thousand dollars, secured upwards of five hundred acres that are surrounded by the remarkable embankment known as Fort Ancient. Compared with the cost of such extensive parks, that of the Otonabee mounds would be but trifling—a few hundred dollars at most, even should the whole of the lot, about sixty acres, be purchased.

Unique as is this serpent mound so far as the archæology of Canada is concerned, there can be only one opinion with respect to its maintenance from disfigurement, and, perhaps, from demolition.

GORE'S LANDING RIDGE.

On the announcement by the newspapers that a mound of the foregoing description had been discovered, communications were received from various quarters that similar earthworks were supposed, by the writers, to exist here and there.

The first of this kind to which attention was directed is a long serpentine bank at Gore's Landing, on lot 16, concession 9, broken front, Hamilton Township, on the south side of Rice Lake, and southwest of Mizang's Point. The information came from Mr. Reginald Drayton, a well-read gentleman, whose summer residence is beautifully

* Dr. J. M. Shaw, of Keene, was also good enough to take photographs of the mounds, and in various other ways showed his interest in the work.

situated at the extremity of the ridge in question, on the lake shore. The spot possesses considerable natural attractions, forming as it does a deep hollow of twenty-five or thirty acres, in the side of a bluff, which here forms the lake shore. Mrs. Traill, in her interesting story, "The Canadian Crusoes," which every boy and girl in the province may read with great profit, as well as pleasure, refers to this place as the 'Happy Valley.' We might reasonably enough suppose that it was a favorite Indian camping-ground, if Indians were actuated by aesthetic motives in their selection of resting-places, but as safety from attack was with them a prime consideration, this would be the very kind of place to shun, for a foe with po-session of the steep, though low hills, that almost surround the Happy Valley, would hold occupants of the hollow at a great disadvantage. Besides, nothing has been found in it to show that it ever was an aboriginal village-site or even a camping-ground. The bank in question has, however, long been considered as of artificial origin, and, aside from the irregularity of its contortions, it cannot but be admitted that there is much to favor this supposition. It is six hundred feet long, ten to forty feet across the base, and rises gradually from a few inches at the south-west extremity to fully six feet near the north-east end. With the permission of Mr. Charles Neill, on whose property most of the bank is situated, a cut was made on the south side as deep as the base level, and to the centre of the ridge, laying bare stratified deposits of sand, gravel and clay, leaving no doubt as to their natural origin. A circular elevation to the south-east was also tested by means of a cut thirteen feet long, three feet wide, and equally deep at the centre, where the trench terminated, and here, too, it was seen that only natural forces had been at work.

The results here were in no wise disappointing, nor was the labor thrown away, for the educational value attached to the removal of wrong impressions is subordinate only to the formation of those that are correct. People whose attention is not specially directed to matters of this kind may readily arrive at erroneous conclusions, and these opinions in course of time, if uneradicated, lead to misunderstanding and confusion. But if the appearance of a natural bank suggest to ourselves artificiality, is it to be wondered at that the savage should arrive at a like conclusion, finding therein also the similitude of this or that animal? It is indeed worthy of consideration whether natural formations of the kind in question have not originated the idea of effigy mound-building. That a tortuously laid down ridge should prompt the idea of a serpent seems to be natural enough, and as many superficial, interglacial deposits have spurs and sinuses at various angles to the main body, the imagination of simple-minded man might easily lead to the conclusion that 'somebody' had constructed them to imitate the parts of an animal on a huge scale. We know how quick he was to perceive the possibility of adapting the natural shape of a stone, a bone, or a shell to his tool-requirements, and we are not warranted in limiting his sense of adaptability and comparison to objects of this kind. On the contrary we have proof, not in America only, but in almost every part of the world, that early man was struck

with the resemblances that existed between topographical features and animal forms, the names of some places having been bestowed on this very account.

There is, however, no evidence to indicate that any respect, or even attention, was paid to the long, serpentine ridge in Happy Valley, for, as already mentioned, no immediate traces of occupation, or of resort have been discovered, with the exception of a human body, which is said to have been exhumed when digging the foundation of Mr. Drayton's house. This burial was probably of very recent date, although nothing could be learned as to the depth at which the remains were found, or the position in which they lay.

MILLER MOUNDS.

Attention was next directed to the farm of Mr. James Miller, a little west of the Indian village of Hiawatha, and at the mouth of the Otonabee River. Here were two mounds close to the farmhouse, on the face, and near the top of a gentle slope facing southwards, and rising, perhaps, eighty or a hundred feet above the water. One of these mounds, a few yards north of the house, had been opened by a former tenant, or owner, to make a root-cellar, and, it is reported that he found two or three human skeletons. The other mound, only some thirty or forty feet from the eastern gable of the house, had never been disturbed. Like those on Mizang's Point, it was oval, and measured thirty-five feet from east to west, and nineteen feet, six inches, from north to south. Its outline was so sharply marked that there was no difficulty in ascertaining its proportions within a few inches, although it did not exceed three feet in height.

Near the south-east edge there had been a fire, as was shown by a quantity of ashes, and by the earth being burnt red, but this may have been caused by the burning of a stump. At the centre of this mound and only two feet from the surface, was a skeleton, lying north and south. The skull was in pieces, but the large bones were in a fairly sound condition, and remarkable for their great size—the most massive I have ever seen taken from any Indian burial-place. These are now in the museum. Another skeleton was found lying on its right side within a foot of the surface, and a third one, near the north-east edge, about eighteen inches down, was lying on its left side. The heads of both were towards the west. The only specimens found in this mound were two small celts, two tools made of deer-horn points, and a very well-made bone arrow, or knife, the only one of the kind in our possession.

The construction of this mound was extremely rude, the materials—clay and small and large stones—having apparently, been thrown together regardless of order, and some of the largest stones, weighing from fifty to sixty pounds, were in immediate contact with the bones. The clay was so hard, that even at the surface, it was necessary to use picks for its removal.

As the adjoining mound had been cleaned out effectually no attention was given to it, but in a low-lying field south-west of the bluff, and within three hundred yards of the river was a very noticeable circular elevation seventy-four feet in diameter, but only about two and half

feet in height, Mr. Speirs the tenant stated that in ploughing round this place he frequently turned up human bones. As the field was in crop, with his permission the oats were cut, to enable us to dig. Squire Thomson, of Hiawatha, informed me that as he remembered this mound twenty years ago (when still unploughed) it was probably six feet high, and, as a matter of course, considerably less in width. He said too, that in the same field were four other mounds less in size, all of which have now been reduced to the general level. To the best of his recollection three of these were in line nearly from east to west, and the fourth one was a little to the north of the westernmost of these three. After having thoroughly examined the large mound we sounded many places over the field to find if possible where the others had been, but in vain.

As it was the desire of Mr. Miller that the large mound should be removed, it was not necessary to bestow any care, or lose any time in preserving its appearance by restoration. Every foot of it therefore was turned over, and carefully examined. Two trenches, each three feet wide, were cut at right angles through the middle, after which, each quarter was examined in detail. The structure of this mound was peculiar, consisting of brown, black and yellow earth in small masses and thin layers, with which were intermingled at intervals of from four to six inches, thin and irregularly laid beds of what looked like white marl. It is probable that this material, or what has formed it, was placed here evenly, and that the arrangement has become disturbed by the subsidence of the earthwork.* Figure 3 shows the



FIG. 3. Section of Miller Mound, No. 2.

appearance of a section of the mound, as drawn from a photograph by Dr. Harrison, and from a sketch made on the spot.

Within the first two hours' digging, one of the men came upon a human skeleton much decayed, except only the leg-bones, and some of the vertebrae.† It was impossible to tell how this body had been buried, but really it does not appear to be of much consequence to note the positions in which bodies were placed, otherwise than to show that no rule was followed, either by the mound-builders, or by those who made the intrusive burials.

Among the mouldered ribs was what we may suppose to have been a gorget made from some large sea-shell. This specimen rudely represents a turtle, the hinder portion of which is missing. A rough fracture encouraged the hope that the missing portion had either been previously thrown out, or would yet be found, but although two or three tons of earth were carefully sifted, the piece was not discovered, and the conclusion was arrived at that the gorget had been deposited here just as we found it. As far as I am aware, the specimen is unique, both in

*Samples of this and the other materials of the mound are now in the museum.

†These remains were found at the spot marked X on figure 3.

shape, and in the style of what by courtesy may be termed the engraving that appears on its convex side. See figure following. Near the same spot were found two small and roughly made celts. Two days' subsequent digging yielded nothing but three bone harpoons.

As it did not seem probable that so large a heap was raised merely to cover a single body, or to commemorate its burial, more especially when the remains were found about mid-way between the centre of the mound and its edge, and were necessarily still nearer the edge before the place was cultivated, various test-holes were dug below the general level to a depth of two feet, without finding traces of disturbance, until we reached the very centre where were discovered evidences of fire, five feet below the crown of the mound as we found it, or fully eight under its original summit. There is no doubt that the remains were those of a burial contemporaneous with the building of the mound, but there seems to be no reason why the body should have been placed where it was.

Having failed as already mentioned to determine the situation of the other mounds mentioned by Squire Thomson, a pretty thorough examination was made of the shore at the mouth of the Otonabee, three hundred yards away (to the west), for here there was clearly an old camping-ground. By measurement this site was ascertained to be upwards of a thousand feet long, and four hundred feet wide. Beds of ashes and fragments of pottery were numerous, but there was an entire absence of flint. It is probable that these signs marked an occupation by people of more recent date than that of those who constructed the mounds, and it is also likely that the place was resorted to only during the harvest-time of the wild rice, which would account for the abundance of pottery, as large clay vessels were necessary in the parching operation, by means of which the chaff or hull was removed from the seeds. At such times, too, large quantities of rice would be consumed, and numerous pots must have been employed in cooking. During the rice-harvest flints would not be in much request, and this was not a suitable place, even for their manufacture.

CAMERON'S POINT.

On Cameron's Point, a high bluff on the north side of Rice Lake and at its eastern end, are three mounds, portions of two of which have fallen over the face of the cliff, which, some forty or fifty feet high at this point, is gradually giving way. The most westerly one, however, standing a little further back, is yet uninjured in this way. The appearance of these mounds was not at all inviting, on account of the large stones that marked their surfaces, and seemed to indicate their general construction.

Some of the farmers in the neighborhood assert that there is among the Indians a tradition to the effect that a huge snake once appeared to a party of them on this hill and devoured them all, but Pashageezhik assures me that having made inquiry, at my request, on this point, he found no Indian who ever heard the story.

A little east of the mounds, and now close to the edge of the cliff, there is a quantity of mussel shells, forming a bed from one to ten inches in thickness, and seventy-five feet in length. That these were brought here in connection with food purposes there cannot be a doubt, and the Indians of the Alnwick Reserve across the lake explain the presence of so many shells by stating that on one occasion their people would have died of famine but for the plentiful supply of mussels. However this may have been, there are the shells, pointing to an unusually large, or long-continued, consumption of this kind of food.

During my absence at the examination of an ossuary in Beverly, and in looking over the ground in the "Happy Valley," the work of opening these mounds (with the cordial consent of Mr. Adam Humphrey, the proprietor), was under the care of Mr. W. G. Long, whose experience in connection with similar work in Manitoba and Dakota proved very advantageous. He reports as follows:—

"Cameron's Point is situated on the northern shore of the eastern end of Rice Lake, near the outlet of the lake into the Trent River, and about a mile west of the River Ouse. It is about twenty feet above the lake, about one and a half miles in length, and sloping upward to the north for about half a mile or so, finally forms the steep side of a narrow valley. This point has a commanding view of the Trent River on the east, and of the lake and islands to the west and south, and the bay running to the north. At this place, and on the very edge of the bank, are three mounds—two of them at one time may have been connected, but owing to the washing away of the bank, and the levelling down with the plough, it is impossible to trace the connecting link. However, the two together, notwithstanding their dilapidated condition, bear a more or less resemblance to the Great Serpent Mound at Mizang's Point.

"By way of distinction I have named these mounds, A, B, C.

"A.—This mound lies at the western end of the point, and is seventy feet long, eighteen feet wide, and four feet high. Two cross-sections at right angles to each other were made. The soil shewed every indication of having been disturbed. This mound contained five skeletons, four of which were intrusive and were from four inches to two feet below the surface. These remains were in a very poor condition. The skulls were all broken by the weight of stone arranged around and over them.

"The mound builder was on the bottom of the mound in a bent position, reclining on its side, on a bed of sand, surrounded by a circle of stone. Slight traces of fire were seen on some of the stones, but none whatever on the bones.

"The only relic obtained was a flat piece of wood, parts of which on being exposed to the air, crumbled into dust.

"B is twenty feet east of, and a little to the south of A, and is sixty-six feet long, twenty feet wide, and four and a half feet high.

"Two cross-sections and one lengthwise, meeting the two cross-sections were put through this mound. Here, as in A, the soil was mixed and consisted of clay and gravel, but contained a greater quantity of stone.

"On entering this mound to the depth of two feet the spade exposed flat stones, and as the cut was extended to and over the crest, round ones were brought to view. After making the other cross-section, it was discovered that these stones had been carefully arranged over the entire mound. The flat stones were resting on their edge and were in rows, wherever the size of the stones permitted, the round ones also in rows began at the angle and ended at the angle on the opposite side. It was noticed that in a few places two, if not three, rows of stone had been laid on the top of the mound.

"While cutting through the crest at the eastern end of the mound, ten intrusive skeletons were found lying above the wall of stone, but encircled and covered with stone, that seemed to be entirely free of the wall. With one exception, the skulls were broken or twisted out of shape by the pressure of stone lying on and around them.

"On reaching the bottom many large boulders were found. On removing these, two skeletons were brought to light; but were in such a condition that it is impossible to give their position. One skull was wedged in between two boulders with a smaller stone on top of it. However, it seemed a circle had been formed with these boulders, having the vacancies filled in with smaller stone.

"The relics were a small polished, unperforated tablet, and a lump of wood. This wood was found among the stone covering the two mound builders.

"C is ninety-two feet to the east of B, and is seventy-five feet long, twenty feet wide, and three and a half feet high.

"Owing to the time at my command, and to the great quantity of stone piled on the western half of this mound, it was impossible to cut through its entire length.

"When working the usual cross-sections, many hundred weight of stone was removed. This stone had been arranged and at about the same depth as mentioned in B. But on removing some eight inches of soil below this wall, another one was found, consisting of large flat stones placed in the form of a hood around the end of the mound. This wall was seen to extend beyond the cross-section made some twenty feet from the end. On removing the stone from near the end of the arc several large boulders were found to form a circle about three feet in diameter. These boulders, and other stones on top and in the crevices, were very much blackened with smoke. When moving one of these, several splinters fell off, which no doubt proves it had been subjected to great heat.

"Making a wider cut, and clearing away the debris, the charred remains of one body was found in this circle of stone. After removing the remains and digging within the circle, ashes and charred wood to the depth of three inches were discovered.

"On examining the flat stones taken from the arch, or hood and directly over the smoked circle of stone, not the slightest trace of smoke was to be seen on them. This seems to prove that this wall and arch had been built some time after the burning or sacrifice had taken place.

"This mound produced three skeletons, two of which were intrusive, and were twelve and eighteen inches below the surface. No relics were obtained.

"This point of land seems to have been a permanent home, or at least a favorite camping ground of the Indians. Many tons of mussel shells and fish bones are scattered over the surface and in beds. One of these, on being dug into, proved to be three feet deep and consisted entirely of shells and bone. The surface in many places contains a large quantity of broken pottery, arrow-heads and fragments of implements.

BIRDSALL'S BAY.

"Finishing my work at Cameron's Point, and on information obtained from Mr. F. Birdsall, I went to a point of land forming the eastern side of Birdsall's Bay.

"Here were found traces of Indian and French occupation. Many fragments of pottery, pipes, and arrow-heads were found. The writer, while walking on a large sand-bar lying between the bay and a large swamp to the north, had the good fortune to find imbedded in the sand a huge boulder, on which a polished surface had been worn, no doubt, by the Indians, in sharpening or polishing their implements of peace and war. Near this stone was another, which on being unearthed proved to be a valuable specimen and an unusual type of mealing-stone, now in the provincial museum by the kind permission of Mr. Birdsall."

SUGAR ISLAND.

Some mounds on Sugar Island were next visited. This island lies a mile or so east of Mizang's Point, and near the mouth of Indian River. It is estimated to contain about a hundred acres. Near the west end, and on the southern slope, are several small mounds, indistinguishable from gravel knolls.

Having instructed Mr. Long to open these mounds, should the examination at Cameron's Point have been completed before my return, the work was well begun when I reached Sugar Island, but up to that time little had been met with to encourage the task, beyond a few skeletons, and a certainty that the mounds were of man's construction. The largest one (afterwards referred to by a newspaper man as the "Princess Mound"), was almost circular, thirty-eight feet in diameter, and four feet seven inches high.

A small mound about a hundred yards north-east of the Princess Mound had been partly examined the previous day, and in it were found a broken gorget, and remains connected with two intrusive burials. The gorget is apparently of the same material as the very beautiful one afterwards found in the Princess Mound. This mound was on the hillside, and so flat on the top that it presented no face towards the north, and resembled an almost circular step thirty-one feet long, and three feet ten inches high, with its convex side to the south. A further examination of this singular looking earthwork brought to light, near the east end, a skeleton half sitting, but leaning on its right side, with its head to the south-west, the arms being doubled up so that the chin rested on the hands. Round the wrists were a pair of copper-bead bracelets, the beads being exactly like those of the copper necklace in the Princess Mound, but somewhat smaller

in size. The verdigris from these had stained the lower jaw a bright green along the whole of the right side, which was undermost. If it be admissible to judge from the prominence of the glabella and the lowness of the supra-orbital ridges, and of the cheek bones, this is the skull of a woman. It possesses a large "Inca bone," and is remarkable also in having an extra bone at the frontal fontenelle. At the western end of the mound, and unconnected with any bones, was a small stone adze of a pale bluish-gray color, quite unlike any other specimen in our collection. With this exception and that of the beads found with the remains, nothing else came from this curiously-formed mound.

The body was resting in, rather than on, a bed of stiff clay and sand, evidently prepared for its reception, nearly four feet below the upper level. It is perhaps on account of this clay bed that most of the bones were well preserved, and as it did not extend more than a foot beyond the remains, and no higher than the thigh bone, the idea was suggested that the body had been thus supported in a sitting position until the mound was heaped over it, for there could scarcely be a doubt that it was as a monument to it that the mound was constructed. Although stones are plentiful all about, care was taken to keep them out of this work, only a few small ones having been allowed to mix with the earth.

The "Princess" mound was almost perfectly circular, measuring thirty-eight feet in diameter, and a little over four and a half feet high. It was similar in structure to the other, but stones, within a foot of the surface, were more numerous.

Seven comparatively recent burials had been made here—two on the south side, with a few stones around and over them, and five on the north-east side. In all these cases it was plain that the bodies were introduced. No reliques were found associated with them. On nearing the centre of the mound, and three feet, four inches from the surface a skull was exposed, and, as this appeared to be that of the monument's rightful owner, great care was exercised in laying it, and all the bones connected with it, bare. The position corresponded in some degree with that of the skeleton in the more northerly structure, the body being half seated, and facing eastwards. The legs were drawn up behind, the heels being not more than ten or twelve inches from the hips. The hands were on the breast, about eight inches below the chin. Nearly half of this skeleton was in a fairly sound condition, but scarcely a single bone was perfect. The skull was secured in a tolerably good state of preservation, the under jaw especially so, which is unusual. Most of the lower teeth are in place, but all the upper ones are gone. No doubt the excellent condition of the lower jaw is owing to the oxyd it has absorbed from a triple string of copper beads about the neck, and which have imparted a rich green color also to the base of the skull.

Before attempting to remove the beads, attention was paid to their arrangement round the neck. On removing the earth it was seen that besides those of copper, there were two other necklaces of shell. Owing to the subsidence of the earth, and consequent displacement of the bones, there was some difficulty in ascertaining the arrangement.

but here and there small masses held together, from which it appeared that there were first, three strings of copper beads; under these, two of small ocean shells (*marginella conoidalis*), and still lower three strings of disc-beads, made from some larger shell, probably a bivalve. The numbers were respectively, three hundred and fifty, three hundred, and eight hundred and sixty-five, a total of fifteen hundred and fifteen beads.

Outside of the right arm and within three inches of the breast were a very perfect stone tablet, and a little beyond it, a copper axe, or heavy chisel, sharpened at both ends. These are fully described and figured elsewhere.

It can scarcely be doubted that the mound was constructed to entomb the body, of which we here had the remains; perhaps this interment was also that of a woman, judging from the appearance of the skull.

Lying at the base of the skull were the parts of what was some kind of receptacle, apparently made of bark, and containing hematite in powder. These fragments are now in the museum, and small quantities of the red coloring matter may yet be seen adhering to them. We may infer that the hematite was used as a dance or war paint.

HASTINGS.

On receipt of information from Mr. J. H. Scriver, editor of the "Hastings Star," I examined three mounds on the farm of Mr. John Preston, lot 6, concession 9, of the Township of Asphodel, a little more than a mile below Hastings, and on the left bank of the Trent. These, like



Fig. 4. Hastings Mound (looking across the Trent).

most of the other mounds in the district, are situated on high land, and close to the edge of a steep slope, which reaches the river some fifty or sixty feet below. It was the peculiar appearance of the largest one as seen from the river that first attracted Mr. Scriver's attention, and the result of the examination proved creditable to his judgment. Its dimensions were, eighty feet long, twenty-two feet across the base, and three and a half feet high from the level on the north side. The appearance of this mound was scarcely more inviting than that of the mounds on Cameron's Point. The irregular outline of its long crest, and the evidence that it had not long ago borne heavy timber, gave it an appearance of considerable age. With the consent of Mr. Preston, a trench was cut across this mound near the middle, which abundantly showed the artificial character of the work, although not a fragment of anything human in origin was found. Further examination, made by opening the mound lengthwise, through the centre, revealed one bed of charcoal a foot below the surface, and another six inches lower, measuring from the crown. At a depth of two feet, and a distance of eight from the west end, was a human skeleton lying on its right side, with the head eastwards, and below this, at intervals of a few inches

to the base of the mound were traces of fire. As the work proceeded in an easterly direction, numerous skeletons appeared in various positions, and all within two feet of the surface. Near the eastern end, and three feet below the crown of the mound, the earth was burnt over an area of about fifty square feet, and six or eight inches below this lay another skeleton, the skull of which has been preserved. Most of the other bones were decayed. No relics of any kind were found beside any of the remains, all of which, indeed, except the last mentioned, being apparently connected with intrusive burials.

In a small mound eighty feet farther east there were a few traces of human bones, all within a foot, or a foot and a half of the surface, but in another one, sixty-five feet west, the conditions were quite unusual. This was an oval structure, nineteen feet from east to west, fifteen feet from north to south, and not more than two feet high. Near the middle, and only the depth of the shovel from the surface, we came upon burnt earth and charcoal, and about eight inches lower, or nearly eighteen from the surface, were charred, human leg and rib-bones, in a bed of ashes, the evidence appearing tolerably plain that the body had been burnt, but whether when alive, or after death, there was nothing to show. Below this, a bed of extremely hard clay, from four to six inches in thickness, extended from edge to edge of the mound. In many places this clay looked as if it had been hardened by heat, for it formed a mass so compact that it had to be removed with the pick, which brought it away in small, sharply angular masses. In the course of removing this layer there were exposed the bones of seventeen persons, some of them underlying others to a depth of four feet, or two feet below the outside level. There was no apparent arrangement in the placing of these, and the earth-heap seemed to be a combination of mound and ossuary.

In neither of the smaller mounds was there a particle of human workmanship apart from the construction of the mounds themselves, and the large one was almost equally barren, for with the exception of an arrow-head and a fragment of pottery, both found near the surface, the only object was an irregularly formed pendant-like object of fine sandstone, about two and a half inches long, and perforated at one end. See figure following.

In the search for mounds some time was lost owing to information that they were to be seen here and there at intervals of many miles, but when the places were reached the so-called mounds turned out to be either gravel knolls or *deep hollows* of natural formation! Two large, ossuary-looking pits were examined on the farm of Mr. James Miller—the same gentleman who owns the farm on which are the mounds, at the mouth of the Otonabee. These pits are situated on high lands near Lang, and although there are reports to the effect that skeletons have been dug from one of them, they appear rather, to be sink-holes. Reference to others of this kind will be made elsewhere.

Between Peterboro' and Lakefield, too, a cursory examination was made, but before anything can be said definitely regarding this district much more time would have to be devoted to the task. Probabilities, however, do not favor the existence of mounds here, for, if we may be guided by the situation of those already examined, we need look

for them only along the lake shore, and, perhaps, in the valley of the Otonabee. It is scarcely rash to venture this remark, for it is almost certain that had anything of the kind existed elsewhere, the discovery would have been made by farmers who undertook to plough down the elevations, and so far, no such information has come to hand.

Next season a further search should be made on both banks of the river, and on the south shore of Rice Lake, for, although there is no record pointing to their existence in either locality, it is worth while to be able to state the extent and limits of the territory with some degree of certainty.

GORE ISLAND EXCAVATION.

On an island north of Gore's Landing there was said to be a curiously constructed earthwork. Some declared that it was of Indian origin, while others with equal assurance stated that it was not.

Guided by Mr. Reginald Drayton, and accompanied by Mr. A. F. Hunter, it was found on reaching the spot, that the work in question consists of a rectangular excavation thirty-six by twenty-four feet in diameter, the bank along the sides of which was formed by the earth thrown out of the pit. The bank varies from nine to seventeen feet in breadth across the base, and stands a little more than three feet above the outside level, the depth of the hole being eight feet from the top of the bank. As everything connected with this excavation bore proof that it was done by some white man, the only reason for referring to it here is to correct the belief entertained by those who have attributed the work to Indians. Mr. Hunter and myself were afterwards assured, on what we thought good authority, that some whimsically disposed old settler once resolved to build himself a house on this spot, but the idea was for some reason abandoned after the cellar was dug.

OTHER ISLANDS IN RICE LAKE.

On account of numerous vague reports regarding the existence of mounds, and graves on the other islands in Rice Lake, I examined all those lying east of Hiawatha, (except Spook Island) and one between Hiawatha and Gore's Landing.

Margaret's Island* near the east end of the lake, and Ferguson's Island showed no evidences of mound-builders' work. On the latter what was supposed to be a mound proved to be a bank of natural formation. It is needless to say, however, that on these and all the other islands afterwards visited there were found traces of comparatively recent Indian occupation. Ferguson's Island is reputed to possess a large mound, but on reaching the spot it turned out to be a gravel ridge of natural deposition.

Farther west and near to the north shore are two islands known as Foley's—Upper and Lower. On the south side and near the east end of the upper island were several shallow pits from twenty to fifty feet

* "John McIntosh and his daughter Margaret perished, as was believed, by breaking through the ice, in attempting to cross [Rice Lake]. His body was found during the following spring in Foley's bay, and hers further down at a point of land since called Margaret's Island." Poole's History of Peterborough, p. 135, Peterborough, 1867.

This event, which has given rise to the name of the island, probably happened about 1820.

apart, three to four wide, and about a foot deep. These pits correspond exactly with others mentioned in former reports as existing on the hillside at Parry Sound, on the Wood and McCoomb farms in London Township, and in the township of Bexley, Victoria County. Some of a like appearance were seen this season near Coboconk, and are mentioned elsewhere in this report. Unless, as has been surmised, they were corn-caches, it is difficult to account for them.*

On the west side of Foley's Point (on the adjoining mainland) is an old village site which was thoroughly examined, but where nothing was found, but fragmentary pottery and flakes of flint.

All the islands in Rice Lake consist of boulder clay and gravel, as do also both shores of the lake, which, indeed, seems to be but a large glacial groove about twenty miles long, and from two to three and a half, or four miles wide, and perhaps in but few places as much as fifty feet in depth. Hundreds of acres of its surface are covered with wild rice, and it has thus been always a favorite resort for water-fowl. Fish, too, were formerly abundant, and no doubt deer and other large game were plentiful. As the Indians also used (and still use) the rice, it will be seen that all the conditions of primitive life in the neighborhood were extremely favorable. Add to this the fact that the lake formed an important link in one of the two great canoe routes between the upper lakes and the St. Lawrence, and more especially between the Huron country and Lake Ontario, and we have another reason for this having been a desirable Indian resort. That it was so during the historic period we know, but for how long anterior to this no one can say, for the construction of the mounds cannot be attributed to any people with whom Europeans have come into contact. It is not recorded that the Huron-Iroquois were mound-builders, and we must therefore regard the earthworks in question as the product of a people who preceded them. Indians they were, undoubtedly, but Indians of different tastes and habits from the Huron-Iroquois, as well as from any members of Algonkin stock met by the white man in this part of America. The mound-building custom is of itself almost sufficient proof to this effect, but when we consider that none of the mounds examined yielded a trace of pottery,† a flake of flint, or a pipe of any kind, we are warranted in concluding either that those who built the mounds did not use articles of these kinds, or, if they did, that they

* Hennepin, Lafitan, Luskiel, Morgan, and others refer to small pits not only as places of deposit for grain, but for cured venison and other meats. It is also stated that the holes were lined with bark only for corn, but when meat was placed in them they had an additional lining of skins.

Since the above went to press I have met with a passage in the "Diary of David Zeisberger, a Moravian Missionary among the Indians," which seems so clear, that no room remains for any longer doubting that such pits were what we have so long supposed them to be.

Zeisberger founded a mission at the place since known as Moravian Town on the Thames, in 179¹, but the quotation dates when he was on the Clinton River, Michigan, July 23, 1782. "We found many traces that an Indian town must have stood on this place, for we saw many holes in the ground, which were now indeed filled up, but quite recognizable, in which the Indians have even now the custom of keeping their corn and other property. We could also see quite plainly the little hills where corn had been planted, but where now is a dense wood of trees, two to six feet in diameter." page 105, Vol. I., Cincinnati. Robert Clarke & Co., 1885.

† Fragments mentioned as having been found near the surface have no weight in this connection.

refrained from depositing them with the dead, and in either case there is a strongly marked distinction between them and their successors, who, although they did not invariably place offerings in graves, when they did do so, usually deposited objects the ghosts of which would prove advantageous to the human ghosts. If a similar post-obit economical idea actuated the minds of our Ontario mound-builders, the grave offerings would serve as a key to the disposition and habits of the people, and we might assume that they had no earthenware, did not smoke, were not remarkable as hunters, probably were fishermen, of comparatively settled domicile, fond of personal decoration, and inclined to be peaceful. In some of these conclusions we would probably be wrong.

If there be anything in the usually accepted belief that the purpose of placing objects in the grave was to supply spiritual needs, then the souls of our Ontario mound-builders were but poorly provided for,—a few simple appliances of horn and bone, a heavy copper tool of no use in warfare or in the chase, and a celt or two—all the rest being purely of a decorative or ornamental character, consisting of copper and shell beads, and gorgets of shell and stone! This in Western phraseology, was “a mighty poor outfit” to carry on business in the Beyond, and it seems more reasonable to regard the mortuary specimens rather in the light of tokens of respect by the living to the dead, or as having been placed with the bodies as their personal property during lifetime, and which it would be “unlawful” to retain, or for others to appropriate: just as it was supposed to be in the matter of personal names, which were forbidden by some even to be uttered after the death of the persons so designated.

However this may be, there is a difficulty in accepting the belief that all our aborigines were actuated by motives of convenience to the souls of the departed when articles were deposited in the graves. The testimony of ossuaries and single graves as well as of mounds is opposed to this view. Had this been a general superstition, the corresponding practice would have been equally general. We may easily understand the case of an individual, who, in the respect of his fellows, was “so poor that none would do him reverence,” but what is to be said regarding that of one over whose remains many days of toil were expended by scores, perhaps by hundreds of his people to construct an immense heap of earth, in which has not been placed a single effective weapon, or even a single ornament for his or her use or gratification in the spirit-land? And what of the great pits so laboriously dug to contain the bones of as many as a thousand persons, without an arrow-head, without a pipe, without a pot, or without a scrap of anything to cheer the forlorn ghosts? Surely with a belief said to have been so common, there could not have been such an extraordinary omission. The truth is that we are yet in the dark regarding the philosophy of aboriginal burials, and, perhaps will ever remain so. It would almost appear from what knowledge is now in our possession that objects were at first placed in the graves because they were owned by the persons buried, or as marks of respect in some cases by the mourners; that even this practice was not universal, or at least not invariable; and that as the people imbibed the idea of a Great Spirit and of a future life from their intercourse

with Europeans, so they elaborated the Happy Hunting Grounds, making them instinct with ghost-game life for the sustenance of departed braves in a similar condition of being, who would therefore require the shades of weapons and utensils to maintain an existence. Nor is such confusion of thought in simple minds to be wondered at. It is always difficult to disentangle the material from the spiritual, as even our own modes of thought and expression sufficiently testify when we speak of the "great white throne," "the wings of angels," "pearly gates," crowns and harps of gold, and the occupations of the blessed; and as the satisfying of hunger was always a prime consideration with the Indian, we are at no loss to perceive why he should associate the supply of food with supreme happiness. Still, time is required for the birth and development of such ideas. At first they would be adopted by individuals, families, clans and tribes, and perhaps in this order, but not by all at the same time, nor by some at any time, hence the divergences of practice we observe.

The examination of these mounds tended also to confirm a suspicion which has been held for some years regarding the origin of a class of stone relics found in Ontario, but not over plentifully. These are of the kind commonly called *Ceremonial*, and consist mainly of articles made from slate, including tubes, "gorgets," "amulets," and "banner stones," no reference to which was made by those Europeans who first met the Indians, or even by those who have subsequently had opportunities to observe the "noble savage" *at home*, during a period when it may be assumed that specimens of the kind in question would still be in use to some extent. The difficulty arises not from any lack of belief in the ability of the Indians, as then known, to produce these, but from how to account for the fact that the existence, and consequently the uses of such specimens, were entirely ignored by writers. They are among the most beautiful articles of stone work we find, and had they been in common use by the Indians of the sixteenth century, must have attracted the attention of the explorers and missionaries. The latter, more especially, would have referred to them had they been employed in the performance of any rites or ceremonies. That no notice of them occurs, the inference is that they had no place in the Indian economy of the time, and must, consequently, be referred to another and an earlier people. It is clear that those who heaped the mounds were an earlier people; it seems equally clear that they fabricated these objects, and although this brings us no nearer to the purposes for which they were made, it does account for the pervading silence relative to them, on the part of writers, who were quick to observe every novelty employed by the Red Man.

I am aware that this view of the case is not without objections. It may be urged for example, that the area over which such relics are found extends far beyond the limits of the mound country as known to us, but it must be admitted that while the mound-builders may have been comparatively stationary in their habits, they probably had to make long journeys in search of certain kinds of food, and to procure material for clothing, indeed, whatever may have been the custom to the south of us, there is scarcely any evidence of permanent abodes on the part of the Ontario Mound-Builders, near the mounds, which if

merely memorial in character, may have only been visited periodically by a people whose *habitats* were at considerable distances from the earthworks.

It may be objected too, that our knowledge of Ontario mounds is too scant, and that finding in them a few specimens of the kind mentioned is not sufficient to warrant us in attributing to the mound-men alone this branch of stone work. There is force here, but when it is remembered that all or nearly all the "ceremonial" objects hitherto found have been taken from the surface and not from association with human remains, it will be seen that, at any rate, there is nothing in the objection to favor the view that such relics are the work of Indians during the historic period, and if it be shown that they are not the work of the mound-men, we must look to a folk who were *their* predecessors. It is not denied that some of these beautiful slate relics were in the possession of recent people, who may have found them just as we do, and, finding them, would no doubt prize them highly; it is only here assumed that the Indians as known to history were not the Indians who produced them, and that to an earlier people we must look for the origin of "ceremonial" stones.

Several years ago, a peculiarly contorted embankment or ridge was brought to the notice of Mr. A. F. Hunter, in the township of Innisfil, within a few miles of Barrie. The identification of the Otonabee Serpent mound revived in his mind the recollection of the Innisfil bank's appearance, and suggested the possibility that it was also an artificial earthwork intended to represent a snake of even huger proportions than the former.

I have twice visited this place, and on the occasion of my return, had trenches cut into the bank to lay bare its construction, but I am unable to state that the results were proof of artificiality. That the configuration of the ridge is most remarkable, must be admitted, and it is quite reasonable to suppose that to the Indians it was suggestive of an enormous snake—it is even not improbable that so regarding it they have here and there eked out the work of nature to complete the figure—indeed there are at least, two places that look very much like such work, but at no time did anything approaching genuine proof present itself to associate the ridge with human contrivance.

In the following pages a description of this very peculiar ridge, will be found from the pen of Mr. Hunter, who has given considerable time to the examination of it and adjacent banks of a similar kind.

EMBANKED HOLLOWs.

When at Mud Lake (a name given to a part of Chemong Lake), in search of reported mounds, Mr. Daniel Whetung, an intelligent Indian of the Chemong village, took me in his canoe to a place which is said to have been employed by the Ojibwas to conceal the women and children during the times of 'unpleasantness' that were so frequent, if not actually chronic, between these people and the Iroquois. The reputation of the latter among their old foes is not at all an enviable one, for the 'Mohawks,' as the Iroquois were frequently called,

are said to have been cannibals. They are credited with an especial fondness for children, whom they roasted, and it is affirmed that their practice also was to kill all the men and women, with one exception, from whom information was first gleaned respecting other Ojibwa camps, when he, or she, was also tomahawked. Mohawk itself is an enemy's nickname, meaning man-eater.

It is not at all likely that the Iroquois were pre-eminent in this respect, but the belief that they were, supplies the basis of numerous Ojibwa legends. Whetung headed his canoe for a point on the south shore, close to which is a small island, on which he said there was at one time "a sort of fortified place, like a big bank," no sign of which now remains. The island, or islet rather, is so small as to afford standing room only for two or three hundred men. Landing on the point, a short climb brought us to the highest ground, where, sure enough, we overlooked a large and deep hollow, and here were the women and children concealed, while battle was raging round "the fort" only a few yards off! Whetung himself regarded the story as an improbable one.

As several similar hollows were afterwards seen, it may be as well to state here that they are simply examples of subsidence, arising from percolation of water from the surface through a gravelly or sandy sub-soil, by means of which the loose material is carried off through such underground passages as the water finds and enlarges for itself; with the inevitable result that a depression is formed on the surface as the unsupported soil sinks.

A really marvellous example of this kind occurs at Kirkfield, Victoria County, on the line of the old portage between Simcoe and Balsam lakes. Here the subsidence has taken place in the middle of a hill some eighty or a hundred feet high,* and the result is what may be called a *crater* having a depth of at least forty feet, and the circumference of which cannot be less than a thousand feet, if I may trust wholly to memory.

At Sunderland, in the township of Brock, Ontario county, as I learned through the kindness of Mr. E. Richardson, principal of the village school, there is a curious and instructive example of such a depression, or sinkage, rather, which has been utilised by the Indians for some purpose not yet understood by us. This hollow is on the farm of Mr. Jas. Tocher, lot 10 (S. $\frac{1}{2}$) concession 5. It is oval in outline, and is surrounded by a strong embankment, measuring one way two hundred and twenty feet, and the other one hundred and ten feet from outside to outside, the greatest depth within being about nine feet below the top of the bank, which averages from two to three feet above the outside level. As the shorter diameter of the hollow itself, from base to base of the bank is only fifty feet, it will be seen that the bank is here thirty feet wide at its foundation, and in a few places it is even more, in one place reaching forty-two feet.

An examination showed conclusively that the earth has been thrown up by hand, and was probably raised to a height of four or

* I have since heard indirectly that Mr. Schreiber, civil engineer on the Trent Valley Canal, estimates the height of this hill (approximately) at eighty feet.

five feet, if we may judge from its present width, for as Mr. Tocher states that the hollow is seldom without a good supply of water, to which cattle have resorted for forty or more years, considerable



Fig 5.—Tocher's Embanked Hollow, Sunderland.*

tramping has produced a very perceptible effect; this all the more so on account of the place being still "in bush," and thus affording shade. Natural solidification, however, must have done much to lower the original height long before the land was occupied.

As the place is seldom destitute of water now-a-days, the inference is that it formerly held more, a condition that does not add any force to the supposition of some that such hollows were used by the aborigines as dance-circles, or amphitheatres in a small way, unless this is an exceptional case, for it must be admitted that others similarly treated are quite dry at present, whatever they may have been formerly.

Adjoining this hollow is another of smaller dimensions, still in its natural condition, and here we find the explanation of the query that must strike every one who sees this embanked hollow—why was it made oval?

Where the loose or open nature of the subsoil is conducive to the passage of water, two or more underground channels may be so close that the consequent subsidences meet or run into one another, in which case it is easy to see that the result will be an ovate hollow (or that which is suggestive of one), near to, or in the middle of which is a bar, higher or lower, wider or narrower, in accordance with the

* From a photograph by M. Andrus, Lindsay, by the courtesy of Mr. Richardson, Teacher, Sunderland.

extent reached by the sinkage before the channels became clogged. The smaller hollow in the Tocher bush is an example of this kind, and it is necessary only to remove the bar to produce a pit similar in its proportions to those of its embanked neighbor. The inference is that to such conditions are due the form of the larger, enclosed hollow, whatever may have been the purpose for which the work was intended.

In a field adjoining the woods was found a beautiful turtle pipe, presented to us by Dr. James McDermott, of Sunderland. See figure following.

On the farm of Mr. Doble (lot 12, concession 5), adjoining the village, and within three-fourths of a mile of the Tocher earthwork, is an Indian village or camp-site, half an acre in extent, on going over which with Mr. Richardson we picked up several fragments of stone tools, and numerous bits of pottery.

In the township of Innisfil, Simcoe county, there are many examples of sinkage, and it is evident that work has been performed on some of them by throwing up a surrounding bank. A good example of this may be seen on the farm of Mr. H. Mayor, lot 22 (N. 1/2), concession 12. The remains of the embankment are yet visible, notwithstanding repeated efforts to plough it down. As Mr. Mayor remembers this in his boyhood, the pit was about fifteen feet deep, measured from the top of the bank, which was itself five feet high.

In the same field are other depressions, but on none of these has any work been done. On another field belonging to Mr. Fennell, lot 21, concession 13, there is a well-marked example of an earthwork thrown up to encompass one of these pits, but as it and some others will be referred to in detail in Mr. Hunter's paper, nothing further need be said about them here, beyond stating that when in conversation with a well-digger, at Painswick, he informed me that on the south half of lots 19 and 20, concession 13, there are twelve such pits *in a row*, and all of them wide and deep. These, no doubt, overlie a fissure, through which drainage has removed the loose underground material. Questioning him as to the character of the strata he met in his employment, elicited the statement that at depths varying from five to fifteen feet are gravel and sand, which extend to a further depth of from fifteen to upwards of twenty feet, and sometimes as much as forty feet. This reply corresponded with what was anticipated, and the circumstances are mentioned here chiefly to correct wrong local impressions respecting the origin of the many hollows that exist in different parts of the province.*

In connection with the theory that embanked pits or hollows were used for dances or ceremonial purposes of any kind, "open to the public," I am not aware that any authenticated reference exists to this effect. Not long ago I had the pleasure of examining, with Miss Cornelia Horsford, of Cambridge, Massachusetts, two places in the neighborhood of that city. One of these is a circular hollow, the other forms a well-rounded sinus in the face of a low hill, but both are

*Mr. Henry Smith, of New Hamburg, wrote regarding a small, grave-like hollow of this kind. After being replied to respecting its probable character, he examined it, and discovered it to be as stated.

terraced within, as if to afford standing, or sitting room for spectators, an arrangement quite unlike any effected on our artificially treated depressions. In neither of the Massachusetts cases is there an outer embankment.

SMALL PITS OR CACHES.

Mention has been made, both in this and other reports, of the existence of small pits occurring in rows and groups, usually on some gentle slope. On Foley's Upper Island, in Rice Lake, we found a few of these, corresponding in every respect to others elsewhere, except that they were farther apart—from twenty to fifty feet, while the usual distance is from six to twelve or fifteen feet. On Foley's Island we carefully cleaned out three or four of these holes, removing all previously disturbed soil, and leaving, as nearly as possible, the original face of the excavation. This gave cavities from two to three feet deep, and about the same width, but in no instance was there a trace of anything to indicate the purpose for which they were originally dug. On the supposition that they were for storing corn, it would be almost useless to look for any traces of it, unless it had become carbonized by 'heating' or fermentation, if a sufficient quantity had been left; but whatever the holes were meant to hold, has been removed so completely as to leave no indication of what it was. Indeed, it is probably owing to removals that the pits are now observable.

On the farm of Mr. William Smith, lot 18, Gull River Range, Bexley Township, and within a short distance of Cobconk, there are said to have been at one time twenty-five or more of these pits, but as most of them lay within the area of a field that has been cultivated for some years, they have disappeared. In the adjoining field, however, there are still twelve of them in a row, eight to nine feet apart, of the usual depth—from ten inches to a foot, and about three feet across, at the surface. Some of these were opened, with the result as in other cases.

Some clearing having been done to cut a road allowance through a new section in Bexley Township, where Mr. G. E. Laidlaw and myself made an examination two or three years ago, the present condition of the ground affords an excellent opportunity to see the position of the numerous pits. On the occasion of another visit to the spot this season, we did not succeed in adding much to our knowledge, beyond being able to see the arrangement of the holes more clearly. Mr. Laidlaw has paid some attention to this ground, and his remarks concerning it will be found in another place.

VILLAGE SITES.

Besides the village or camp sites already mentioned as having been visited at Foley's Point; at the mouth of the Otonabee; near the Old Bay House; on other parts of the Rice Lake north shore; and in Brock; some time was spent on an interesting spot in the township of Bexley, where Mr. G. E. Laidlaw and myself collected a number of good specimens. Clay discs were especially numerous, and fragments of pottery were plentiful.

Another place near Mud Turtle Lake in the Township of Somerville was examined but did not yield much. The same may be said regarding a spot on Corbett's Hill, Bexley, and of another on the farm of Mr. Angus McDonald, lot 45, concession 8, Eldon, near Kirkfield, although from the two places last named, large quantities of relics have been taken in recent years. The marks of occupation on McDonald's farm exist over an area of fully fifty acres.

OSSUARY IN BEVERLY

A son of Mr. Aaron Main (lot 8, concession 5, Beverly), when ploughing last summer, threw out some human bones. Mr. James Hay, teacher, and Mr. Main's sons proceeded to search, but had not done so thoroughly before information reached me. They found a layer of clay, three or four inches thick, above a large quantity of bones, and met with a few bear's teeth, and some fragments of pottery. The bones have been thrown into the pit promiscuously, and formed a deposit nearly two feet in thickness, below which, and resting on 'hardpan' clay, was a shell cup, made from the *busycow*, by removing the interior portions, and leaving only the outer wall.

On cleaning out this ossuary thoroughly, we found several skeletons still undisturbed, and placed along the bottom edge of the excavation. These were seemingly the bones of persons who had been buried *in the flesh*, as all the parts occupied their proper relative positions. Perhaps these represented the bodies of some who had died about the time the ossuary was dug to receive the bones of those who had died several years before. Nearly all were doubled up, and lying on their right sides. The occurrence was an unusual one in a burial place of this kind.

Some twenty or thirty skulls, most of them in a very imperfect condition, were taken from this place. Most of the good ones are now in the Museum, through the courtesy of Mr. Main, senior; Mr. J. Humphrey, Troy, and Mr. James Hay.

This ossuary was much smaller than others hitherto opened in the township, being only ten feet in diameter, and about two and a half feet in depth, measuring from the general level of the field, which has been under cultivation for eighty years.

Mr. David Main, eighty-two years of age, father of Mr. Aaron Main, says he remembers a ditch the Indians had made to connect a swale that then existed close by, with the neighboring creek. He also asserts that traces of Indian cultivation were numerous in the bush seventy-five years ago, in the shape of old corn-hills.

GRAVE IN SCARBORO.

On the farm of Mr. Jonathan Ashbridge, lot 26, concession B, close to the edge of the precipitous lake bank, here two hundred feet high, a grave was discovered in November. In it were the remains of five persons, four of whom had been buried close to each other, and one a short distance from these. The bones of the latter were found in the ground promiscuously, while those of the others were in natural order.

The single burial was probably that of one who had died long before the others, and whose remains were removed from their original resting-place to lie beside theirs. As some of the bones were not more than a foot below the surface, and none more than two and a half, or three feet, the burials were probably those of Mississaugas, and therefore of comparatively recent date. With the exception of one skull, all the bones were much decayed. Mr. Ashbridge has kindly presented the skull to the Museum.

GRAVES IN WHITCHURCH.

BY W. A. BRODIE.

The "Old Fort," is noted for its numerous burials and variety of Indian relics. It comprises an area of about thirty acres of the hilly country in the ridges of Whitchurch and is situated on lot 14, fifth and sixth concessions of the township of Whitchurch, county of York. The surface soil is of a sandy or gravelly nature, and the sub-soil is clay. It was originally covered with large pines, under the stumps of which are sometimes found graves and Indian relics.

At the southwestern portion of the "Fort" I noticed two hollows about six feet apart, and thinking they were graves, commenced digging. At the depth of about two feet I discovered a skull of a full-grown person, very thin and narrow, the facial portion and lower jaw being wanting. Close to the skull, and in a row running north and south, were found eleven somewhat oval-shaped stones. Tracing the grave westward I noticed many of the bones wanting, the ribs and large bones of the legs being best preserved. The position of the skeleton in the grave would indicate a sitting posture, the bones of the legs being about two feet deeper than the skull, which inclined to the east. This grave also contained a slate tablet and four small peculiarly shaped stones.

The other grave contained three skeletons; two were placed parallel with the former, but a few feet eastward. They were all in a sitting position the heads to the east as in the previous mentioned grave. Two of these skulls were those of adults, well preserved, but the lower jaws were wanting. The third skull was much smaller, and differing from the others, had the lower jaw well preserved. This grave contained two stone axes and three arrow-heads.

In August, 1893, about thirty yards westward, I discovered another grave about one foot deeper than the others. Above the skeleton were several large, flat stones. It was in a sitting posture like those already mentioned, with the head to the east. The lower jaw was wanting but the skeleton on the whole well preserved. This grave contained a clay pipe very rudely made, and a rough irregularly shaped stone.

Many relics are found over the surface of "The Fort," part of which is being tilled, and yearly exposes new evidences of the old occupation, such as fragments of pottery rudely designed, beads of stone, bone and shell, axes of various sizes, small arrow-heads, stone and clay pipes rudely constructed, awls, needles and bodkins.

BALD HEAD.

This is the extremity of a low sandy spit, which extends in a north-westerly direction, enclosing Weller's Bay, south of the old Carrying Place, between Lake Ontario proper, and the Bay of Quinte. A brief visit paid to this locality showed it to have been a much favored resort of the old-time inhabitants. Within the memory of many residents of the neighborhood, Weller's Bay was one of the best fishing grounds in Canadian fresh waters, and was equally famous for its water-fowl. Even at the present day there are numerous places not nearly so well off in either of these respects.

On the line of travel to and from Rice Lake by way of the Trent, to Indians from the south, Bald Head afforded a very convenient resting-place, before or after making the portage, and as such it was used by them until a comparatively recent date—the proof, if proof be necessary, being found in the mixed character of the material that may be picked up here and there on old camping-grounds along the shore.

For a good many years Mr. Chadd, the enthusiastic local archaeologist, has set himself the task of collecting all the relics that are found in the neighborhood, both by means of his own examination and through the finds made by others. The whole of Prince Edward county presents a rich field for archaeological work, and it is said that collectors within its limits are numerous, notwithstanding which the collection of Mr. Chadd is admitted to be the largest and best.

On account of the constant changes that take place on the surface of Bald Head owing to the shifting of the sand, it is impossible to select places for examination, otherwise than as these may come to light after a gale.

As this locality is frequently visited by those in search of relics, it is now difficult to procure much, but during the short time spent there in company with Mr. Chadd junior, a small number of shell and glass beads were picked up, the former being made from a small univalve brought from the Atlantic.

With the exception of these beads, the Provincial Museum contains absolutely nothing from the Prince Edward peninsula, nor do we know anything regarding its record of village sites, burial-places, or other localities connected with aboriginal occupation. For this reason it might prove instructive to hear from persons in the county who have given attention to matters of the kind, and it is needless to say that should there be some in possession of specimens they are willing to place in the Provincial Museum, donations will be most gratefully received.

Much of the success attending such work as we performed during the past season depends on the intelligence of the workmen. With one exception, all the men employed at various places were acutely observant, and manifested great interest in their work. In this connection, special recognition of services is due to Messrs. Roach, Kain, Weir and Londreville, of Keene, whose appreciation of details was highly commendable in connection with the examination of the mounds on the mainland and islands of Rice Lake.

NOTES ON SOME SPECIMENS.

FLINTS.

Flints are of such common occurrence, and have been so often described, that perhaps but little more remains to be said about them, still fantastic forms appear now and again, that let in a little light on the taste and habits of the old workers. In last report on page 54, some specialized forms and sizes were illustrated from among those in our cases, collected by Deh-ka-non-ra-neh, on the Six Nation Reserve, and accompanying cuts (figures 6, 7 and 8) show what some other flints look like from the same neighbourhood, collected by Mr. F. W. Waugh,

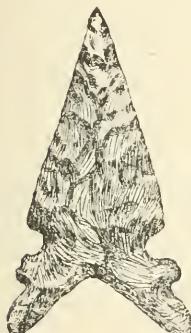


Fig. 6. (Full size.)



Fig. 7. (Full size.)

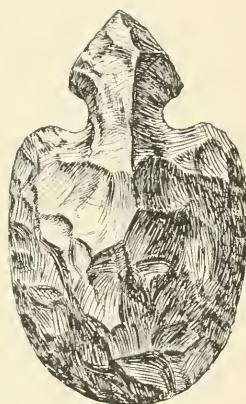


Fig. 8. (Full size.)

and presented to us with numerous other articles by that gentleman. Figures 6 and 7 are of convenient size for arrows, but their purpose may have been that of adornment about the person.

Figure 8 is very peculiar. Its symmetry when viewed edgewise, as well as sidewise is almost as perfect as one can imagine it possible to produce with such material. Both ends seem equally well adapted for use, whatever that use may have been.



Fig. 9.

Before the tip of this specimen (figure 9) was broken, the tool must have been almost seven inches long. It bears a weathered appearance indicative of considerable age. Inserted in a short handle

it would have made an effective knife, and thus used, it may have made many cuts round the crowns of heads, although perhaps, shorter instruments like arrow-heads served such a purpose better. Flints of this size and larger, are commonly either leaf-shaped, or necked at the butt, but here are two very shallow notches on each side, and the base is brought to a thin edge. This specimen is part of the collection made by Mr. James Cairnduff in Harvey Township, and by him presented to the Museum.

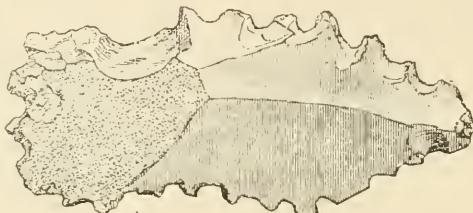
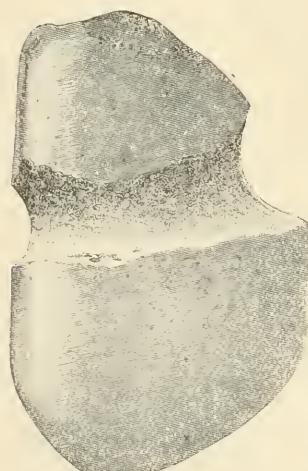


Fig. 10. Full size.

The very peculiar flint figured by No. 10 is from Boone County, Kentucky, and may serve for comparison with serrated specimens found in Ontario. Not only has it been deeply and irregularly notched, but the flake (for such it is) from which it has been made, is so much curved, that when lying on a flat surface, concave side down, the middle is nearly a quarter of an inch higher than the ends. It will also be observed that in this case the notches have been made completely round the flint. We are indebted for this curious specimen to Dr. S. H. Collins, of Lawrenceburg, Indiana.

STONE AXE.

Fig. 11. $\frac{1}{3}$ diameter.

Few objects in the Museum present more instructive features than does that here figured. It is an evidence of aboriginal ideas of adaptability. Except that a pretty deep groove has been pecked in it for handle attachment, it is simply a large pebble, and nothing more, but the eye of the savage was quick to perceive its capability as a cutting tool if he could only fasten a handle to it. While not as symmetrical as grooved axes generally are, here was a stone on which nature had done so much work that even a good cutting edge existed just where it ought to be, and this of itself meant a great saving of labor. Or the owner may have considered himself an extremely lucky fellow to own a tool or a weapon, so fashioned by the "spooks," if we may judge of his gratification by that of its

present possessors, who have to thank for it, Dr. S. H. Collins, of Lawrenceburg, Indiana.

CLAY PIPES.

These two clay pipes represent two distinct "schools" of Indian art. The general square-like cross section of bowl and stem in figure 12, suggests that it is a modification of a well-known Huron type. The

Fig. 12. $\frac{1}{2}$ dia.

arrangement of the dots, too, along the margin and angles was a favorite one among the Hurons. Deep and roughly triangular depressions have been made that the eyes may stand out, and the latter are very rudely modelled. Although the nose is prominent it falls in towards the point, and the nostrils are marked on the upper lip rather than on the base of the nose itself. The lips, like the eyes, are coarsely made, and perhaps two slight depressions, behind but higher than the eyes, are meant for ears. The lug-like projections on the edge of the bowl are very unusual. What is left of the curve on the stem shows that the pipe-face looked towards the smoker, as was generally the case. This fine specimen was found in the township of Oro, and was presented to us by A. F. Hunter, M. A. of Barrie.

Fig. 13. $\frac{1}{2}$ dia.

Figure 13, is of an advanced style. All the features are well moulded—the nose slightly aquiline, is most prominent at the tip, and the nostrils are neatly marked by means of two very small holes in the proper place. The chin is also well formed, and the general effect of the work is pleasing. This mask (from the middle of the eyes upwards) is higher than the body of the bowl behind. All the stem is gone, but the slight curve remaining on the back of the bowl shows that the stem was in the same direction as in figure 12. From Udora, Brock Township, Ontario County.

STONE PIPES.

That the turtle was held in such high estimation by Indians of the Huron-Iroquois stock, would warrant us in expecting to find numerous representations of the animal in those parts of the province that were occupied by these people, but the truth is that specimens of this kind are extremely rare. Until the present year the museum has contained but one turtle-shaped object of any description—a totem-like specimen—from the township of South Yarmouth, in the county of Elgin.

Dr. James McDermott, of Sunderland, township of Brock, and county of Ontario, placed us in possession of our first stone pipe carved to represent the animal in question. This pipe was found some fifteen years ago in a field, (Mr. John Baker's, lot 11, concession 5) within a few hundred yards of the earthwork elsewhere referred to on Mr. James Tocher's farm, and was given by the finder, to Dr. McDermott. It is made of a white or cream-colored limestone, and is nearly five inches in length, by three and three-eighths in breadth. The proportions are very good and the head is well formed. More labor has been

expended on the lower than on the upper side of the specimen, but the latter is evidently in an unfinished condition, as are some other portions of the body. Marks of the tool used in chipping the groove that surrounds the margin on this side may still be seen, and the groove itself seems to be only part of the work necessary to give the back its proper degree of curve, after which the whole surface would no doubt be rendered fully as smooth as a portion of the under side now is, and as it was customary to finish every stone-pipe. Another evidence of the incomplete state of this fine specimen is shown in the drillings that have been made into the body, before and behind each leg. It is plain that these borings have been done, just as any workman would do to-day, for the purpose of removing the bulk of the material between the upper and lower parts of the test, and, at the same time, to bring out more freely the form and attachment of the legs. The holes have been produced by two drills—first, one of three-sixteenths of an inch in diameter has been used to the depth of about a quarter of an inch, followed by another fully twice that size, with which the small holes have been deeply countersunk. The eyes are represented by slight borings made apparently by the smaller of the two drills already mentioned. No attempt has been made to form a tail, and the condition of the feet adds color to the belief that the specimen has been left in an unfinished state, for while the toes are roughly indicated on two extremities, the other two are perfectly plain.

There is no evidence to warrant us in placing Brock Township within the limits of the Huron nation, and yet it is not so far distant from what we call the "Huron country" as is the township of Manvers, where I examined some ossuaries last year. Pipes, however, seem to have found their way to and from widely separated portions of the continent.

Shortly after receiving the turtle stone pipe from Dr. McDermott, we were presented with another of the same type, by Inspector Jas. L. Hughes, of Toronto. Although the latter specimen has suffered some damage to its limbs, it presents features that are absent from the Brock pipe and certainly are intended to represent a different species of turtle. Mr. Hughes' specimen was found in the township of Darlington, county of Durham. It is made from soapstone, a material much more easily worked than limestone, a fact that may in some measure account for the superior manner in which its details are brought out.

Originally, what now represents the upper part of the test, would appear to have been almost circular and, as nearly as possible, three

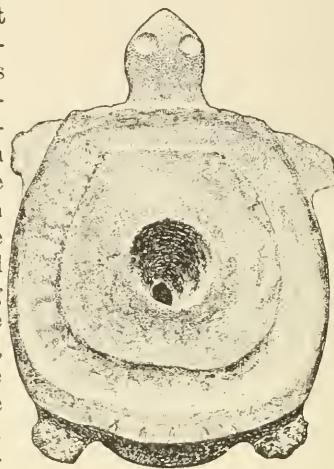


Fig. 14. $\frac{1}{2}$ dia.

inches in diameter—its present measurement from right to left—but three-eighths of an inch has been removed from the front edge of the test to show the protruding head, on which no eyes are represented. The upper side is quite smooth and almost black, presenting no features worthy of notice, but on the lower side much time and labour have been spent in an endeavor to produce life-like details. In both of our turtle pipes the stem-hole enters the bowl from behind, but as the workman in modelling the Hughes pipe has introduced a tail an inch in length, he has formed this appendage, turned artistically to one side, thus

leaving the way clear for the insertion of a wooden stem. The maker, too, has aimed at giving the tail a natural appearance by means of a series of notches, but he has not succeeded in placing them on the right side.

When closely examined a faintly scribed line may be seen extending from neck to tail on the under side of the test. This line has no doubt been drawn by the workman to mark the middle of his material, and enable him to produce something symmetrical, which he has managed fairly well. The presence of such a line is suggestive of European 'laying out' rather than of such hap-hazard workmanship as we are prone to attribute to the Indian, and if found on stone pipes only, might tend to confirm this suspicion, for it is certain that in numerous instances these are the work of white men, but in at least one other case, viz., that of a woman's large, semi-circular, slate knife, a tool that no white man was likely to make, there may still be traced the line followed by the artificer in forming the curved edge of the blade.

Both turtle pipes are excellent specimens, and the donors are hereby specially thanked for their gifts.

A soapstone pipe that retains some marks of great former beauty was presented to us by Mr. J. A. McIntyre, lot 15, west half, concession A, Otonabee. Originally it has been a fine specimen of the platform or monitor pipe, but long usage, and perhaps, accident, have abridged the proportions of its base, and damaged the shape of its bowl. The stone is a very light gray, of fine texture and appears to have been made with considerable care.

COPPER.

Implements and ornaments of copper are of comparatively rare occurrence in Ontario, and it is not quite clear whether those found within the limits of the province were hammered into shape by their last owners, or procured in exchange, or by spoliation, from north-western sources. Rough blocks of the native metal, found at wide intervals, would lead us to favor the supposition that the work of the hammerman was performed here in some cases at least, but it is tolerably certain that many of the specimens turned up in Ontario have been procured one way or another from people whose country was in proximity to the native supply, and who, no doubt availed themselves of this advantage, commercially. For ornamental purposes

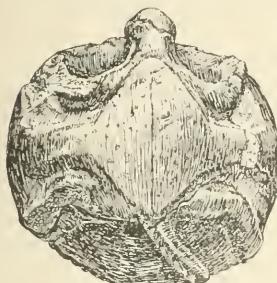


Fig. 15. $\frac{1}{2}$ dia.

the chief use of copper was for beads and bracelets—so far, we have found nothing in this metal corresponding to tablets, pendants, pipes, tubes, or amulets of any kind—but the axes, chisels, knives, and spear-heads of copper were, in all probability, also more for ornament than use. As cutting tools they were inferior to a flake of flint, for it cannot be too often repeated that the popular notion attributing to the Indian, or, indeed to any one else, the art of tempering copper, is utterly without foundation.

The largest specimen of copper in the museum I procured from the "Princess Mound," on Sugar Island, last August. It was lying near the right side of the skeleton, a little lower than the onyx tablet



Fig. 16. Copper chisel or adze.

described in another place. This tool is ten inches long, an inch and five-eighths wide, seven-eighths of an inch thick, and weighs nearly three pounds and a quarter. One side is flat (where it is not slightly concave), and the other side is well rounded, and somewhat wider than the flat side. Both ends have been beaten to a cutting edge, and as a result of the process each is wider at the lip (one of them much more so) than the body of the implement immediately behind. Surface markings indicate that this tool was wrapped in skin, or fur, and not in a fabric, when buried.

The smaller end bears marks of usage, or perhaps the beating-out has not been completed, but the opposite extremity has a fairly good edge.

As a cutting tool the chief advantage possessed by one of this kind was its weight, as compared with its bulk, and to this may be added, the ease with which it might be sharpened, first by hammering, and subsequently by rubbing.



Fig. 17. Copper chisel.

Figure 17 however, represents an implement of copper that had not in its favor, the advantage of weight, for although it is six inches in length, and fully an inch and a quarter in width, it is little more than one fourth of an inch thick and weighs only nine ounces. This hand-

some chisel was found near Troy (lot 6, con. 2, Beverly Township) by Mr. J. Humphrey, and was kindly presented to the museum by Mrs. Humphrey.

The copper knife here figured has a strong resemblance to one described in a former report, from St. Joseph's Island, near Sault Ste. Marie. This one was received by Mr. G. E. Laidlaw from the finder,

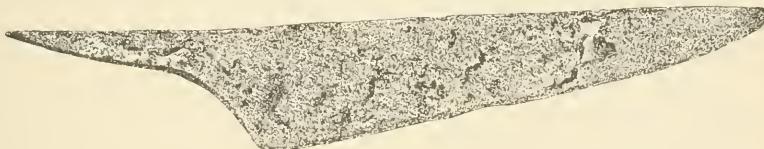


Fig. 18. Copper knife, $\frac{1}{2}$ dia.

who picked it up near Balsam Lake. Its resemblance to a white man's knife is so strong, that one is tempted to suspect that a European was not far away when it was made. It is very thin—less than an eighth of an inch in thickness—and both edges have been sharpened by grinding or rubbing. It bears every appearance of being made from native copper, and not from any worn-out, or disused vessel of this metal supplied by the whites.

BEADS.

The copper beads found on Sugar Island are of two kinds—one, similar to those already in our cases from Wolfe Island at the eastern extremity of Lake Ontario; and the other like some from Tidd's Island, opposite Gananoque. Of the latter, which are merely thin bits of metal formed into small tubes from half an inch to an inch long, and a quarter of an inch in diameter, we found only four in the "Princess Mound." Some patches of verdigris showed where there had been a few others. Of the former kind there are upwards of five hundred, averaging three-eighths of an inch in diameter (measured across the hole) and a fourth of an inch in thickness. The edges are rounded. A heavy coating of verdigris prevents us from seeing how the beads were made, but the irregular outline of the holes is sufficient to prove that the material had neither been punched nor drilled, and a very little thought serves to prove how impossible either operation must have been to the old-time workman. A tapering punch driven through one of the beads shows that they are formed of pieces about an inch and a half long, the ends of which were beaten to a thin edge, so that when the metal was bent and the ends made to pass each other, a good splice was the result.

The skill and labor involved in the manipulation of the copper with stone tools, are enough to awaken our wonder, when we consider the number of beads required to make a necklace—in this case upwards of five hundred as already mentioned.

A smaller number found in an adjoining mound were somewhat less in size, but equally well formed.

SHELL GORGET.

Large shell articles of any kind are not among the common finds in Ontario, and although the museum contains a few specimens of round and pear-shaped shell 'gorgets' no sign of engraving appears on any of them. So far as known, no rattlesnake patterns similar to the complicated and highly conventionalized designs found on such objects in some of the southern states, have been discovered in Ontario.

The specimen here figured, I took from a mound on the farm of Mr. James Miller, Otonabee Township, within a few hundred yards of the mouth of the Otonabee River.

It is part of a busyeon or some other large shell, and measures nearly eight inches in length by four in breadth. In a rough way, it seems to represent a turtle, the hinder portion of which has been broken off. The incised lines are sharply cut, but the execution is so rough as to show us that no drawing had been made to guide the hand of the graver.

Perhaps the most instructive lesson deducible from this specimen is to be found in the central part of the design, where we find that the workman has *not* employed any kind of dividers to mark what he intended to be circles. The work has been hurriedly performed—perhaps on purpose to place as an offering with the body buried in this mound—for not only are the lines unsymmetrical in their arrangement, but on the right side it will be noticed that one of the rows of shallow holes has been left incomplete. Several tons of earth were carefully sifted in vain, to find what appeared to be the missing hinder part of the specimen. The conclusion, however, was at last reached that the portion figured was all that had been buried; probably all that ever had been made; that it had been made simply to deposit in the mound, and this supposition receives support from the fact that the suspension holes on the right-hand edge of the body show no signs of the slightest wear.

STONE TABLET.

Among the relics found in what has been called the "Princess Mound," on Sugar Island, is a tablet (Fig. 20) of not uncommon shape, but of rare material in this part of the world. It lay near the breast of the skeleton, about the neck of which were found the copper and

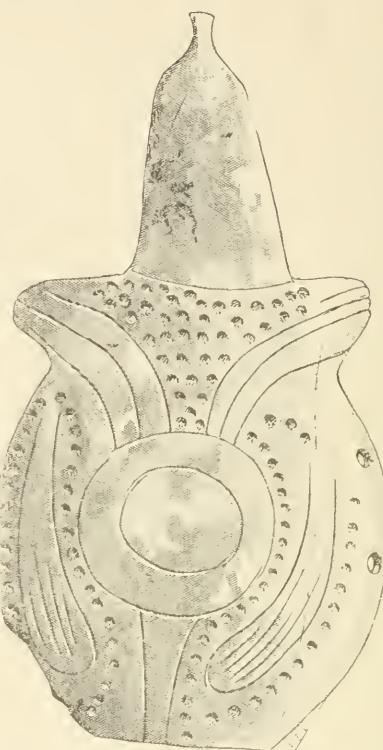


Fig. 19. Engraved shell, $\frac{1}{2}$ diameter.

shell beads elsewhere referred to. In size, shape, and arrangement of holes, this tablet is almost exactly a counterpart of one presented to the museum some years ago, by Squire McDonnell, of Lindsay, but the material resembles what is known commercially as Mexican onyx—a

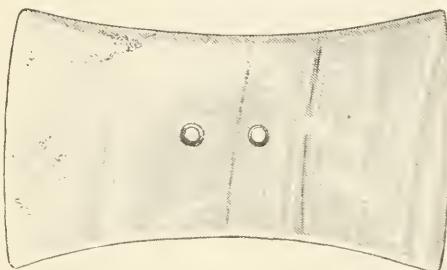


Fig. 20. Onyx Tablet.

calcareous stone, richly veined with delicate colors. Long contact with the soil has destroyed the brilliancy of the tints in this specimen, but the veining is still distinct, and some light pink and purple hues may yet be seen. Although more than a fourth of an inch in thickness at the middle, the stone is translucent.

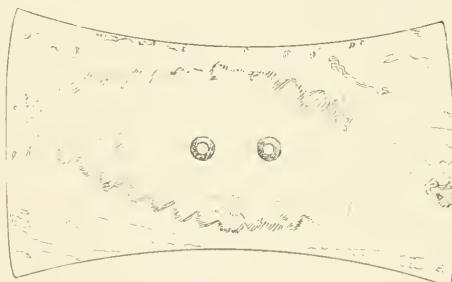


Fig. 21.

One of the sides—that which lay next the body—is almost wholly destitute of color, and is, moreover, considerably corroded. What renders the latter circumstance to be specially regretted is that there are still traceable the remains of an oval pattern bearing a zig-zag, or a crenated outline, enclosing the central holes, as may be seen from the engraving (fig. 21.)

PRESTON PENDANT.

The pendant-like object here shown (Fig. 22), is quite unlike any thing else in our possession. It is of fine sand stone, $2\frac{5}{8}$ inches long, and not more than a fourth of an inch in thickness. Since the hole was drilled, slots have been cut on one edge of it, like those connected with the eye of a common sewing needle. On the side of the specimen not shown here, the slot is less than half the size of the one seen. The opposite end of the specimen is shouldered to half its thickness, but this is apparently the result of an accident rather than of design. The work of rubbing this object into shape is well done.



Fig. 22. $\frac{1}{2}$ di.

TRIANGULAR, BLUE GLASS BEAD.

Insignificant looking as is an object whose size is little more than half an inch, and its shape an equilateral triangle, it is not without causes of 'wonderment.' The fact that it is of blue, mottled glass is singular, when it is considered that the Lake Rideau shores (where it was found), have hitherto yielded scarcely a trace of European contact or influence, but such things often travelled a long way in advance of the white man. Still, it is only the material that is of European character—the workmanship is Indian, as may be seen from the hole, which appears to have been picked out (not drilled) with some small and hard silicious point, unless we suppose the shaping of the glass fragment to be wholly the work of some white hunter or trapper, provided with a poor supply of tools. Dr. T. W. Beeman found this odd little ornament at Plum Point, Rideau Lake, Lanark county.

BIRD AMULETS.

The bird amulets illustrated by Figs. 23 and 24 are a desirable addition to our collection.

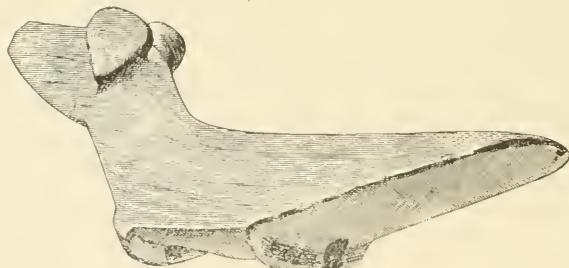


Fig. 23. Five-eighths diameter.

Fig. 23 is a picture of one found near Thedford, Lambton County, a point farther west than is represented by any other similar specimen. It is of brown slate, and has two cross-bars on the base, through each of which a hole is bored. This very good amulet was presented by Mr. Alfred Willson, Toronto.

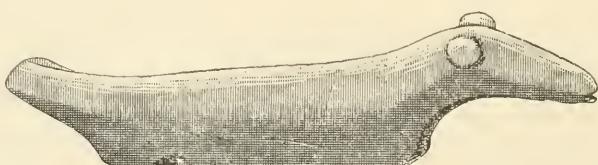


Fig. 24. Half diameter.

Fig. 24 is from the Quinn Farm, Dufferin Street, near Toronto, and was found by Mr. G. Carter, from whom it was procured by Dr. Rear. It is of very elegant form, and is slightly notched along the upper edge from the nose to the tail.

Figure 25 shows a somewhat simple and uncommon form, almost midway between the straight bar-amulet and the highly finished bird-amulet. The head is little more than suggested, and the tail has not



Fig. 25. Half diameter.

had much work expended on it. This is a cast of a specimen found in North Easthope Township, and was presented by Mr. Henry Smith, of New Hamburg.

SMALL STONE CARVING.

The grotesque little bit of carving in light grey soapstone, illustrated by figure 26, was found by Mr. W. A. Brodie, at the well known "Old Fort" in the township of Whitchurch. Whether it ever had another arm is doubtful. If it had, some one, other than the maker, has jocularly imitated amputation at the shoulder, unless we conclude that it was so made at first to represent a one-armed man. The stump of the broken leg has also been 'doctored' a little. The figure may have had some value as a fetish, but none as an idol, for the Indians recognized none.



Fig. 26.
Full size.

BONE.

The very handsome and quite unique bone scoop or gouge figured here was found by Mr. Albert Monkman, on the farm of Mr. William Roadhouse, lot 22, concession 9, Albion Township, County of Peel. It is fashioned from the lower fore-leg bone of a deer probably, and the

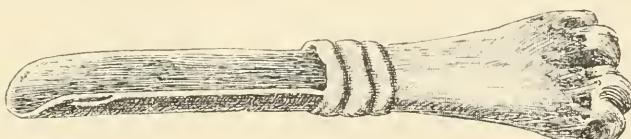


Fig. 27. Bone gouge. Three-quarters diameter

workmanship is of such a character as to suggest at least, the use of white man's tools. Even the shape is in advance of the purely Indian, according to our notions of what belongs to Indian art. The triple

collar, near the middle, is almost exceptional. On a considerably larger bone, found in the township of York, we have a similar attempt at ornamentation, but the work is not nearly so well done as in the Monkman specimen. Much labor has been expended on the latter in reducing the size of the bone below the joint, so that the working end of the tool might be thin. Some work, too, has been done in smoothing the hollow, but the workman's good taste is shown by leaving untouched the beautiful natural configuration of the joint.

Mr. George Monkman, of Barrie, has kindly placed this specimen with us on deposit.

It is difficult to guess the purpose served by an object like figure 28. The hole extends from end to end, and is roughly oval rather than quadrangular—the form of the outside. It was found on a village site in Brant County by Mr. F. W. Waugh, teacher, a highly observant and enthusiastic student of Canadian archaeology, to whom we are indebted for numerous specimens.

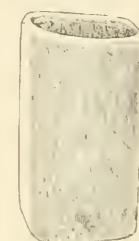


Fig. 28. Half diam.

The bone case represented by figures 29 and 30, is in some respects the most remarkable specimen of this material in the museum. It is, without doubt, made from a large rib—its greatest width is a little over two inches—and has been carefully hollowed to within about half an inch of the smaller end, leaving a wall less than an eighth of an inch in thickness. It is, however, to the working of the simple pattern, that perhaps most interest attaches. The design consists chiefly of double rows of triangular, or, rather, hawk-bill markings, for they are nearly



Fig. 29. Bone case. Half diameter.

all convex on one side and concave on the other, while the bases (facing each other on the two rows) are nearly straight. On a close scrutiny of this pattern one cannot fail to be struck with its extremely regular irregularity, for, although in only one instance does a line follow almost truly the curve of the bone, yet the markings that form the opposite rows do not vary in distance from each other by a hair's breadth, the result being that there appears to run between the rows a rib of not more than one millimetre in uniform width, as if a gauge of some kind had been employed to guide the tool by means of which the pattern was made. This is especially so on the concave edge,

where the rows of markings, extending from end to end of the specimen, seem to have been made at three different times, or during three attempts, for here there are two breaks in the continuity of the rows.

The presence of holes would lead us to infer that this case was carried on the person, and for other reasons we conclude similarly, for while the flat side is worn so smooth that some of the pattern has almost

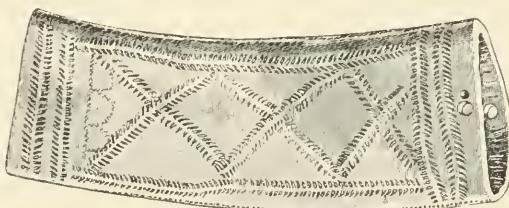


Fig. 30. Bone case. Half diameter.

disappeared; on the opposite and rounded side its lines are quite sharp, except at the top and bottom. This extremely rare bone specimen was found in 1872, on lot 35, Lake Road, west concession (Port Franks), Bosanquet, by Mr. Alfred Willson, C. E., who has kindly presented it to us.



Fig. 31. Half diameter.



Fig. 32. Half diameter.

Figures 31 and 32 were probably used as fish-spears. It is said that, as a weapon, the spear was unknown to Indians. From the large mound on Miller's farm.

The arrow-like specimen shown by figure 33 was most likely a scraper or knife. What are called 'women's knives,' of slate, are, in

most instances, of this form. The specimen represented by figure 33 is the only one in the museum. This specimen is from the mound mentioned elsewhere, as being situated a little to the east of the farm-house on the Miller farm, near

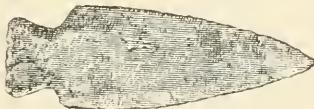


Fig. 33. Half diameter.
the mouth of the Otonabee.

IROQUOIS DANCE-MASK.

Hideous-looking masks, representing man and beast, were worn during the performance of the numerous dances indulged in by the pagan Indians, of whom there are still some hundreds on the Ohswekin Reserve in Brant County. The mask here figured is not a very old one, as it is evidently indebted to steel cutting-tools for its shape,

although of purely Indian art. It is made of pine, deeply hollowed to fit over the face, and is supplied with strings to fasten it round the head. Horse hair is the material of the wig. Miss E. Pauline Johnson,



Fig. 34. Iroquois Dance Mask.

the Iroquois poetess and elocutionist, from whom this mask was procured, writes that it was the property of Chief Crow, a celebrated Onondaga, now dead.

CRANIA.

Both of the skulls illustrated here are from Rice Lake mounds, and both are characterized by the presence of the Inca bone, but the



Fig. 35.



Fig. 39.

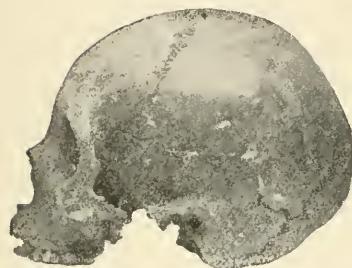


Fig. 36.



Fig. 40.



Fig. 37.



Fig. 41.



Fig. 38.

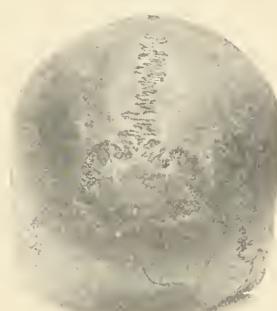


Fig. 42.

one shown by figures 39 to 42 belongs to an intrusive burial, while figures 35 to 38 represent the skull of a mound-maker, if we may judge from the former having been taken from mound D on Mizang's Point, at a depth of little more than a foot from the surface, while the other was found resting at the very base of the mound on Sugar Island, as described on pp. 33-34. Besides the peculiarity referred to, a comparison of the skulls will show numerous marked differences, of interest to the craniologist.

I think I have read somewhere that the percentage of skulls so marked in Europe is highest among those of criminals. There is no apparent reason why the presence of additional sutures should be productive of any effect on the brain, but if it be true that there is such a connection, the inference is warrantable that Indians so marked may have been men who were distinguished among their fellows for deeds of daring—hence, chieftainship; for what civilization denounces as vicious, or declares illegal, is usually regarded in simple conditions of society as highly meritorious, or as exhibiting the very perfection of manhood.

THE SCOTTISH PLIGHTING STONE.

One of the rarest archaeological objects that has ever found its way from the old to the new world, is the Plighting Stone, or Plichting Stane o' Lairg. Mere rarity, or curiosity, however, is in itself no reason why any space should be allotted to an article in such a collection as ours, but this Stane o' Lairg possesses much that is of instructive and educative value, apart from the fact that it is probably unique in America.

All that is known of it may be told in a few words. Until a comparatively recent date, it was built into a wall connected with the old parish kirk of Lairg, Sutherlandshire. In this position it was known far and wide as a medium, one might almost say, as a sacred medium, for the making of bargains, the pledging of faith, and the plighting of troth. By grasping hands through this stone, the parties to an agreement of any kind bound themselves with the inviolability of a most solemn oath. Did the 'theeker' or thatcher promise to cover the roof of a cottage before Yule, giving his labor in exchange for a ewe, or for two 'gimmers,' here was the final agreement made. If a crofter, or wee farmer, desired to 'niffer' a 'stot' with his neighbor for a 'quey,' the bargain was consummated through this stone. In olden times it was to the spot occupied by it that the laird summoned his retainers that a compact might be made to capture all and sundry the 'nowt' of some objectionable chieftain of another clan. Still farther back, the stone has borne witness to many a terribly vengeful oath implying the slaughter of whole families, retribution on the Sassenach, and death to the Danes. Its aid may have been sought in the working of many a spell; it may have seen the performance of numerous incanta-

tions, for Sutherland, no doubt, had its full share of witches and warlocks; and the aged person, gifted with second-sight, may have resorted thither to add emphasis to his prediction of coming woes.

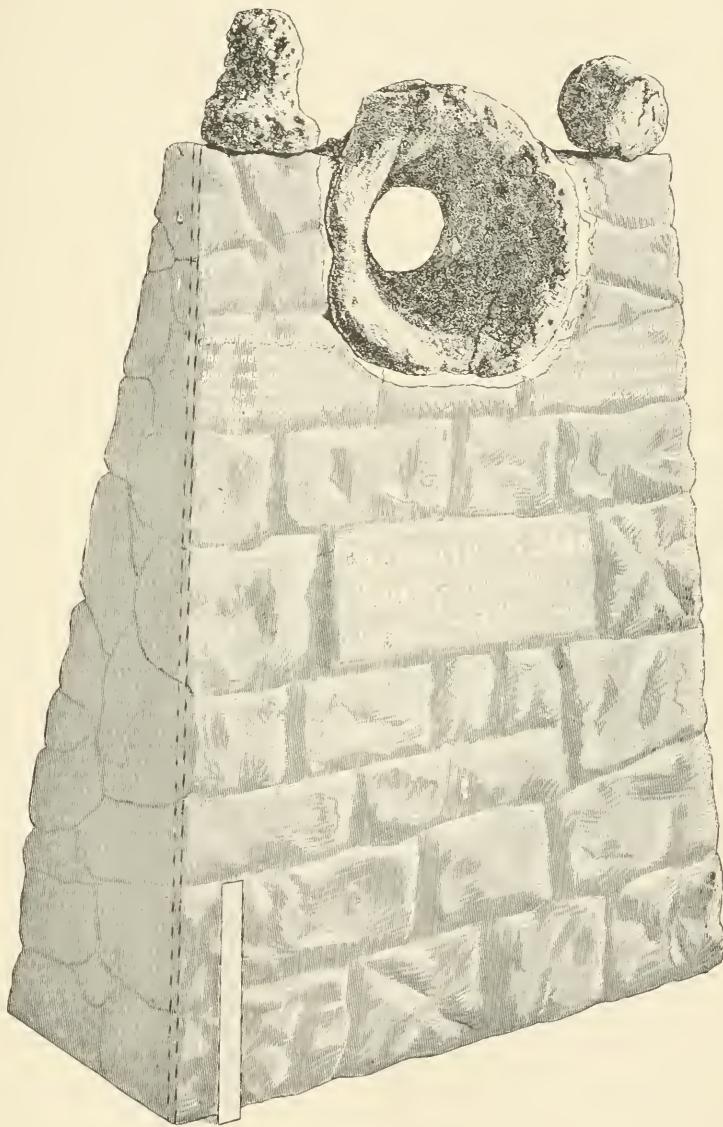


Fig. 43. Plighting Stone mounted in an imitation wall.

But above and beyond all, the Plighting Stone was resorted to by lads and lasses from time immemorial for match-making and matrimonial purposes.

Scottish marriage ceremonies are not necessarily either tedious or intricate, and the clasping of hands through the plighting-stone, in the presence of witnesses, enabled lovers to effect their purpose in an exceedingly simple and inexpensive manner, for surely it was quite 'logical' that if the original troth-plighting by this means was inviolable, the concluding ceremony should be equally so.

Modern manners have probably tended to lessen respect for what was formerly regarded the sanctity of a plighting stone pledge; but however this may be, ecclesiastical authority did not encourage use and wont in this respect. When, therefore, the walls of the kirk were demolished some years ago, to make way for improvements, the ancient plighting-stone fell from grace as well as from its position in the structure; if, indeed, the former event had not taken place long before. Fortunately the stone was preserved, and kept for many years in the family of Miss Mary Buchanan, by whom, through Mr. Hugh Nichol, of Stratford, it was very generously presented to the Ontario Archaeological Museum.

A few other plighting-stones have been known to exist in different parts of Scotland, but all of them have, it is thought, found their way to national and university museums in England as well as Scotland. It is said that for several years the authorities of a celebrated English university endeavored to secure possession of the *Stane o' Lairg*, and we may be allowed to express the selfish gratification that it has come to us all the way across the Atlantic, rather than to them. Its ancient fame has here become to some extent revived, and not a few young couples have made use of it in old time orthodox fashion!

For the origin of the 'freits,' or superstitions connected with objects of this kind, we shall probably have to go back to the time when they were something to be worshipped; when

"The heathen in his blindness
Bowed down to wood and stone,"

for scarcely anything is more certain than that in every part of the world the worship of stones has existed.

"In Western Europe," says Sir John Lubbock, "during the middle ages, we meet with several denunciations of stone-worship, proving its deep hold on the people. Thus 'the worship' of stones was condemned by Theodoric, Archbishop of Canterbury, in the seventh century, and is among the acts of heathenism forbidden by King Edgar in the tenth, and by Cnut in the eleventh century. In a council held at Tours, in A.D. 567, priests were admonished to shut the doors of their churches against all persons worshipping upright stones, and Mahé states that a manuscript record of the proceedings of a council held at Nantes, in the seventh century, makes mention of the stone worship of the Armoricans.

"In Ireland, in the fifth century, King Laoghaire worshipped a stone pillar called Crom-Cruach, which was overthrown by St. Patrick. Another stone at Clogher was worshipped by the Irish under the name of Kermard-Kelstack. There was a sacred stone in Jura round which the people used to move 'deasil,' *i.e.*, sunwise. In some of the Hebrides the people attributed oracular power to a large, black stone.

In the island of Skye, in every district there is to be met with a rude stone consecrated to Gruagach or Apollo. The Rev. Mr. McQueen, of Skye, says that in almost every village the sun, called Grugach, or the Fair-haired, is represented by a rude stone, and he further states that libations of milk were poured on the gruaich stones."

It is true that in most instances of this kind the stones were upright, while our plighting-stone has more of a basin form when lying on either of its flat sides, the hollow, however, being much deeper on one side than on the other. It may have been on, or into some stone of this kind that Mr. McQueen says 'libations of milk were poured.' Be this as it may, it is as already mentioned, probably to some act of worship applied to a stone that we must look for the secondary, or more distantly removed uses of such stones as that of Lairg, which certainly looks as if it had once been a basin, the shallower hollow being suggestive of part of the afterthought which led to the forming of the perforation. Or, it may be that the hole is mainly of natural formation, and this of itself would be sufficient to have made it an object of peculiar regard; indeed, such an occurrence would have proved sufficient for its being set apart as a gruaich. "It's a far cry to Loch Awe," but yet in this connection one cannot help remembering that in the Mahometan Kaaba there was a sacred, black stone, and that Jacob anointed the stone on which he rested at Bethel, not to mention the numerous instances of stone worship that may still be found in America, and other parts of the world.

THE RICE LAKE AND INNISFIL MOUNDS.

BY A. F. HUNTER, M. A.

Having read with interest the announcement of Mr. Boyle's identification of the Serpent Mound at Mizang's Point in Otonabee Township, I visited this remarkable object on September 3rd. A brief inspection was sufficient to convince me that his identification was the true one. Its artificial origin is quite obvious, because the surface of the ground in the neighbourhood is regular and undisturbed by any glacial agencies. Some question might arise as to whether the zig-zag stretches, which are equal in length, were intended by the builders as the convolutions of a serpent, or were the result of accumulations of burials. This question was soon answered satisfactorily. (1) The head is broadened and the tail is narrowed and ends in a point; (2) the entire mound is easily seen to be homogeneous, having been all made at one time and therefore not the growth of burials made at different times. So that every feature points to the conclusion that a serpent was the design intended to be formed. Fortunately the mound is in a remarkably good state of preservation, and its chief features may be recognized without difficulty.

The serpent appears to have been quite a common idea among mound-building Indians. They often made use of the design in their ornaments, and there are several well-known serpent effigy mounds.

The tradition, among the modern Algonkins at Rice Lake, of a large serpent swallowing some of the former people there is well worth considering in this connection.* Leaving out of view the intrusive burials, it is not unlikely that the burials in the serpent's head were of those punished for disobedience or crime of some kind. Among the Lake Simcoe Indians the form the tradition takes implies punishment. They regard it as a bad end, and to be buried as if being swallowed by a "fiery serpent" certainly could be no honor. "Fiery" is one of the epithets almost inseparable from the serpent in all the legends relating to that animal, and there appears abundant evidence of fire having been used in the burials within the Otonabee serpent. In the story of the fiery serpents destroyiag Laokoön and his two sons we have the eastern form of the same legend.

On the other hand, fire may have been kept burning for some time after the interment as on other burial mounds, instances of which occur even beside the serpent. Some of the Algonkin tribes of the north shore of Georgian Bay followed the practice until recently of keeping up a fire on the grave of a deceased relative for four successive nights after burial. Stones have also been used by modern Algonkins in the construction of graves, just as in this serpent.

Whatever may be the import of these features, the great value of identification of the Rice Lake Serpent Mound to science cannot be over-estimated. So far as the archaeology of Ontario is concerned, it opens a new field. Hitherto, the identified earthworks of this Province have been only fortifications, and burial mounds of the ordinary tumulus form which exist in a few places along the lake-shores and rivers. But the Otonabee Serpent establishes the fact that other forms were attempted. And the experience of the remaining weeks of the season proved the usefulness of this knowledge.

It should be added that one of the adjoining burial mounds is placed in front of the Serpent so as to have the appearance of an egg—the usual accompaniment of the serpent in aboriginal representations of that animal. In my remarks on the Innisfil Serpent Effigy following this, I have made some observations on the significance if the egg in connection with the serpent.

The relics of the people who built these mounds present many unique features, especially the Inca bone or divided occipital, found in one of the adjoining burial mounds.

At Cameron's Point in Asphodel Township where the Trent River issues from Rice Lake, is another interesting group of burial mounds. Unfortunately, however, Rice Lake has partly destroyed one of these, so that its original appearance is lost. Mr. W. G. Long had been examining these for a few days previous to my visit to the district. Without having seen the Otonabee Serpent Mound, he suggested that the one partly eaten by the lake had been another serpent mound, and that the part destroyed had been one of the convolutions, as the inner edge is still remaining. After a brief inspection of it on September 4th I concluded that Mr. Long's explanation might be the true one.

* See preceding page where this statement is corrected.

Its length is 138 feet. Some of the considerations that suggest this interpretation of the mound are:—

(1) The burials are situated in it just as in the Otonabee Serpent Mound, viz., in, (a) the head or expanded end of each, and (b) another expansion toward the tail or small end, which, however, had probably been intrusive in both cases.

(2) This expansion whether intrusive or not, is similarly situated in both.

(3) The general direction of both mounds is east and west, the heads being the easterly ends.

(4) Both face other oval burial mounds at the east of them, suggesting the idea of eggs.

Some acres of ground just east of these Asphodel mounds were thickly bestrewn with fragments of mussel shells, the soil having also been blackened by camp fires.

To one feature that I observed in connection with all the Rice Lake mound groups, attention ought to be specially directed, viz., that they are at the important points on the watercourses. This is also a feature of the more important groups in Ohio, which are at the forks of the large rivers. The group at Cameron's Point, in Asphodel Township is at the point where the River Trent issues from Rice Lake; the group at Mizang's Point, in Otonabee Township is where the Indian River enters the lake; while at the entrance of the Otonabee River into the lake there is another interesting group.

With regard to this latter an important question arises. G. Copway, in his "Traditional History of the Ojibway Nation" (page 87, etc.), describes a war between the Ojibways and the Iroquois, and among other battles, mentions a bloody one between them at the mouth of the Otonabee River, *i.e.* where this mound group is situated. Copway adds that this battle, as well as the others during the war, took place within the six years preceding the founding of Fort Cataraqui, (1672), but no record of it exists in the Canadian Archives, which are very complete. It is doubtful whether this tradition of a war is well founded in fact. I am inclined to think it was an afterthought suggested by the burial mounds at the place. The mounds at Burlington Beach also suggested a conflict, and the same is true of every bone-pit or communal grave of any kind from Montreal to Detroit, none of which could be understood by the modern Algonkins as burials made in times of peace. The war tradition itself probably had its origin in the Iroquois' attacks upon the Hurons, the latter having sought shelter among the Algonkins and become incorporated with them.

To the question who were the builders of these Rice Lake mounds, I can give no satisfactory answer. The only aboriginal occupants of this province in historic times have been the Huron and Algonkin nations. If the mounds were the work of either, it is more probable that they were made by the pre-historic Algonkins, amongst whom we may perhaps look for traces of the mound-builders, either as being direct descendants, or as incorporating remnants of that lost race. The Algonkins as well as the mound-builders were "water peoples," (using Humboldt's familiar description of the latter) and many rites appear to have been common to both races.

INNISFIL SERPENTINE RIDGE.

In the Rice Lake region I saw indubitable proof that there had lived in this province aborigines, who attempted the construction of mounds having other shapes than the ordinary conical burial mounds, or than earthwork fortifications. After returning from that district, I revisited, on September 18th, accompanied by John L. Warnica, who has lived for many years in the neighborhood, and knows the surface of it quite thoroughly, an embankment on lot 23, concession 13, of the township of Innisfil, which I had first seen eight years ago. This farm is occupied by William Irwin, who courteously gave us all the information in regard to this embankment within his power to give. On the occasion of my former visit I had made some notes of the



Fig. 44. Innisfil Serpentine Ridge (looking north).

phenomenon, and while making a map of it I had recognized its serpentine shape (see figures 44 and 45), but did not think it could have any significance to the Indians as a serpent form, as phenomena of this kind had not then been proved to exist in the province. The first settlers of the neighborhood, as much as fifty years ago, regarded it as, at least, partially artificial, a clay subsoil, in which very little grain or other vegetation would flourish, being at the top of it and at other places on the surface. I found that the residents, for these and other reasons, still regarded it as having an artificial origin, but they held the view, usual in such cases, that it had been a fortification.

The embankment, which has irregular but distinctly marked convolutions, is about 1,230 feet (375 metres) in length. Its height varies from five to seven feet. The top of the ridge, especially the rear half, which has not been tilled, is as narrow as a path, and is quite level; but along the front half, the action of the plough has worn down this original sharpness. It is still higher, however, than any surrounding ground. Its width is quite regular, the average being about thirty feet throughout its entire length. It ends in a narrow bank at one extremity, and is distinctly broader and flatter at the other, which just touches the 13th concession line. The first convolution, or loop, is a curve of more than ninety degrees. On the embankment at different places are stumps of pine trees, which must have spread their roots at least four centuries ago. A shaft, sunk three feet deep, on September 28th, to examine the kind of earth in it, showed that it was not a gravel reef such as one frequently finds, but was a clay bank. In this shaft some iron stains were found beneath a few small stones. This suggested that if the bank be artificial the stones had served the purpose of umbrellas in protecting the vegetable stains from obliteration by the water percolating from the surface through the clay, and that in other places not so protected the vegetable mould might have been weathered beyond detection. The size and shape of the embankment, as well as its relation to the surroundings, and the fact that water could pass freely around both ends of it, forbade the idea that it was built by amphibious animals as a dam.

On the opposite side of the road, in front of what we have called the head, is an oval basin, of artificial origin, at least as regards its form. The extreme length of this basin (i. e. from crest to crest) is 170 feet. The interior cavity, which is a perfect oval in form, is 85 x 48 feet. The embankment surrounding the basin, which is in the farm-yard of Henry Armstrong, formerly rose much higher, but has been worn down. A remarkable trench leads out of this basin, passes immediately before the part described as the head, and ends in a circular pit that bears marks of artificiality. At one part of its course this trench traverses a gravel-bed, the continuity of the gravel on both sides of it being still evident. In the low parts about the embankment, and in the oval basin, water formerly stood all the year round when the original forest existed there. These ponds were occupied by amphibious animals in considerable numbers, such as muskrats, mud-turtles and beavers. At the west side, the ground falls into what was once a cranberry marsh. As the stagnant water in the oval basin became a nuisance to the occupants of the dwelling near it, it became necessary to remove it; and, in order to do this, a drain was cut through the south part of the bank surrounding it, a few years ago. Mr. Armstrong observed in this drain, which was a deep one and answered the purpose of a section, that the earth at the top corresponded with the subsoil at the base of the cutting. At an intermediate part there was a layer of vegetable mould. Pottery fragments, stone axes and other relics, including a French copper coin, have been found at the east edge of this basin.

On ascertaining the above features of the embankment and its surroundings, I communicated with Mr. Boyle, who visited the spot

with me on October 3rd. He was impressed by the peculiar shape of the phenomenon, and some of his observations were useful in solving the problem of its true significance. In the first place there was not abundant evidence, if it were artificial, of excavated places from which the clay for the structure had been taken. Then, while it was evident from the large circular earthwork (which we also visited) on the farm of John Fennell, one mile west, that earthworking Indians had lived in the neighborhood, its size was so great that it seemed improbable it should be wholly artificial. Mr. Boyle suggested that natural ridges might have been utilized by the builders to accomplish their ends. This appeared to be the more likely from the fact that there are similar ridges, though not more than half its length, beside it, having every appearance of being natural. The latter contain boulders, and have other marks of glacial formation. Such ridges are occasionally found in low ground; they are among the most recent of geological formations. In some parts of the country an object of this kind is called a "hog's back," and it is not unusual to find them used as roadways for vehicles, as appears to have been the case with one at the east side of the one under consideration. In addition to these considerations, the Indians, if they had bestowed any labor on this object, would work where they could get the best results for the least amount of labor. In order to test how far it might be artificial he left instructions with me to get a few openings and cross-sections put into it.

THE EXAMINATION OF ITS STRUCTURE

Mr. Boyle suggested, in connection with the proposed cross-sections that a low part would be likely to furnish some interesting features because, if the Indians had expended any labor at these ridges, such artificial places would probably have subsided in comparison with adjacent natural parts. He also suggested that an experienced well-digger should be secured as workman, one who would be able to readily recognise disturbed soil.

Accordingly, on October 9th, I took to the place a workman who had thirty years' experience in handling earth in wells, drains, etc. We cut half-way through the embankment at a low place marked "A," fig. 45. In the first eight inches there was considerable charcoal, but this can perhaps be wholly accounted for by the clearing of the land. The clay throughout was homogeneous, and of a brownish gray color; but the exterior layers were stained with vegetable matter to a reddish brown hue. This staining extended inward to a depth varying from eighteen to twenty-four inches, but it was difficult to say just where it ended as it shaded into the natural color of the clay. The dotted line in the diagram (figure 45) represents as nearly as possible the lower limit of these stained layers, which were appreciably thicker toward the edges of the embankment, just as the shape of it would naturally make them. Its depth seemed to be determined by the rainfall percolating into the clay, and also, to some extent, probably by the winter frosts.

The brownish gray clay, with this covering, constituted the body of the section. It seemed to be "made" ground for the following, among other, reasons:

(1.) The small stones in the clay were easily knocked out of their places; one stroke of the pick was sufficient, while in naturally laid clay sometimes three or four strokes are necessary.

(2.) The clay crumbled when turned out, much more readily than natural unworked clay.

(3.) The cutting could be rapidly made.

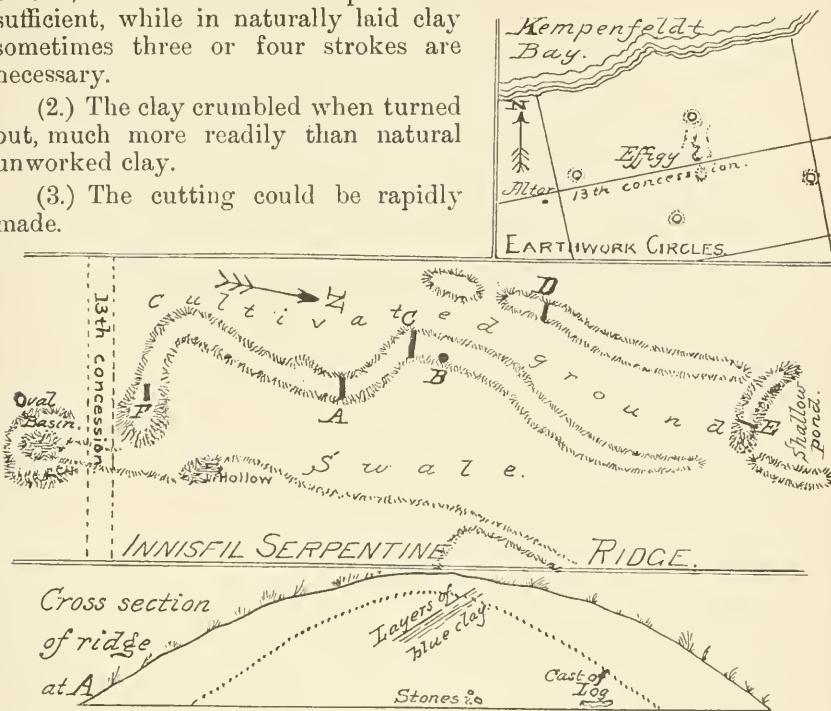


FIGURE 45.

(4.) Fibrous roots of thistles, &c., went down to the bottom of the cutting, five feet below the surface at the middle of the embankment, indicating that the soil had been disturbed. The ground was full of flaws at this depth, and the fibrous roots had made their way into these.

The clay was damp, as there had been heavy rains for some time before. Water also lies in a low tract at the short distance of about fifty feet, and is undoubtedly absorbed into the surrounding clay, which latter substance is used in the manufacture of blotting paper on account of this very quality, viz., its good absorptive powers. These two considerations might modify the force of the reasons just given but would not entirely destroy them.

A test hole 3 feet deep put into the embankment at "B" showed the same kind of clay as we found at "A."

The remains of fibrous roots and other specimens found so frequently in all parts of the cutting were examined microscopically by Dr. W. L. T. Addison, of Barrie, who visited the place while our operations were in progress and saw these specimens *in situ*. He has kindly furnished me with reports of his examinations, particulars of some of the more interesting and representative specimens being as follow:

Specimen No. I.—From a point 2 feet 9 inches deep and 6 feet from the centre. Gray clay with dark surface upon which are some fibres, suggesting a dead root.

Section (a). Magnified 400 diameters. At the outer sides is a diffuse rich amber color. The intensity of color obscures the form which becomes more distinct as we look towards the centre. It shows a regularity in color which gives it a fibrous appearance. This, however, will be seen to be due to the regularity of increase in thickness. There are very fine dots which have a highly refractive power on light.

Section (b). This shows the "bordered pits" of the conifers, and has some fairly distinct fibres. It, also, is of amber color.

Section (c). A large fibre with large "bordered pits" of the conifers, which show quite distinctly.

The "bordered pits," a cell structure peculiar to the pine, and the amber color of its resinous matter, suggest that it might have been the small roots of some pine tree, although no stump exists within 14 feet of the place. The resinous fibres of pine are almost the only kind of wood able to resist the attacks of the lime in the clay for any length of time. Pine wood is used for all outdoor carpenter work on account of its resisting qualities, and the farmer knows to his sorrow that the pine stumps decay less rapidly than others. In this way it is evident that pine roots, even those of a very great age, could remain intact in the ground.

Specimen No. II.—From the same place as the last specimen. It shows dark iron oxyd colored fibrous material on a surface much iron stained.

Section (a). Three silvery white fibres which show no coniferous formations. The fibres are very plain and fairly transparent.

Section (b). This is a similar fibre but differs in length.

Section (c). The same may be said of this one.

There are many particles which break with fibrous cleavage, but are quite opaque and are by reflected light a very dark brown. These are presumably some sort of fibre changed to bog iron. There is a scarcity of the amber colored materials found in specimen I.

In other similar samples there are indefinite fibrous fragments, much replaced by iron.

Specimen No. III.—From a point 2 feet deep and 10 feet from the centre. Gray clay with many brown stains and containing much peaty matter, which on roasting in a crucible burns away. The burnt specimen is very red and becomes very hard. By reflected light the dark substance is seen to be vegetable matter, in many cases replaced by iron and in some cases by lime.

Section (a) is a portion having a dark brown color and showing separate fibres, which, however, are brittle. There are certain dark portions in which one cannot distinctly see fibres.

Section (b) has a bright glistening carbonate of lime surface showing forms like those of fibrous structure. It is apparently a coating of lime which has replaced some woody fibre.

The examination of a specimen of a sort very different from any of the above proved to be of considerable interest. It came from a point 3 ft. 6 inches deep, and 6 ft 6 inches from the centre of the embankment. While digging at this point the workman drew my attention what he called a "log," distinguishable from the other clay by the way it crumbled. It measured ten inches across, besides portions at its edges not well defined. We give herewith Dr. Addison's remarks on this specimen :

Specimen No. IV.—It consists of fragments of a gray lime-bearing clay which show planes of cleavage. The surfaces shown by these fragments are stained a dark brown or black with lighter patches which by reflected light and magnified 125 diameters appear as crystalline calcium carbonate, etc. The staining occurs in parallel bands, the lime salts being apparently deposited on these stained surfaces, or taking the place of these stains. These dark bands, and in many places bright bands of carbonate of lime, are striated and indicate a form as replacing some organic fibre. The fibrous form is often quite distinct. At right angles to the more frequent or the ground striation are bars which are less frequent but still are quite frequent enough to convey to one's mind a regularity of formation in this direction, also.

It is evident that this clay "log" cannot be explained as a root. Under the microscope the specimens showed the woody structure to be entirely replaced by carbonate of lime and other inorganic substances. It was, in fact, a "cast" of the original wood, in which the structure

in both directions was very distinct. Neither is it probable that it was a fossil deposit. The natural clay of this neighborhood is glacial, not post-glacial, such as would be deposited in recent ages by water. This is shown by the abundance of small stones mixed with it. Accordingly it could not contain organic remains except in a pulverized condition, and no such "log" would be likely to occur as a deposit.

This object lay horizontally on what was easily recognized as the division between the disturbed and undisturbed ground. This old bed, however, was not marked by any dark line of vegetable mould, as I made diligent search for this feature; but many iron stains were present where one would expect to find it. It was only noticeable by the ready cleavage of the clay at this level, while beneath it the ground soon became perceptibly harder and changed into a gravelly clay.

Tested chemically, the clay of the embankment proves to be very full of lime; and as the situation is damp, no vegetable matter could resist replacement by iron salts or carbonate of lime for any length of time. When this occurs the clay is commonly said to "dissolve" the vegetable matter mixed with it.

At the centre were a few stones, not large, but significant on account of their position near the base of the embankment. They were larger than any other stones found in the excavation.

Further cuttings were made on Oct. 28th, when Mr. Boyle was present. The remaining half of the section begun on Oct. 9th was opened. In this the fibres were abundant just as in the first half. A feature of interest consisted in some layers of blue clay slanting up the face of the exposed section to the centre of the top. It appears as if some clay of this colour had been flung up against the side of an incipient bank. On examining the level ground at the side of the embankment we found blue clay which corresponded closely with that in the cutting.

This section when completed was 31 feet long, 16 inches wide, and 5 feet deep at the centre. It was made in a part between two expansions in the width of the embankment, which are about 150 feet apart and include the second convolution. It seemed reasonable to suppose, therefore, that the part between these expansions (which were naturally formed so far as could be judged by their appearances) had been artificially filled. In order to compare the structure of the clay in the section with that of one of these adjacent expansions we selected the one to the north and made an opening into it 3 feet deep marked "C". The structure of the latter was a hard, undisturbed, and uniformly gray clay, quite unlike that in the section.

There is further evidence of the artificiality of this part between the expansions, in the fact that the immediately surrounding ground is so shaped that the natural drainage would pass through at this place. The only surface spring in the vicinity is at a short distance to the southwest of the section.

On the following day (Oct. 29th.) an opening was made at "D" into a lower ridge at the west side of the effigy embankment, for purposes of comparison. At one end of the trench there were some mixtures of clay which also crumbled when thrown out. At the depth of

four feet, hard blue clay was reached. Two test holes in the adjacent level ground near this opening showed blue clay at a corresponding level, viz., 18 inches deep.

An opening marked "E" was made in the semi-circular bank at the north end of these ridges. It showed naturally laid clay. At one side, however, where the ground was wet, the clay was softer.

Finally, an opening marked "F" 3 feet deep was made into the south extremity of the embankment, or that called the head. At the depth of 18 inches there was a layer of reddened clay, beneath which the ground was apparently undisturbed.

SITES OF ANCIENT VILLAGES IN THE NEIGHBORHOOD.

After examining the structure of this embankment, I communicated with William Metcalf, of Meaford, who had lived on this farm for several years and had cleared the forest from the part on which it is situated. He drew my attention to the fact that there are sites of ancient villages situated in four directions from it,—north, south, east and west, (figure 45.) I had known of the existence of the three latter of these, without, however, recognizing that they were situated with reference to the points of the compass. These three are distant about a mile from the effigy, the former or north village being about half a mile.

With each of these villages is a large circular basin, which had evidently been used for religious or ceremonial purposes; the entire group apparently making what is known in the language of the archaeologist as a Cosmic System, having the effigy in its centre. The villages having been located without regard to any natural advantages such as springs of water or easily fortified points of land, it appears as if they had been built up around the four circles which, in their turn had been placed, as we have just seen, at the four cardinal points of the compass from the effigy.

In the State of Ohio, (in Adams County,) there is another Serpent effigy, in connection with which the points of the compass are also observed. It is well known, too, that Cosmic or Sun worship was often intermingled with Serpent worship (so-called), many instances of this intermingling being found in Aztec remains as well as in those of other races.

The West Village. This appears to have been extensive. It may be described as occupying the four adjacent corners of four farms at the cross-roads west of the effigy. We have already referred to the circular earthwork on one of these farms, that of John Fennell, Lot 21, Con. 13, as it was the first one we identified in the system to which our attention had been drawn. This circle has a diameter of 152 feet, measured from the extreme outsides of its circumferences, or 110 feet from crest to crest. It is quite apparent from the nature of the earth in the embankment around this pit that it is subsoil from the bottom of the excavation, as it corresponds with the latter and differs very materially from the surface earth in the field beside it. In the same field there have been found large quantities of pottery fragments and other relics in spots showing evidences of fire. Some years ago, Wm.

Metcalf found a human skeleton in one of these deposits. These camp-fires are situated along the small ravines—places well sheltered, from which circumstance it might be inferred that they were used as winter quarters. In the ravines south and west of this field, *i.e.*, on the adjoining farms, there are also remains of similar camp-fires. On the farm on the opposite corner, *viz.* that of John Metcalf, (Lot 20), ash-beds and relics have been found; while at a spot immediately



Fig. 46. Embanked Hollow, Lot 21, Con. 13, Innisfil.

south of his dwelling, and about ten inches below the surface, was found a circular bed of small stones bearing marks of fire. This is what may be called an altar or hearth. Similar objects have been found in Ohio, but no instance of the kind in this province has hitherto come to my knowledge. An object of this kind found near the Serpent effigy in Adams Co., Ohio, has been called a place of sacrifice but with what correctness I am unable to say. It should be added that at the shore of Kempenfeldt Bay, about half a mile distant are two large quarried stone blocks, four feet across.

The South Village. This is situated on the farm of Henry Mayor, north-half lot 22, con 12, and there have been found the usual relics,—pottery fragments, pipes, stone axes, etc. Here is an artificial pit almost circular, having a diameter of 80 feet. Seven camp-fires near it are arranged in a circle, and there are two or three others also near at hand. In an adjoining field on the farm of Robert Webb, there are also many remains of camps situated in a ravine. A piece of slate (an unfinished gorget) was picked up by Mr. Boyle as we walked over this village site.

The North Village. The circle here, (to which Wm. Metcalf first drew my attention), is situated on the same farm as the effigy. It is 80 feet in diameter, and has been formed in a small natural ravine.

Its present depth is 10 feet. The gravelly clay subsoil thrown out of it contrasts with the adjoining surface soil. At a short distance

SICHEVAD

north of the circle are camp sites on which large trees had grown. The



Fig. 47, Embanked Hollow, north of Serpentine Ridge, Innisfil.

usual' relics have been found at this village, and near it a piece of native copper was once picked up.

The East Village. This is situated on north-half lot 25, con. 12,—the farm occupied by John Irwin. On the west slope of the ridge that passes through this farm are many evidences of camp-fires. Besides these is a circular pit, but it has been so mutilated by the cultivation of the ground and other agencies, that any artificial characters it might have possessed are now almost extinguished. At the distance of about quarter of a mile along the same ridge is a Huron ossuary which we examined on Dec. 11th. While at a short distance southeast of this ossuary is another village site to which it apparently belonged.

Notwithstanding the existence of this ossuary near the East village there is no proof as to what race of Indians dwelt in the four villages of the system about the effigy. The camp-fires of the west and south villages were single fires arranged along ravines, thus differing in two respects at least from the Huron "long-houses" which were usually situated on rising ground. They are probably very old for besides being overgrown with large trees the earth wears a reddened appearance at the camps rather than a blackened one, the carbon having been much "dissolved" and the iron stains alone left, thus differing in another respect from the ordinary Huron site.

OTHER OBJECTS OF A SIMILAR KIND.

It is evident from the facts brought together that this effigy, whatever may have been its origin, was an object of veneration to some of the races of Indians who dwelt in the villages in the neighborhood.

There have been many such objects of worship, or rather objects of propitiation. About Georgian Bay various natural features have been regarded with a religious veneration from time immemorial; these include some oddly shaped rocks near Parry Sound which have been propitiated by passing Indians with tobacco offerings until recent years, in fact the offerings are still made by the pagans; Giant's Tomb, a large island in the southeast corner, resembling a giant lying on his back; Turtle Rock, in the North Channel; and Michilmackinac itself was the "Great Turtle." The Roches Perceés (pierced rocks) of Manitoba, the Sand-dunes of Lake Superior, the Garden of the Gods in Colorado, the Old Man of the Mountain in New Hampshire, are a few among the countless instances of natural objects that have been held in the highest regard by the aborigines of this continent.

REMARKS ON THE SIGNIFICANCE OF EFFIGIES.

Unique notions of natural forms having filled the heads of the aborigines, an effigy of the kind under consideration suggests how there may arise the notion of an effigy mound. Indeed it would seem to be in the very nature of an effigy mound to be at least partly natural. Such mounds are chiefly found in the glaciated parts of North America where singular natural forms occur. They even follow the "V" shape of the glaciation into Ohio toward the south.

In various Indian tribes, including the Micmacs, Ojibwas, Moquis, etc., there were Snake Dances, the object of which evidently was to propitiate these animals.

It is interesting to consider why the serpent effigy always had an egg or oval form before it. On referring to my bookshelves I find that the egg represents "life" and the serpent "eternity"; but there is no suggestion as to what the combination of the two forms can mean. On any such assumption the latter question must remain impenetrable, except perhaps to a skilled metaphysician. These ideas, taken singly, were almost too abstract for the aboriginal mind to elaborate; and in combination, as the Indians did not take up post-graduate work in metaphysics, it will be advisable to seek for a simpler explanation of the frequent occurrence of the two forms together. Natural history will, I think, furnish an explanation. The food of serpents is always living prey with the single exception of eggs, as the little birds know to their sorrow. The aboriginal snake-charmer, taking advantage of that animal's partiality for eggs, throws an egg in front of the reptile to occupy its attention. When the Indian with his head full of superstitions first sets his eyes on the natural serpent shape, his first thought would be to charm the "animal" with an egg.

It should be distinctly understood that these serpent effigies are entirely different in their kind from the Rice Lake serpent, which is wholly artificial, and apparently has a different significance.

BALSAM LAKE.

BY GEO. E. LAIDLAW.

Since the fall of 1893 I have not had much time, till this August, to visit sites and other localities which have become known to me as places connected with Indian remains, with the exception of one place which I discovered last year in opening a road through a little known locality, and which I visited shortly afterwards in your company, and alone several times since then.

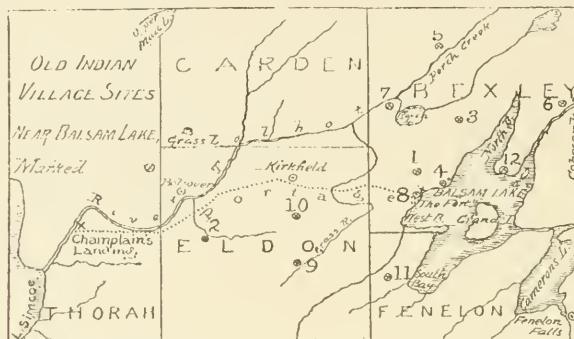


Fig. 48.

In April, 1894, I visited the site on lot 22, concession 8, Eldon Township, owned by S. Truman. This is a large site, and is on the north bank of Grass River, which empties into the Talbot, flowing west into Lake Simcoe. The site is on high ground, and showed the usual signs of aboriginal habitation. I picked up pottery fragments, nodules of flint, a piece of worked slate, shells, and a face of pottery, evidently split off a pot, and not a fragment of a pipe. Mr. Truman informed me that the place was ploughed up about 1887, and at that time clay pipes and stone "skimmers" were found in abundance. He had found an iron French axe on a hill a quarter of a mile away, and a steel spear-head near the site, and since then a steel knife-blade was picked up. These were probably dropped by later Indians, as an old squaw told his father that she was born on the hill to the south of the river, and so were her father and grandfather; so that may account for the presence of white-man relics, as the site showed the same characteristics as other sites in the vicinity, where no white-man traces have been found.

There were no graves known of, and, if any existed, were probably obliterated by cultivation. Though picking up quantities of bones and shells, I did not find any worked ones. My time was limited for examination. This site is No. 10, in keeping with the ones numbered previously.

Pits on village site, Bexley. In the early summer of 1895, I discovered the village site on lots W. $\frac{1}{2}$ 5 and 6, concession 2, Bexley, and after you came here we explored it thoroughly. I also visited this place several times this year.

From the accompanying sketch (figure 49) it will be seen that the Talbot River circles round to the north-east side of the village, flowing west; consequently the village site, as evinced by the ash beds, faces east, while the pits lie on the opposite slope of the hill, to the south-west. A large portion of this site is at present covered with timber and thicket, and is very difficult to examine, but the road allowance is cleared, showing the majority of the pits. While those in the field were partially filled in by being cultivated this year, by next year all signs of those pits in the field will be effaced, and the road bed will cover more.

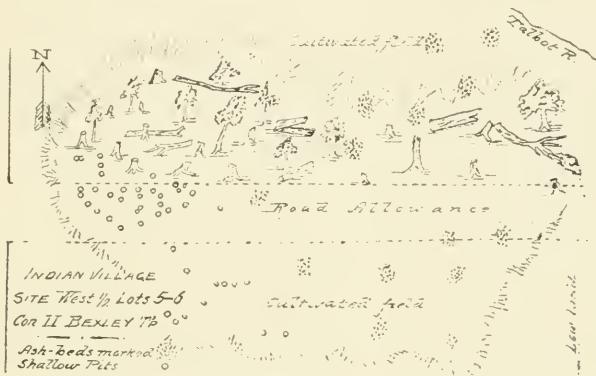


Fig. 49.

This sort of pit has just lately come under notice, and attention has been called to those near London, Ontario, and Parry Sound. See previous reports. It is not easy to conjecture what these pits were used for; but the general idea is that they were used for storing corn in small quantities to prevent heating—the size of the pits at the present day being from five feet to seven feet wide, and up to two and a half feet deep. Corn has been found in pits of this character in one or two localities in Ontario. Now, from their disposition, they could not have been used for setting stockades in, or for holding corner posts of houses; also, on thorough examination, the earth shows no disturbances beneath the bottom of the pit, or traces of timber. They were not used for ovens to bake pottery in, for they exhibit no traces of fire, charcoal or ashes, and there are no shreds of broken pots in their immediate vicinity; and, as the earth is a light loam, with a large proportion of sand, precludes the idea of their being caused by excavating the clay for pottery purposes. If used in connection with "sweat houses," it might reasonably be supposed that some of the stones used to cause steam when heated might be found but no large stones showing discoloration by fire occur in them. If used as graves, the bones have been exhumed for a general burial in an ossuary, at the "Feast of the Dead," but, as no ossuary is known to exist between here and the ossuary-using Hurons, west of Lake Simcoe, the grave theory is hardly tenable.

These pits are grouped in no particular order, though preference seems to be given for short rows of three or four. Pine stumps mea-

suring, with bark and sap-wood burnt off them, three feet in diameter, grow out of several of these pits. The number of pits at this site is about fifty.

The flat, lying to the south-west of the site, being in every way suitable for the cultivation of such cereals, and vegetables, as the Indians grew, would explain the relative position of these pits to the site. These cachers would naturally be placed as near and convenient as possible; the swampy nature of the ground to the east prevents them being placed there, while the northern slope of the hill is too stony for cultivation, as the Indians cultivated. There were no traces of ash-beds to the south or the west of the pits, and nothing of any sort was found in them.

The ash-beds lie between the pits and the river, which is about eighty rods distant. On examination the ash-beds, which are about two feet deep by ten or twelve feet in diameter, disclose the usual remains, but as yet no relics have appeared showing traces of contact with white men, though it is rather too soon to assume too much without a thorough examination. However, among the relics recovered from here are several discs of shell, stone and pottery, some fragments of pottery having a raised pattern, and other unusual patterns; dog whelks apparently from the sea-coast, perforated unios, a piece of graphite, bone awls and beads, and a peculiarly moulded clay pipe which you found yourself, said pipe being cylindrical with a flat bottom, moulded stem hole, and having a tally on the front, all these being unusual features. The unio shells in the river here are larger and thicker than the lake mussels. Fragments of pottery were picked up amongst the



Fig. 50.

roots of turned-up pine trees of a large size. This site is within half a mile of Raven Lake, an expansion of the Talbot River, and is near the junction of Perch Creek with the Talbot. No graves were found.

In September of this year I heard about a site at Mr. D. Smith's, lot 10, Gull River Range, Bexley (figure 50), and visited it several times. It was afterwards examined by yourself.

The Indians had access to the lakes above and below by canoe, and by going a little north could strike a canoe route to the Georgian Bay *via* Black River, or Head River.

The major part of this site has been under cultivation for some years, but enough is left to be interesting. This seems to have been a very compact village, judging from the proximity of the pits to the ash-beds, and the relative closeness of each individually. The natural condition of the ground had a tendency to make the inhabitants economize space. The surrounding land being not so amenable to cultivation, being very shallow and covered with boulders, may have forced the inhabitants to live largely on fish from the adjacent lakes and rivers. Even to this day these waters teem with maskalonge and bass of a large size, besides other fish, and the lakes in the granite region to the north are literally alive with salmon trout.

The pits here are to the west, and are larger and deeper, and more systematically arranged than the above-mentioned ones, if one can judge from the few that remain. Unfortunately, more than half the group has been filled in by process of cultivation. The remaining ones, eighteen in number, average two feet by eight feet, and seem to be in rows running in a southerly direction.

To the west of these is a large area covered with large blocks of granite and limestone. Further on to the southwest is a swamp and another swamp to the east. If any cultivation was done it was to the north.

About thirty rods to the east of the pits, and further down the hill, were about forty single graves, so here we have the single graves and the pits in close proximity to each other, proving that these pits were not graves. These pits on examination gave the same results as the ones before mentioned. No relics, traces of fire, or disturbance of the soil being found in them. A large spring exists to the east of the graves.

A large pine tree grew out of one of these pits; the stump now remaining, and having passed through fires has the bark and sap wood burnt off. It now measures three feet eight inches in diameter, and allowing on an average sixteen annual rings to an inch and the sap wood to be two inches this would make the tree 310 years old till it was cut down, which was probably about twenty-five years ago; making from now till the tree started to grow 335 years past,* or the year 1560, showing that the village was abandoned at least fifty-five years before Champlain passed through these waters with his war party of Huron braves in 1615, to attack the Iroquois south of Lake Ontario; or twenty-five years after Cartier discovered Stadacone and Hochelaga in 1535. Champlain ascended the St. Lawrence in 1603, and discovered no traces of Hochelaga, which in the meantime had been "wiped out" by the Hurons. May not these towns have belonged to the Hocheligans, and shared the same fate about the same period? Dawson in his "Fossil Man" says that the tribes to the north-east of Hochelaga, were either Hocheligans or tributary to them, who were akin to the Hurons, yet not of them. This conjecture if allowed would explain the absence of towns, etc., in this district which Champlain would have been sure to notice as he passed through, were they then existent. Dawson furthermore identifies his Hochelagans with the

* It has recently been shown that this basis of reckoning time is not so trustworthy as was supposed.—D. B.

extinct Alleghans. This extermination of one people by another had been going on for ages when the white man came. The Iroquois were busy at it then with the Hurons, Eries, Neutrals, etc., only to be driven away by the white man themselves. Witness the extermination of other tribes since then.

This last site was a large one and had been occupied for a long time as evidenced by the accumulation of ashes and numbers of heaps in a small area. This place has been visited by relic hunters and large numbers carried away. However Mr. D. Smith very generously gave a large soapstone pipe of the vase type, a long ceremonial double bitted chisel, some stone discs and celts.

On examining the ash-beds we found stone beads, discs, pieces of graphite and hematite, pottery fragments, clay pipes of usual types; pottery discs; some rubbing stones, worked pebbles of steatite; worked flake of Huronian slate, also a blocked out steatite pipe. Mr. Smith informed me that he had found flint arrow-points here, which are very rare in this section, and not as a rule found on village sites, though flint, jasper, quartz, and chert flakes and nodules abound on them. The inhabitants may have lived largely upon fish and the proceeds of agriculture, or used bone arrow-heads. It was not on account of scarcity of material that arrow-points were lacking, for quartz abounds in the near-by granite regions, and I have observed out-croppings of chert on the flat limestone rocks large enough to make even good-sized spear heads and knives.

The locality of this site is one-quarter of a mile from Gull River on the west side, two and a half miles from the lake at the mouth of the river and one and three-quarter miles from the extremity of North Bay, which lies towards the west. It was very well hidden from surprise from enemies travelling on the river, having the high hill and swampy valley intervening.

Another site visited this fall is on the farm of A. McDonald, Kirkfield, lots 44 and 45 S. P. R. Eldon. This one is located on the south side of the range of hills that lie to the south and east of Kirkfield. This site has also been cultivated for a number of years, but the ash beds are plainly noticeable yet. They lie in a semicircle on high ground, on the northwest side of a swamp backed up by the hills, and cover an area of about 300 yards in length. The convex side faces the swamp where there was formerly plenty of water. As the place was covered with stubble, and the time at my disposal short, I could only give it a cursory examination. The soil is very fertile and suitable for the growing of those cereals, etc., which the Indians cultivated, and formerly supported a dense growth of large pines, some stumps of which when pulled up disclosed corn that had been cached, preserved no doubt by carbonization.

Relic hunters have carried away a large number of relics from here, some very good ones, but none showing the influence of white men that I am aware of. I was fortunate enough to obtain some fragments of pipes, pottery, stone and clay discs, a vase pipe of small size, and some perforated dog whelks.

I also visited a village site on Long Point, Fenelon Township, situated on the south end of Balsam Lake. This one was on a hill and

near by on each side, was a river, one flowing into West Bay the other into South Bay, thus giving the place a certain strategic importance. Many years of cultivation have obliterated all traces. Mr. Perrington, the owner, stated that there were a large number of ash beds and graves when he first settled there about thirty years ago, and lots of relics were picked up and taken away. Soil here is also suitable for the growing of corn, tobacco etc. There were no traces of embankments, or any of palisades found round the above villages. If stockaded at all the palisades must have been constructed in such a manner as to stand without being set in the earth. Perhaps they leaned in and were braced on the inside. This would do away with an enormous amount of digging, which would suit the Indians, for they had inadequate tools for such purposes.

I noticed on Long Point on the east side, that an embankment about four feet high, and ten or twelve wide, running along the shore and then at the end of the bay turning in at an obtuse angle. It may have been caused by an ice shove, or a series of shoves, but it lay in such a position that I hardly think the ice could have done it, especially that part extending inland. It might be a deposit of the Glacial Period. I had neither time nor tools to examine it.

I also visited sites described in former Reports, and obtained pipes celts, bone and horn implements, discs, perforated shells, etc.

The accompanying map, figure 48, will show the relative positions of these towns to each other, also to the waterways.

In accounting for the abandonment or destruction of such towns as these, may we not take into consideration the agencies of fire and disease? In dry seasons forest fires would sweep over large areas in short periods of time. Witness the huge conflagrations of our own days in the lumbering districts, which we are powerless to check, and the number of modern towns burnt out. The Indians could do nothing but flee to the water. Spread of disease, superinduced by the state they lived in would cause them to abandon a town and erect another near by. The abandoned town constructed of wood and bark would then quickly decay. This being repeated again and again would give a number of sites in a limited territory, all built by one people.

It is noticeable that the majority of celts or "skimmers" found hereabouts are of very poor workmanship. They seem to have been made on the principle of "anything will do," consequently we see that barring being worked to an edge, very little work is put upon the body of the implement, other than to bring it to desirable shape. We may, however, except a polished axe, that may have been imported, supposed to be of coarse jade. It was found in Eldon Township, to the north of Mitchell's Lake, near Champlain's Portage. The blade is exquisite in make and finish, and is of the following dimensions: Length six inches, breadth four, and thickness seven-eighths of an inch. The edge is perfect and the angles are well defined. The sides are flat and highly polished. Color a dark green approaching black, with one corner of a lighter color. A portion has been broken out at the poll, which was ground to a blunt edge, and which subsequently had been destroyed by abrasion. If this is jade, it is the first example on record found in Ontario, and furnishes another instance of the ancient traffic

existing throughout North America previous to its discovery. Among the chisels obtained is one thirteen inches long, double bitted, worked all over but not polished. Resembles the ceremonial chisel figured on page 39, Report 1886-1887.

Few gouges occur, but these are generally of good workmanship, one found near the jade axe, has a large lip and a round body, tapering to a conical head. Material—dark slate with lighter veins. Another from Bolsover is of light green argillaceous material, highly polished, with one end formed into a gouge, and the other chisel shaped. Side angles well squared.

A peculiar little tool, a rubbing stone celt shaped and highly polished, the edge rounded as if for dressing skins; from Long Point, has somewhat the appearance of a duck's bill.

A hammer stone, from Coboconk, is cylindrical in shape with square ends, and is about four inches by two and a half in diameter. It has a slight groove at one end. It may be an unfinished implement of the same class as figure 96. Report '90-'91.

Of horn implements—one new variety presents itself by two specimens. These are implements peculiarly suitable for insertion in club heads; and in outline are curved like a hawk's beak, terminating in a sharp point, and are about six inches long and moderately thick. They are split off the butt of a horn. A finished one is from Eldon, and an unfinished one is from Bexley. Both were found on village sites.

There are upwards of fifty pottery and stone beads or discs from village sites, in every stage of manufacture, and are of the smallest size, half an inch in diameter to two and a half inches, and three-quarters of an inch in thickness, some being unperforated, but otherwise finished.

These discs occur very frequently on village sites, and may have been used in various ways. Probably the smallest ones were used as beads for necklaces. Some of the larger ones (unperforated) may have been used in gambling, or games; whilst the largest, which are always perforated, may have been spindle-whorls or drill-weights. The pottery discs were made out of pieces of vessels, and were rarely perforated. They may be considered make-shifts, as they are usually rough, with slightly ground edges. They may have been made in a hurry during the progress of some game, or by the children for some amusement, in imitation of their elders. Some regard the thin discs as buttons. See p. 90, Boyle's "Primitive Man."

From Long Point and from Bolsover, are two good specimens of the so-called "women's knives." Material, gray slate.

Two shell discs, unperforated, are, perhaps, unfinished *wampum*, and four are portions of perforated *unio* shells; others are perforated *helices*, commonly called "dog whelks." These are sea shells, and are evidence of intertribal barter. All these shell specimens are from village sites. Carver in his travels, 1793, remarks on the prevalence of small sea shells among the interior tribes, who used them as ornaments, and valued them for their scarcity.

There is one specimen of the "ghost" arrow, of sheet brass. See figures 80 and 81, report '91. This class of relic being very thin and

carelessly made, was totally unfit for war or hunting. It is believed that they were made especially to be buried with the departed braves. As the "spirits of the dead" ascended to the "land of the spirits," or "happy hunting grounds," they needed with them the spirits of their weapons, and implements to hunt the spirits, that represented the animals of the earth, in that elysium.

The very handsome brass pipe-tomahawk, with a steel bit dove-tailed into the brass, has a flowered pattern carved on each side of the blade. The marks of the engraving tool can still be seen with the glass. The pipe is on the pole of the axe, and the handle formed the stem, so that the "brave" who formerly owned it, could enjoy his smoke from the weapon he used in war. This weapon was too light and small to have been used to fell trees with, but with it an expert could strike a terrible blow. Taking everything into consideration, a light, effective weapon, with which one could strike a sequence of rapid blows, was much preferable to the heavier iron axe of French make, with which a lesser number of blows could be struck in the same time. This applies to war clubs and stone axes. It is a noticeable fact that "coup sticks" of the modern western Indians, are far lighter than one generally imagines. One generally associates with the term "war club" a huge ponderous smashing club; whereas it is the opposite. The modern war club being generally a waggon spoke, with a couple of butcher-knife blades, or spear heads set in the end at an angle. The above tomahawk was ploughed up near Gamebridge, Lake Simcoe. Pipe-tomahawks are not uncommon especially those of iron; but brass ones are rare. One was discovered some years ago at Dalsousie, and still more recently, a lead one was found at Lake Scugog.

Several specimens show the various types of clay pipes occurring here. Some of them, especially the round and square top cornet-shaped, show affinity to those of the Hurons; while others show affinity to the Hochelagans.

The human face pipe occurs quite frequently, often grotesquely formed, with the addition of animal ears. One is a double-faced pipe Balsam Lake, others show different types of faces, and there is a specimen having the hole bored through the mouth for the insertion of a stem after the original was broken off. This utilization of a broken pipe often occurs. Several of the stems after being split, show one method of forming the stem hole, namely, by moulding the stem around a cord of twisted fibre or grass, which was consumed in the baking of the pipe. The unique specimen exhibiting three new features, namely, the stem hole moulded in it, a flat bottom; and a tally is cylindrical in form, without ornament, resembles somewhat a diminutive mug. This specimen was found by Mr. Boyle.

A white stone pipe from Woodville, perfect, shows much use, notches being worn at the end of the stem, no ornamentation, material rare, steatite, resembles somewhat fig. 27, report 91. Another is a long, slender, square-shaped pipe, material grey steatite, or soapstone. It has a head of some animal carved in relief, on the top and incised herring-bone pattern on the sides, locality, Bexley Township.

A rare pipe represents a human figure in a squatting position. It has been remarked that these pipes suggest a person taking a rest

with a bundle on his back. See fig. 26, report '91, which this one resembles, but is much smaller and has its arms crossed on the top of its knees, and is without the hat. The legs are separate from the body, and there is a checker-board pattern on the base. Material, dark grey steatite : locality, Long Pond.

The fact that our Indians never carved offensive objects militates against the idea that this class of pipes, represent persons performing natural functions.

The vase type, which is the commonest here, is represented by three specimens, all of steatite. One is a large, grey, unfinished pipe from Coboconk. Another is a large, well polished, stained black, double-stem-hole pipe, with one side of the base drawn out to a toe, and perforated for the attachment to a stem, or of an ornament. Locality, Somerville Township. This is the third specimen of a double stem holed pipe from this locality, two being vase pipes, and the third a panther pipe.

A small grey vase pipe is from Kirkfield. A fragment of a squared-top bowl, like the Huron clay pipe, shows plainly the circular striæ resulting from a rotatory drill.

Copper weapons and implements occur very rarely here. A knife (See figure 18) found on "the right of way," Trent Canal, lot 3, S. P. R. Bexley. Dimensions, total length eight and a half inches. The tine is two and a half inches long. Greatest width of blade one and five sixteenths inches. Thickness one-eighth. It is double edged, with both edges straight meeting in a point. See knife figured on p. 23, Whittlesey's Ancient Mining on Lake Superior, but this one is much better made and has evener edges. The other copper knife from here, which is round pointed, can be compared to the one figured on p. 26, same work. Locality, Bolsover.

Knives of both these patterns occasionally turn up throughout Ontario, and those States in the vicinity of the Great Lakes. Some exception is taken to their shape as indicative of European influence, but on giving the matter a thought one can easily see that the tine for insertion was better fitted for hafting, than the socket.

The edges of the cold hammered socket would easily give under pressure and thus the inserted handle would always be more or less loose. What is more fitted for the haft of a tined blade than a portion of a deer horn? The tine being driven home in the cellular portion of the horn. One might doubt the origin of these knives, if like the scalping knives introduced by the early traders, the tine was broader and had holes for rivetting on the handles.

The question is whether the Indians manufactured these copper implements or did they get them as finds, or heirlooms from their ancestors, or by barter with other tribes, or as loot in war?

The Hurons and Iroquois, and other tribes living around the Great Lakes, when first known to the whites did not manufacture or work in copper, though Cartier records the Hochelagans as having acquaintance with copper and silver.

The majority of copper implements found in the vicinity of the Great Lakes and the Middle States, are believed to be made out of

Lake Superior copper. Though copper occurs as drift in these districts, it is not plentiful enough to account for all the implements discovered, and we also have the "hull mark" on some of them, namely silver nodules in the copper matrix which proves them to be of Lake Superior copper for no other copper on the continent possesses this feature.

The accompanying sketch map will show the relative positions of the villages, which are numbered, to each other, nos. six and seven are the ones that have the pits.

Credit must be given the undermentioned for donations:

Thos. McNish, Long Point, slate knife and rubbing stone.

G. McKague, Bexley, gouge celts, clay pipes and bone awls.

Wm. Irwin, Bexley, celts, clay pipes, discs, awls, perforated shells and rubbing stone.

J. Bartley, celt and clay pipes.

Mrs. J. W. Laidlaw, Bexley, six celts.

D. Smith, Coboconk, vase pipe, discs, beads, celts, chisels, awls bone ornaments and worked pebbles.

C. Fry, Kirkfield, jade axe, slate gouge, work stones.

D. Wright, Kirkfield, celt, worked slate slab, white quartz spear-head.

C. Burchael, Somerville Township, argillite celt, two chisels.

Jas. McGirr, Bolsover, slate gouge, awls, five flints, two slate pendants, slate knife, six clay pipes.

Duncan McPhail, Victoria Road, copper knife.

W. White, Somerville Township, double-stem-hole vase pipe, and disc.

Alex. Wilson, Bexley, skull.

C. J. Gilchrist, Woodville, flint scraper, white stone pipe, three clay pipes.

M. Haygarth, Eldon, flint scraper and disc.

Mrs. R. Campbell, Kirkfield, discs, clay pipes, worked stone.

Miss A. Campbell, Kirkfield, clay pipe, perforated shells.

APPENDIX A.

ONTARIO MOUNDS.

In the *Canadian Journal* for September 1860, there is a paper by Mr. Thomas Campbell Wallbridge, in which he refers to the existence of mounds along the shores of the Bay of Quinte! "Commencing at Rednerville, in the township of Ameliasburg," he says, "they may be traced along the Bay shore above the Plains of Massassaga Point, a distance of about eight miles. In this space, including the island of the so-called 'Big Bay,' upon which they also occur, perhaps one hundred distinct mounds can be counted; they are not, however, con-

fined to these limits, for, from enquiries made with a view to ascertain their extent, it is probable they will be found at intervals following the shores, from the eastern to the western extremity of the Bay; they are likewise said to occur at a place called 'Percy Boom.* upon the river Trent, and perhaps by ascending to the head waters of that river they may be traced to the shores of the Upper Lakes, and thence to the most remote parts of the continent.

"As far as has yet been ascertained, there is but one class or form of mounds in this part of the country, and the truncated cone is the shape they assume. In size they vary from a diameter at the base of thirty to fifty feet, to a diameter at the apex of twelve feet. Each mound has a shallow basin or circular depression upon its summit, which, whatever may be the size of the work, has a diameter of eight feet; and no mound under my observation possessed an altitude of more than five feet. It is a remarkable peculiarity of these works, that in almost every instance they occur in groups of two, and at irregular distances, the one group from the other. Irregularity is likewise observable between one mound and its fellow, these being sometimes found in *juxta-position*, and again from 50 to 100 feet asunder.

"The two of the same group are always of one size. With respect to the surrounding country they are situated apparently without design, now at the foot of a commanding hill, then half way down the side of a bank, and again so near the shore that in several instances they have been destroyed by the action of the water. Twice they have been found in very low or swampy ground, and in these cases they occur singly."

On making an examination of some of these mounds in company with Mr. Henry Cawthra, of Toronto, Mr. Wallbridge discovered "human remains and objects of curiosity and art," although having opened five on a previous occasion he discovered almost nothing except "a few bones near the surface" which he very sagaciously remarked "is no indication of the purpose for which the work was originally built, for it is well ascertained that many of the mounds of the Western States, constructed evidently for different objects than those of sepulture, have been used by modern Indians for that purpose."

It is eminently satisfactory to know that so intelligent an observer as Mr. Wallbridge has left us a record of the work he performed thirty-eight years ago, as few, if any traces of the mounds he mentions, can now be discovered.

The following quotation was kindly supplied by Mr. A. F. Hunter, M.A., Barrie.

"The Rev. Dr. Reed, a Methodist missionary who spent two years in Toronto and the new settlements of York, Peel and Halton counties

* The place, formerly known as Percy Boom, is about five or six miles below Campbellford, near the village of Meyersburg. It probably took its name from the village of Percy, now Warkworth, three miles distant, in the township of Percy. A boom was constructed here to collect the timber, of which immense 'drives', used to be floated down the River Trent.

(1820-22), has described the Burlington mounds, etc., as they appeared in that day. His description which was first published probably in his 'Reminiscences of Itinerant Life,'—a series of newspaper articles—was reprinted in Carroll's "Case and his Contemporaries" (Vol I. pp 164-5), from which we make this extract. Dr. Reed says:

"At the head of Lake Ontario is a considerable body of water separated from the lake by a sandy beach about five miles in length, and from 80 to 100 yards in width. The water thus separated from the lake is called Burlington Bay, at the upper end of which now stands the City of Hamilton. The outlet of the bay into the lake is near the north end of the beach, and is celebrated as a famous fishing-place. The Indians have some curious traditions concerning this particular region, to which I will presently refer. I noticed in passing over this beach singular excavations at regular intervals about midway between the lake and the bay. They were about twenty or thirty yards apart; originally of a square form, and measuring from ten to fifteen yards on a side. They were evidently artificial, and of a very ancient date, as in some instances old trees were growing within them, and the Indians had no tradition of their origin or design. I judge that they must have been intended for military use. At the north end of the beach, on the main land, beautifully situated near the lake shore, was the elegant residence of Colonel Brandt, son of the old chief of revolutionary celebrity, [the "old chief" himself was alive in Case's time.] The Colonel was an educated and well-bred gentleman, and with his family associated with the higher classes of society. (And this was true of the father, who was educated in England, as well as the son). In this immediate vicinity the soil was mingled with vast quantities of human bones, stones, arrow-heads, hatchets, etc., the weapons of ancient Indian warfare. In sight of the mansion, and in plain view of the road, was a large mound of earth filled with human bones. One or two others stood near but had been demolished. In several instances I was informed, stone-hatchets and arrow-heads were found firmly fixed in skulls, [!] plainly indicating that the victims had fall in some hostile encounter."

APPENDIX B.

SERPENT WORSHIP.*

"To the modern educated world, few phenomena of the lower civilization seem more pitiable than the spectacle of a man worshipping a beast. We have learnt the lessons of Natural History at last thoroughly enough to recognize our superiority to our 'younger brothers' as the Red Indians call them, the creatures whom it is our place not to adore, but to understand and use. By men at lower levels of culture, however, the inferior animals are viewed with a very different eye. For various motives, they have become objects of veneration ranking among the most important in the lower ranges of religion. Yet I must here speak shortly and slightly of animal-worship, not as

* Primitive Culture, vol. II. p. 208 and following pages, by E. B. Tylor.

wanting in interest, but as ever abounding in difficulty. Wishing rather to bring general principles into view than to mass uninterpreted facts, all I can satisfactorily do is to give some select examples from the various groups of evidence, so as at once to display the more striking features of the subject, and to trace the ancient ideas upward from the savage level far into the higher civilization.

First and foremost, uncultured man seems capable of simply worshipping a beast as a beast, looking on it as possessed of power, courage, cunning, beyond his own, and animated like a man by a soul which continues to exist after bodily death, powerful as ever for good and harm. Then this idea blends with the thought of the creature as being an incarnate deity, seeing, hearing, and acting even at a distance, and continuing its power after the death of the animal body to which the divine spirit was attached

Whether an animal be worshipped as the receptacle or incarnation of an indwelling divine soul or other deity, or as one of the myriad representations of the presiding god of its class, the case is included under and explained by the general theory of fetish-worship The three motives of animal worship, viz., direct worship of the animal for itself, indirect worship of it as a fetish acted through by a deity, and veneration for it as a totem or representative of a tribe-ancestor, no doubt account in no small measure for the phenomena of Zoolatry among the lower races, due allowance being also made for the effects of myth and symbolism of which we may gain frequent glimpses. Notwithstanding the obscurity and complexity of the subject, a survey of animal-worship as a whole may yet justify an ethnographic view of its place in the history of civilization. Serpent-worship unfortunately fell years ago into the hands of speculative writers, who mixed it with occult philosophies, Druidical mysteries, and that portentous nonsense called the Arkite Symbolism, till now sober students hear the very name of Ophiolatry with a shiver. Yet it is in itself a rational and instructive subject of inquiry, especially notable for its width of range in mythology and religion. We may set out among the lower races, with such accounts as those of the Red Indian's to the rattlesnakes, as grandfather and king of snakes, as a divine protector able to give fair winds or cause tempests: or of the worship of great snakes among the tribes of Peru before they received the religion of the Incas, as to whom an old author (Garcila-o de la Vega) says 'They adore the demon when he presents himself to them in the figure of some beast or serpent, and talks with them.' thenceforth such examples of direct Ophiolatry may be traced on into classic and barbaric Europe,* the great serpent which defended the citadel of Athens and enjoyed its monthly honey-cakes; the Roman genius loci appearing in the form of a snake; the old Prussian serpent-worship and offering of food to the household snakes; the golden viper adored by the Lombards, till Barbatus got it in his hands and the goldsmiths made it into paten and chalice. To this day Europe has not forgotten in nursery tales the snake that comes with

* This does not mean that the European practices were derivations from America. The word 'thenceforth' relates to the writer's method—first treating of the lowest forms of Serpent-worship, and proceeding to those that may be called higher.

its golden crown and drinks milk out of the child's porringer! the house-snake tame and kindly but seldom seen, that cares for the cows and children, and gives omens of death in the family; the pair of household snakes which have a mystic connection of life and death with the husband and housewife themselves. Serpent-worship, apparently of the direst sort, was prominent in the indigenous religions of South Asia. It now even appears to have maintained no mean place in early Indian Buddhism, for the sculptures of the Sanchi tope, show scenes of adoration of the five-headed snake-deity in his temple, performed by a race of serpent-worshippers, figuratively represented with snakes growing from their shoulders, and whose raja himself has a five-headed snake arching hood-wise over his head. Here, moreover, the totem theory comes into contact with ophiolatry. The Sanskrit name of the snake 'nâga' becomes also the accepted designation of its adorers, and thus mythological interpretation has to reduce to reasonable sense legends of serpent races who turn out to be simply serpent-worshippers, tribes who have from the divine reptiles at once their generic name of Nâgas, and with it their imagined ancestral descent from serpents. In different ways these Nâga tribes of South Asia are on the one hand analogues of the Snake Indians of America, and on the other of the Ophiogenes or Serpent race of the Troal, kindred of the vipers whose bite they could cure by touch, and descendants of an ancient hero transformed into a snake.

Serpents hold a prominent place in the religions of the world, as the incarnations, shrines or symbols of high deities. Such were the rattlesnake worshipped in the Natchez temple of the Sun, and the snake belonging in name and figure to the Aztec deity Quetzalcoatl; the snake as worshipped still by the Slave Coast negro, not for itself but for its indwelling deity; the snake kept and fed with milk in the temple of the old Slavonic god Potrimpos; the serpent-symbol of the healing deity Asklepios, who abode in or manifested himself through the huge tame snakes kept in the temple (it is doubtful whether this had any original connection with the adoption of the snake, from its renewal by casting its old slough, as the accepted emblem of new life or immortality in later symbolism); and lastly, the Phoenician serpent with its tail in its mouth, symbol of the world and of the Heaven-god Taaut, in its original meaning probably a mythic world-snake like the Scandinavian Midgardworm, but in the changed fancy of later ages adapted into an emblem of eternity. It scarcely seems proved that savage races, in all their mystic contemplations of the serpent, ever developed out of their own minds the idea, to us so familiar of adopting it as a personification of evil. In ancient times we may ascribe this character perhaps to the monster whose well-known form is to be seen on the mummy cases, the Apophis-serpent of the Egyptian Hades; and it unquestionably belongs to the Wicked Serpent of the Zarathustrians, Aji Dahaka, a figure which bears so remarkable a relation to that of the Semitic serpent of Eden, which may stand in historical connexion with it. A wondrous blending of the ancient rites of Ophiolatry with mystic conceptions of Gnosticism appears in the cultus which tradition (in truth or s'ander) declares the semi-Christian sect of Ophites to have rendered to their tame snake, enticing it out of its chest to coil round the sacramental bread, and worship-

ping it as the great king from heaven, who in the beginning gave to the man and woman the knowledge of the mysteries. Thus the extreme types of religious veneration, from the soberest matter-of-fact to the dreamiest mysticism, find their places in the worship of animals."

Fergusson says: * "There are few things in connexion with the ancient mythology of America more certain than that there existed in that country before its discovery by Columbus extreme veneration for the serpent. Whether or not this should be designated 'worship' is not so clear.

There are few things which at first sight appear to us at the present day so strange, or less easy to account for, than that worship which was once so generally offered to the Serpent God. If not the oldest, it ranks at least among the earliest forms through which the human intellect sought to propitiate the unknown powers. Traces of its existence are found not only in every country of the old world; but before the new was discovered by us, the same strange idolatry had long prevailed there, and even now the worship of the Serpent is found lurking in out-of-the-way corners of the globe, and startles us at times with unhallowed rites which seem generally to have been associated with its prevalence.

When it comes to be closely examined, the worship of the Serpent does not seem so strange as it might at first sight appear. As was well remarked by an ancient author, 'The serpent alone of all animals, without legs or arms, or any of the usual appliances for locomotion, still moves with singular celerity; ' and he might have added—grace, for no one who has watched a serpent slowly progressing over the ground, with his head erect, and his body following apparently without exertion, can fail to be struck with the peculiar beauty of the motion. There is no jerk, no reflex motion, as in all other animals, even fishes, but a continual progression in the most graceful curves. Their general form, too, is full of elegance, and their colors varied and sometimes very beautiful, and their eyes bright and piercing. Then, too, the serpent can exist for an indefinite time without food or apparent hunger. He periodically casts his skin, and, as the ancients fabled, by that process renewed his youth. Add to this his longevity, which, though not so great as was often supposed, is still sufficient to make superstitions forget how long an individual may have been reverenced in order that they may ascribe to him immortality.

When we first meet Serpent worship, either in the Wilderness of Sinai, the Groves of Epidaurus, in Sarmatian huts, or Indian Temples, the Serpent is always the Agatho-demon, the bringer of health and good fortune. He is the teacher of wisdom, the oracle of future events. His worship may have originated in fear, but long before we became practically acquainted with it, it had passed to the opposite extreme among its votaries. Any evil that ever was spoken of the serpent, came from those who were outside the pale, and were trying to depreciate what they considered as an accursed superstition.

* *Tree and Serpent Worship*, by James Fergusson, London, 1873, p. 38.

The essence of Serpent worship is as diametrically opposed to the spirit of the Veda, or of the Bible, as it is possible to conceive two faiths to be; and with unvarying degrees of dilution the spirit of these two works pervades in a greater or less extent all the forms of the religions of the Aryan or Semitic races." *

Prof. Putnam writes: † "That the serpent was prominent in the religious faiths of the Americans is beyond question, and that, to a certain extent, in combination with phallic and solar worship, it extended from Central America to Peru and Mexico, cannot be doubted, whatever its origin. Its existence is shown in Yucatan, as in Cambodia, by sculptures on the ruined buildings which can only be designated as temples. We know from history and art that this form of worship existed in Mexico down to the time of the Spanish invasion and conquest, and that it still survives in the rites of the Zunis and Moquis, and probably other of the Pueblo tribes.

In 1871, Mr. Phené made his discovery of an interesting mound in Argyleshire, Scotland, a figure and brief description of which are given by Miss Gordon Cumming in 'Good Words' for March, 1872. This work has so much in common with the Ohio serpent that Miss Cumming's illustration is here copied for comparison, and I give a brief abstract of her description :

'The mound is situated on a grassy plain. The tail of the serpent rests near the shore of Loch Nell, and the mound gradually rises seventeen to twenty feet in height, and is continued for three hundred feet, forming a double curve like a huge letter S, and wonderfully perfect in anatomical outline. This we perceive the more perfectly on reaching the head, which lies at the western end. . . .

'The head forms a circular cairn, on which at the time of Mr. Phené's first visit (several years previous) there still remained some trace of an altar. . . . which has since wholly disappeared, thanks to the cattle and herd boys. Mr. Phené examined the circular cairn or circle of stones, forming the head, and although it had been previously disturbed, he found three large stones form a megalithic chamber, which contained burnt bones, charcoal, and burnt hazel-nuts, and an implement of flint was also found during the examination. On removing the peat-moss and heather from the ridge of the serpent's back, it was found that the whole length of the spine was carefully constructed, with regularly and symmetrically placed stones, at such an angle as to throw off the rain. . . . The spine is, in fact, a long narrow causeway made of large stones, set like the vertebrae of some huge animal. They form a ridge, sloping off at each side, which is continued downward with an arrangement of smaller stones suggestive of ribs. The mound has been found in such a position that the worshippers, standing at the altar would naturally look eastwards, directly along the whole of the great reptile, and across the dark lake to the triple peaks of Ben Cruachan. This position must have been carefully selected, as from no other point are the three peaks visible.'

* Fergusson p.p. 1-3.

† The Serpent Mound in Ohio, by F. W. Putnam, in the *Century*, April, 1890, p. 876.

General Forlong, in commenting on this, says:

‘Here, then, we have an earth formed snake, emerging in the usual manner from dark water, at the base, as it were, of a triple cone,—Scotland’s Mount Hermon,—just as we so frequently meet snakes and their shrines in the East.’”

Prof. Putnam then proceeds: “Is there not something more than co-incidence in the resemblances between the Loeh Nell and the Ohio serpent, to say nothing of the topography of their respective situation? Each has the head pointing west, and each terminates with a circular inclosure, containing an altar, from which, looking along the most prominent portion of the serpent, the rising sun may be seen. If the serpent of Scotland is the symbol of an ancient faith, surely that of Ohio is the same.”

APPENDIX C.

THE OLD BAY HOUSE.

During a conversation with Squire Thomson of Hiawatha he mentioned the former existence of an old log building which he believed to have belonged to the North West Company of Adventurers trading in furs, and although the place is of historical rather than of archœological interest, I accompanied him to the spot, about a quarter of a mile east of the Miller mounds. Bare as is the records of facts concerning this place, a statement of them here may elicit information from other sources.

As Mr. Thomson remembers the building twenty-five years ago, when the log walls, or portions of them, were still standing, the house would be about twenty by twenty-four feet, its length being in line with the lake shore. A fire-place and chimney of stone, and built in the old style, stood outside of the eastern gable. Here the stones now lie in a confused heap. This house was reported to be “always open,” or, in other words, an “open house” for the convenience of traders following the established route of travel between the Huron country and Montreal. If this shelter had been much frequented by white traders, it was pretty certain that the floor area would contain some vestiges of their occupation. Portions of it were accordingly dug up, but with the exception of numerous fragments of Indian pottery, and a few flakes of flint, nothing appeared. Even the occurrence of the pottery could bear no relation to the use of the place by Indians, for they had ceased to use clay vessels of their own making, a hundred years and more before this house was put up. The only inference is that the Old Bay House was erected on the site of an Indian encampment, numerous examples of which exist along the lake shore.

John Howard, the oldest Indian on the Hiawatha Reserve was referred to as the man who could tell most about the house, but although I called three times to see him, I always found that he was out in his canoe, fishing.

Although there is no event of importance connected with this place, the existence of the North West Company forms a stirring chapter in Canadian history, and it is at least worth while noting that the Old Bay House stood here as a stopping place for the Indians, and perhaps for others, on their trading trips.

Not far away from the Old Bay House in a desolate and scraggy little grove on a hill-top over-looking Rice Lake, there stands a small monument over the grave of a Major St. Quintin who is said to have been engaged to one of Captain Anderson's beautiful half-caste daughters. She died of consumption and the Major remained about the place until his own death, many years afterwards.

The story of Captain Anderson's settlement on the reserve, forms an interesting episode in the local annals, and should be written by some one in Otonabee while it is possible to collect all the facts.

Military men ought to be interested in all that concerns British soldiers who have died here, and a record should be compiled relating to the resting-places of such departed veterans. The following is the inscription on the St. Quintin tombstone.

TO THE MEMORY OF
MAJOR FRANCIS JOHN ST. QUINTIN,
LATE OF THE 85TH REGIMENT.
YOUNGEST SON OF THE LATE
WILLIAM THOMAS ST. QUINTIN,
OF SCAMPTON HALL, YORKSHIRE,
ENGLAND.
WHO DIED ON THE 9TH DAY OF
FEBRUARY, A.D. 1857.
AGED 52 YEARS.
*Sincerely regretted by all his
relations and friends.*

APPENDIX D.

BIBLIOGRAPHY OF THE ARCHAEOLOGY OF ONTARIO.

BY A. F. HUNTER, M.A.

The initial work of this list was performed by A. F. Chamberlain, Ph. D., now of Clark University, Worcester, Mass., who made a bibliography including the whole Dominion of Canada (276 titles), published by instalments in our Second, Third and Fourth Reports. The titles referring to Ontario alone (100 altogether) have been collected by A. F. Hunter, M.A., from the previously published parts, and he has added to them upwards of 100 new titles, making a consolidated bibliography for the province. The titles originally given by Dr. Chamberlain are marked (C.), and those added by Mr. Hunter (H.).

The boundaries of the province have not been arbitrarily followed in the preparation of the present list, but bordering districts, such as Montreal and Mackinac Islands, have been included.

It is hoped that this list, though not exhaustive, will facilitate the work of those who desire to cover the ground, or any part of it.

American Antiquarian.

Vol. xiv. (May, 1892), p. 184.
Mentions finds at Lake Nipissing. (H.)

Anderson, Dr. (Director).

National Museum of Antiquities of Scotland. Catalogue, 1892.

Pages 113-115 contain comparative collection of 304 specimens from Canada, mainly Ontario, with counties given in most cases. (H.)

Archæological Journal.

Published under the auspices of the Archæological Institute of Great Britain and Ireland. Vol. xviii. (London, 1861).

Contains (p. 374) brief note on fragments of pottery found beneath a pine tree near the Great? (Grand) River, Canada. (C.)

Ashford, Clarence W.

Historical sketch in Belden's Atlas of Simcoe county. Toronto, 1881.

This sketch appeared anonymously, but is known to have been written or compiled by Clarence W. Ashford, since then Secretary of State, Hawaii, with emendations by Charles

Pelham Mulvaney. It contains numerous references to the antiquities of Simcoe county. (H.)

Bain, James, jr.

The present condition of the old French Fort at Ste. Marie. Proc. Can. Inst., 3rd series, vol. iii., 1886, pp. 278-279.

Brief abstract of paper given. (C.)

The Hurons and French in the Early Days. pp. 165-8 in "The Northern Lakes of Canada" (guide-book). Toronto, 1886.

Contains references to Fort Ste. Marie on the Wye, and Huron remains in the vicinity. The same book (p. 87) has a reference to rock paintings near Longford. (H.)

Barrie Advance (Newspaper).

June 28, 1888.

Mentions skeletons and other remains found at Cameron's Point, Lake Simcoe. (H.)

Barrie Examiner (Newspaper)

October 17, 1895.

Describes ossuary in Flos township and its contents. See also Boyle's Report, 1894-5 (p. 42). (H.)

Barrie Gazette (Newspaper).

December 2, 1896.

Mentions a sword found in Simcoe county. (H.)

Bawtree, Ed W., M.D.

Indian Sepulchral Pits in Canada. Edinburgh New Philosophical Journal, vol. xlv.

See Squier, E. G., and Toronto Empire.

Describes six large ossuaries and their contents, etc., in Simcoe county. (C.)

Bayfield, Capt. Henry Wolsey, R.N.

Hydrographic Chart of Georgian Bay, 1823.

Mentions "Indian figures on the cliff," immediately west of the outlet of French River, three or four miles. (H.)

Beauchamp, Rev. W. M.

Indian Occupation of New York State. Science, vol. xix., p. 76, February 5, 1892.

Notices Huron ossuaries and towns in Ontario. Refers to the possible relation of a few earthworks near Prescott to those of St Lawrence county, N. Y., on opposite side of the river. (H.)

A catalogue of prehistoric works east of the Rocky Mountains. Compiled by Dr. Cyrus Thomas. Sixth annual report of the Bureau of Ethnology. Also reprinted separately.

The references to Ontario are by the Rev. W. M. Beauchamp. (H.)

Southern visits of the Eskimo. Proc. of the Am. Assoc., 1894, pp. 344-5.

Brief Abstract. Has references to Eskimo relics found here. (H.)

Iroquois Migrations. Proc. of the Am. Assoc., 1894, p. 345.

Discusses the earliest position of the Hurons, etc. (H.)

Beeman, T. W., M.D.

Lanark county. Fifth Archaeological Report, pp. 15-18, Toronto, 1891.

Gives kinds and descriptions of relics found there, and quantity of each kind. (H.)

Lanark county. Seventh Archaeological Report, pp. 15-17. Toronto, 1894.

Describes specimens found, and gives a list of relics received for the Museum, with localities and names of donors. (H.)

Lanark county; pp. 71-72, Eighth Archaeological Report, Toronto, 1896.

Describes work about the Rideau lakes during 1895. (H.)

Bonnycastle, Sir Richard H.

The Canadas in 1841. Two volumes. 1842.

Vol. ii., p. 31, mentions an ossuary, then lately discovered, near Yonge street, south of Barrie. Presumably it was the Cosgrove ossuary in West Gwillimbury township, and was visited by Bonnycastle in July, 1835. (H.)

Boyle, David.

Work and Play among the Indians, iii.; School Work and Play. Toronto. Vol. i. No. 6 (March 15, 1889) p. 6.

Describes, with illustrations, Indian pipes. Figures of "McCallum" pipe in shape of monkey, from Halton county; "Beecroft" pipe of bloodstone, from Nottawasaga; "McKnight" pipe of marble from Beverly township. (C.)

Indian Archaeology. An article in the *Toronto Globe*, vol. xlvi., number 190, August 9, 1890.

Illustrated by thirty-five wood cuts of specimens in the Provincial Archaeological Museum. (C.)

The Archaeological Outlook. Proc. Canad. Inst., 3rd series, vol. iv. (1886), pp. 1-7.

At pp. 4-5 describes a find of seventy tomahawks in the town-hip of Beverley ; at p. 5 an ossuary in the same district. (C.)

Report of Curator for 1885-1886. Proc. Canad. Inst., 3rd series, vol. iv (1886-7), pp. 208-210.

Enumerates specimens. (C.)

First Archaeological Report, 1886-1887, being part of appendix to the report of the Minister of Education, Ontario, 1887, Toronto, 1888, pp. 9-58.

Describes, with 117 figures, part of the collection now in the Provincial Museum. Pages 9-14 describe Mr. Boyle's operations during 1887. Pottery, pp. 18-21 ; clay pipes, 22-24 ; stone pipes, 25-30 ; breast-plates and gorgets, pendants, 30-33 ; ceremonial weapons, 33-36 ; totems, tribe-symbols, 36-38 ; slate spear-heads, 38 ; grooved axes, 39 ; gouges, 40 ; tubes, 41 ; beads, 42-43 ; flints, 44-47 ; grinding and rubbing stones, 48 ; objects in shell, 49-50 ; bone bone and horn, 50-54 ; copper, 54-56. Village sites and ossuaries, 57-58, (See Hunter, A. F.) (C.)

Second Archaeological Report, pp. 9-59, for 1887-8. Being part of appendix to the report of the Minister of Education, Ontario, 1888. Published by order of the Legislative Assembly. Toronto, 1889 ; pp. 1-59, with eighty-four figures.

Pages 11-12, enumeration of Canadian specimens added to the museum ; pp. 20-22, clay pipes from Glenhuron, Nottawasaga, Lumbton ; pp. 23-28, stone pipes from Frontenac, McGillivray, Lake Moira, London township, Hope Bay (Wiarton), West Williams township, Nottawasaga ; pp. 28-40, implements of stone from McGillivray, Scugog Island, West Middlesex, Nottawasaga, Point Edward, Biddulph, Toronto, Wolfe Island, West Williams, Vaughan, Fort McLeod ; pp. 40-41, shell gorgets, London (Ont.) ; pp. 41-45, flints from Wolfe Island, Fenelon Falls, etc. ; p. 46, carved

stone head from Beverly township ; pp. 48-50, copper beads from Wolfe Island, Tidd's Island ; chisels from Biddulph, Burford and London townships ; pp. 51-53, types of recent iron axes from Nottawasaga, Toronto, etc. ; pp. 54-59, Bibliog. of the Archaeology of Canada, I. (See Chamberlain, A. F.) (C.)

Third Archaeological Report for 1888-9. Toronto, 1889, pp. 1-118.

Introductory remarks, pp. 1-3 ; archaeological remains in the Huron region, 8-15, with map of the township of Nottawasaga showing village sites, graves, and ossuaries, 9 ; and map of earthwork in the Township 11 ; detailed description of archaeological investigations at village site at Clearville, Kent Co., 15-18 ; with map, 16 ; township of Humberstone, 18 ; York and Vaughan, 19-20 ; archaeological notes, 21-42 ; with 39 figures, pottery, 21-23 ; clay pipes, 23-27 ; stone pipes, 28-31 ; bone and horn implements, 31-34 ; flint 35 ; stone tubes, 35 ; other stone specimens, 36-37 ; mortars, 38 ; copper implements, 39-40 ; crania (with figure), 41 ; modern Indian dresses, 42 ; French relics from village sites of the Hurons, 42-46 (see Hunter, A. F.) ; exhaustive catalogue of specimens in the Provincial Archaeological Museum, 48-101 ; Bibliog. of the Archaeology of Canada, II., 102-118 (see Chamberlain, A. F.) (C.)

Fourth Archaeological Report (1890). Toronto, 1891. 90 pp. Being an Appendix to the Report of the Minister of Education, Ontario. 162 illustrations.

Introductory remarks, pp. 5-7 ; pp. 8-23 describe Mr. Boyle's operations during 1890, as follow : The Southwold earthwork, 8 ; Tuscarora and Oneida, 10 ; Balsam Lake, 12 ; Lake Weslemkoon (Hastings Co.), 14 ; Midland, 17 ; Sainte Marie on the Wye, 18 ; Parry Sound, 19 ; Parry Island, 20 ; Point Abino, 21. Notes on porcupine quill work, 23 (with lithograph on opposite page) ; invitation quills, 24 ; pottery, 24-29 (with three full-page plates showing 62 patterns) ; clay pipes, 29-35 ; stone pipes, 35-40 ; hammer stones,

41-43; game disk, 43; figured tool, 43; flaked stones, 44; stone cup, 45; amulets or gorgets, 45-48; stone carving, 48; disks, 49; totem, 49; slick stone, 50; shell utensils, etc., 50-53; bone, 54; Ojibwa game, 55; horn, 56; unfinished relics, 57-59; copper 59-63; post-European relics, 64-68. Extract, 68-71: Account of the Maquas (Mohawks) by John Megapolensis, jr. Tribal names, 71-73. Ba'sam Lake, by George E. Laidlaw, 73-77. Biblio. of the Archaeology of Canada III., 78-82, by A. F. Chamberlain. The Algonkian Indians of Bap'tiste Lake (Ha'tings Co.) by A. F. Chamberlain, 83-90. (H.)

Fifth Archaeological Report
Being an Appendix to the Report of the Minister of Education, Ontario. 102 pp., 131 illustrations. Toronto, 1891.

Introductory remarks, 5-6. Notes: palaeoliths, etc., 7-10; pp. 11-15 describe Mr. Boyle's operations during 1891, as follow: Southwold earth-work, 11; Malahide, 11-12; Camden, 12; Williamsburgh, 13; Herschell, 13-15; Lanark County, by Dr. T. W. Beeman, 15-18; additions to the museum, 18-22. Notes: pottery, 23-26; clay pipes, 26-28; stone pipes, 29-33; flaked implements, 34-36; celts, chisels, gouges 36-38; various slate specimens, 39-42; finger ring, 43; rubbing tools, 43-44; bone and horn, 44-49; shell, 50; wood, 50; iron tomahawk, 51; copper, 51; British Columbia specimens, 52-56; Crania, 57; Cranial Measurements, by Dr. Susanna P. Boyle, 57-102. (H.)

Sixth Archaeological Report
Being an Appendix to the Report of the Minister of Education, Ontario; 34 pp., 15 illustrations. Toronto, 1893.

By a mistake in printing, the title page of this publication was "Fifth Report." General Remarks, pp. 1-3. Notes, 3-6; catalogue of specimens on exhibition at the World's Fair, Chicago, from the Ontario Archaeological Museum, 7-14; methods of working, 15; clay pipes, 15-16; stone pipes, 16-19; gorgets,

19-20; bone, 20; copper, 21. The Southwold Earthwork and the Country of the Neutrals, by James H. Coyne, B.A., 22-34. (H.)

Seventh Archaeological Report.
Being part of Appendix to the Report of the Minister of Education, Ontario; 22 pp. and 8 figures. Toronto, 1894.

Annual Report, 5: Exhibit at the Columbian Exposition, 6; additions to the Museum, 7; notes, 9; ancient Mexican relics added to the Museum (with seven illustrations) 9-14; Lanark County, by Dr. T. W. Beeman, 15-17; Balsam Lake (with map showing village sites, graves, etc.), by George E. Laidlaw, 17-22. (H.)

Notes on Primitive Man in Ontario. Appendix to the Report of the Minister of Education, Ontario; 98 pp., 263 illustrations. Toronto, 1895.

This publication is a summary of the seven Annual Reports preceding it. It discusses: Whence came the Indians, 5-11; Aborigines of Ontario, 12; social condition, 14; food, 16; religion, 17; medicine men, 18; secret societies, 19; burial customs, 19; earthworks, 20; pottery, 21; clay pipes, 32; flaked tools, 41; stone pipes 48; stone hammers, 56; stone axes or celts, 57; chisels, 59; gouges, 60; slate knives, 61; shell objects, 63; "ceremonial" objects, 65; stone tubes, 69; bone tools, etc., 72; horn implements, 79; teeth, 81; totems, 81; miscellaneous, 82; stone carving, 84; copper implements, etc., 85; stone discs, 90; Conclusion, 91; Extracts from Travels of Peter Kalm, 93-98. (H.)

Eighth Archaeological Report.
Appendix to the Report of the Minister of Education, Ontario; 80 pp., 66 illustrations. Toronto, 1896.

Presentation, p. 5; accessions to the Museum, 7: primitive industries and working methods, 29; pp. 33-54 describe Mr. Boyle's operations during 1895 in the counties of Waterloo, 34; Middlesex, 35; Victoria, 40; Lanark, 41; Durham, 41; Sim-

coe, 42; rock paintings at Lake Massanog (Addington Co.) 46; Lanark Co., 51; flints, 54; slate tools, 56; a well-worn adze, 58; clay pipes, 58; stone pipes, 60; pendants, 62; gorgets or amulets, 62; bird amulets, 64; banner stones, 64; women's knives, 65; tubes of stone, 66; small handle-holed hammer, 67; gouges, 68; new form of stone relic, 68; perforated bone awl and bone bangles, 69; Indian armor, 69; Lanark County, by Dr. T. W. Beeman, 71-72; Cave-dwellings, 72. Two Ontario Caves, by R. D. Meyers, 73-74. Extracts of short Historical and Journal Notes, by David Pietersz, De Vries, 1665, 75-79. (H.)

"Before the White Man," Chap. II. in the History of Scarborough.

Refers to Huron Iroquois and Algonkins as former occupants of Scarborough territory; reviews some of their customs, and mentions localities in the township where Indian villages stood.'

Boyle, Susanna P., M.D., M.C.

Cranial Measurements. Fifth Archaeological Report, pp. 57-102. Toronto, 1891.

Gives measurements of some 41 crania in the Archaeological Museum, taken with the assistance of Dr. Letitia K. Meade. (H.)

Bressani, J.

Relation Abrégée de quelques Missions des Pères de la Compagnie de Jésus dans la Nouvelle France; par le R. P. F. J. Bressany, de la même Compagnie. Traduit de l'Italien et augmenté d'un avant-propos, de la biographie de l'auteur, et d'un grand nombre de notes et gravures, par le R. P. F. Martin de la même Compagnie. Montreal, 1852.

Chapter III. (pp. 66-78) treats of the "Sol, Nourriture, Vêtement et Caractère des Sauvages de la Nouvelle France;" Burial customs and rites of the Hurons, 101-103; Notes on Wampum, 301-302. The work contains (p. 50) "Tabula Novae

Franciae anno 1660," and (p. 280) "Carte de l'ancien pays des Hurons," besides numerous engravings; pp. 330-333 are taken up with explanatory notes on the maps and engravings. On p. 101 is a note relating to an ossuary discovered near Penetanguishene in 1846, and on p. 333, references to the ruins of Fort Ste. Marie on the Wye. (See also Martin, Rev. Felix.) (C.)

Brinton, D.G., M.D.

Lenâpé Conversations. Journal of American Folklore, Vol. i., 1888, pp. 37-43.

Conversations with the Rev. A. S. Anthony, a Canadian Delaware Indian. Notes on weapons, 38-39; utensils, 39; bats, 40; houses, 50; games, and implements used in them, 40; hooks, 41; sweat lodges, 41; trephining, 41. (C.)

British Colonial Newspaper.

September 24, 1847.

Contains accounts of the discovery and character of Indian ossuaries. (Title from Squier's Antiquities of the State of New York, p. 100). (C.)

Brown, Wm.

"Four years in Canada and the United States." Leeds, 1849.

Refers to the finding of Indian skeletons on the banks of the River Rouge.

Bryce, Rev. Prof. Geo. LL.D.

The Winnipeg Mound Region: Being the most northerly district where mounds have been examined on the American continent. Proc. of the Am. Assoc., 1889, pp. 344-5.

Abstract of paper; has references to the Rainy River Mounds. (H.)

Trans. Manitoba Hist. and Scientific Soc'y. No. 18. "The Mound Builders."

Describes the mounds of Rainy River. (H.)

Campbell, Prof. John, LL D., F.R.S.C.

The American Indian: What and Whence? (Canadian Magazine, Vol. ii., No. 4, Feb. 1894, pp. 305-319).

Notices of Western Ontario mounds at p. 309, and other archaeological features. (H.)

Canadian Antiquarian and Numismatic Journal, The.

Published quarterly by the Numismatic and Antiquarian Society of Montreal. Vol. iii. (1874-5) pp. 110-112.

Interpretation of Indian wampum belts. Interpretation of three belts of wampum sent to Canada by the Mohawks in 1630. (See Lit and Hist. Soc. of Quebec.) (C.)

Vol. iii. pp. 167-169.

Indian dress, love-making, feasts, burials, from MS. letter of Soeur Ste. Hélène, published by Abbé Verran. (See Revue Canadienne, Feb., 1875, pp. 108-9.) (C.)

Canadian Indian, The. (Sault Ste Marie)

Vol. i., Nos. 1-12 (Oct. 1890—Sept. 1891.)

Its publication ceased at the end of one year. Contains (pp. 6-7) a few remarks on mounds, burial places, etc. Indian Sepulture, p. 62. Canadian Mound-builders, pp. 94, 101, 138, 203, 238. A fishing station of the Ancient Hurons identified. By Joseph Wallace, Sr., 134 Indian remains near Sarnia, 299. (C. H.)

Canniff, William, M.D.

History of the Settlement of Upper Canada, with special reference to the Bay of Quinte District. Toronto, 1869, xxi, 671.

Notes p. 380, site of Indian village at Cataraqui; batt'eground, p. 393; island scene of massacre, 407. (C.)

Carroll, Rev. John.

Case and his Contemporaries. Vol i. (1867).

At pp. 164-5 is a description from Rev. Dr. Reed of Indian remains at the

north end of Burlington Beach; artificial excavations, quantities of human bones, stones, arrow-heads, hatchets, etc., and a large burial mound. (Also described in Jones' "History of the Ojibways," p. 112. (H.)

Carruthers, John

Retrospect of Thirty-six Years' Residence in Canada West. Hamilton, 1861.

Mentions at p. 231 an Indian burial ground on the Holland River, Simcoe county. (H.)

Chamberlain, A. F., M. A., Ph.D.

The Archæology of Seugog Island. Port Perry *Standard*, March 7, 1889, p. 2.

Describes graves, and camp or village sites, on Noncon Island, (part of Scugog Island), Lake Scugog, Ontario county, with specimens obtained therefrom. (C.)

Contributions towards a Bibliography of the Archæology of the Dominion of Canada and Newfoundland, I.

(See Boyle, D.—Second Archæological Report. Containsseventy-four titles, of which thirty-four relate to Ontario. (C.)

Contributions toward a Bibliography of the Archæology of the Dominion of Canada and Newfoundland, II. (Third Archæological Report, pp. 102-118).

Contains 160 titles of which fifty-six relate to Ontario. (C.)

Contributions toward a Bibliography of the Archæology of the Dominion of Canada and Newfoundland, III. (Fourth Archæological Report, pp. 78-82.)

Contains forty-two titles, of which fourteen relate to Ontario. (H.)

Notes on the history, customs and beliefs of the Mississauga Indians. Journal of American Folk-Lore. Vol. i., 1888, pp. 150-160.

Describes, p. 154, method of fishing; p 155, gathering and drying rice; p. 156, manufactures. (C.)

The Algonkian Indians of Baptiste Lake. Fourth Archaeological Report, Toronto, 1891, 83-90.

Describes the customs, language, etc., of the small band there, visited in September, 1890. (H.)

Copway G.

Traditional History of the Ojibway Nation (1850).

At p. 87, etc., appears notice of remains in Percy township, Northumberland county, and probable explanation of their origin. (H.)

Coyne James H., B.A.

The Southwold Earthwork and the Country of the Neutrals, pp. 22-34, in Sixth Archaeological Report. Toronto, 1893.

A digest of the information, in regard to the Neutrals, contained in Champlain's works, Sagard's History, the Relations and Journal of the Jesuits, and Sanson's map of 1656; and considered in reference to the aboriginal remains found in the Neutral Country. (H.)

The Country of the Neutrals (as far as comprised in the County of Elgin) from Champlain to Talbot, 44 pp., with facsimile of Galinee's map of 1670. St. Thomas, 1895.

A reprint in pamphlet form (as far as page 22) of the foregoing article with revisions. The added material (pp. 22-44) brings the history of the district down to 1803. (H.)

Creemore Star.

June 12, 1890.

Describes at some length a find of Indian relics in Nottawasaga township. (H.)

September 21, 1893.

Mentions finds in Nottawasaga township. (H.)

Croft, Henry, LL D.

Report on implements found near Brockville. Canadian Journal, new series, vol. i. (1856), pp. 334-336. See Reynolds, Thos.

Chemical analysis of copper implements. (C.)

Dade, Rev. C.

Indian remains. Canadian Journal, vol. i. (1852-1853), p. 6.

Describes an Indian burying ground in Beverly township, some ten miles from Dundas. (C.)

Dawson, Sir John William, M A, LL D, F.R.S, etc.

On a specimen of Aboriginal Pottery in the Museum of the Natural History Society of Montreal. Canadian Naturalist and Geologist and proceedings of the Natural History Society of Montreal, vol. iv. (1859) pp. 186-190 (with figure, p. 188). Article is signed "J. W. D."

Describes earthen vessel found on lot 4, 8th range of lots in Clarendon township, Frontenac county, in July, 1859, together with stone enclosure. (C.)

Notes on Aboriginal Antiquities recently discovered in the Island of Montreal. *Ibid.* vol. v., 1860, pp. 430-449. Signed "J. W. D."

Describes, pp. 432-434, skeletons, skulls (with figure p. 433), remains of articles of food, 434; earthen vessels, 434-5, with six figures on p. 435; tobacco pipes, 435 (with figure of clay pipe, p. 436; other earthen objects, p. 435-6; bone implements, 436-7 (with figure of awl, p. 437); iron implements, 437 (with figure of knife); historical importance of discoveries, 437-49; plan of Hochelaga from Ramusio, 446. (C.)

Additional Notes on Aboriginal Antiquities found at

Montreal. *Ibid.* vol. vi., 1861, pp. 362-373. Signed "J. W. D."

Treats of articles found on site of Indian village, near Metcalfe St., Montreal. Human remains, pp. 364-369; beads and wampum, 369 (with two figures); bone implements, 369-370 (with three figures); pipes, 370-371 (with two figures); earthen vessels, 371-372 (with one figure); stone implements, 372; metallic articles 372; articles of food, 373. (C.)

Notes on Indian Beads presented to the Natural History Society, by James Robb, Esq., Mining Engineer. *Ibid.* vol. vi. 1861, p. 471. Signed "J. W. D."

Describes beads of native copper found in an old burying-place on a small island in the St. Lawrence, near Brockville. (C.)

Fossil Men and their modern Representatives. An attempt to illustrate the characters and condition of pre-historic men in Europe, by those of the American Races. Illustrated. London (1880).

Has numerous references to the relics, etc., found at Hochelaga. Describes many features of Ontario Archaeology. (C.H.)

Dawson. Geo. M., LL.D., F.G.S.

Sketch of the past and present condition of the Indians of Canada. Canadian Naturalist and Geologist. New series, vol. ix. (1881) pp. 129-159. (C.)

Ducréux. Father.

Historia Canadensis (1660) (Creuxius.)

Contains the only map (a little diagram in the corner of a large map) that lays down the positions of the Huron villages. It was reproduced in Canadian Journal, vol. ii. (second series) p. 402. (H.)

Duns, Prof.

On Stone implements from Nova Scotia and Canada. Proc. of Soc. of Antiq. of Scot. New Series, vol. iii. (1879-80). Edinburgh, 1880, pp. 176-180.

Describes porphyrite scraper, etc., from Lake Superior, and arrow-heads from Canada West. (C.)

Fairbank, Dr. F. R.

On some flint arrow-heads from Canada. Journ. Anthropol. Soc. London, vol. ii. (1864), pp. 64-65. Bound up with Anthropol. Rev., vol. iv. (1864).

Deals with some arrow-heads ploughed up on the shore of Lake Erie. (C.)

Galt, John.

Autobiography.

At p. 140, vol. ii., mentions, upon the authority of Mr. Ridout, an enclosure on the Oak Ridges, near Yonge Street. (H.)

Gibb. Sir George Duncan.

Stone implements and fragments of pottery from Canada. Report of Proc. of Brit. Assoc. for Adv. of Science. Forty-second meeting, 1872, p. 186. (C.)

Stone implements and fragments of pottery from Canada. Journ. Anthropol. Inst. of Gt. Brit. and Ireld., vol. iii. (1874), pp. 65-69, and 2 plates.

Describes arrow-heads from Quebec, Island of Montreal, Saguenay District, Ottawa River and Chippewa (Ont.); pottery from Lake Erie, Montreal Island and Brant county; hatchets from Niagara; spear-head from the Saguenay. (C.)

Canadian stone implements and fragments of pottery, pp. 181-185. Canad. Antiq. and Numism. Journal, vol. iii. (1874-5).

Describes, 182-3, two spear-heads from Saguenay District, two hatchets from Niagara Falls, one from Chippewa, four from Niagara, one from Ft. Wm. Henry, and one from Quebec; 183-4 three fragments of pottery, one from north shore of Lake Erie, and two from the Island of Montreal. (C.)

Glyndon, M. W.

The Mound Builders. The Indian (Hagersville) p. 2, Feb. 3; p. 37, Mar. 3.

Has general remarks on the Lake Superior Copper Mines, worked by the aborigines. (H.)

Greene, W.

On some processes in use among the Hurons (of Lorette) in dyeing. Trans., Lit. and Hist. Soc. of Quebec, vol. ii., (1831), pp. 23-25. (C.)

Notes respecting textile substances in use among the North American Indians. *Ib.*, pp. 310-312. (C.)

Guest, E. W.

Ancient Indian remains near Prescott, C. W. Ann. Report Smithson. Inst., 1856, pp. 271-276, with eleven figures.

Describes mounds in Augusta Township, eight and one-half miles northwest of Prescott, Ontario, and similar structures near Spencerville. (C.)

Hale, Horatio, M.A.

On the nature and origin of Wampum. Report of Proc. of Brit. Assoc. for Adv. of Science. Fifty-fourth meeting (Montreal, 1884), London, 1885, pp. 910-911.

(Abstract). General Notes. (C.)

In "Magazine of American Story," vol. (1883) p. 479.

Notices a curious carved oak image of Sastaretsi, "king" of the Wendats or Hurons. (C.)

The origin of Primitive Money. Popular Science Monthly, Jan. 1886, pp. 296-307.

Discusses the origin, use, distribution, etc., of wampum, shell money, etc., with numerous illustrations pp. 303, 305, 306. (C.)

Indian Migrations, as evidenced by language. Read before the Am. Assoc. in Montreal, 1882. Issued in pamphlet form.

Mr. Hale conjectures that the Hurons took their rise in Eastern Canada. (H.)

The Fall of Hochelaga. Journal of American Folk-Lore. Jan.-Mar., 1894.

Discusses early Huron migrations (H.)

Iroquois Book of Rites.

Describes the Wampum belts of the Mohawks near Brantford, and other interesting archæological features. (H.)

Hall, Capt. Basil, R.N.

Travels in North America in 1827-8. Three vols., 1829.

At p. 263, vol. i., he describes the annual distribution of presents at Holland Landing in 1827, with minute accounts of the ear-rings, necklaces and other ornaments worn by the Ojibways on that occasion. (H.)

Hamilton J. C., LL.B.

The Georgian Bay.

Contains numerous references to the antiquities of that district. (H.)

Harris. Very Rev. W. R.

History of the early missions in Western Canada. Toronto, 1893.

Huron rites noticed at pp. 41-2. (H.) "The Flint Workers," chap. v. in "The Catholic Church in the Niagara Peninsula," (Toronto, 1895).

Discusses Neutral Remains, the Tobacco Nation, the Five Nations, Wars of the Neutrals, Population, Flint Workers, Wood and Bone Carvers, Neutral Wigwams, Building of the Long-house, Mec' anical

Skill, Weaving and Mat-making, Tanning, Tally-bones, Beginnings of Literature, Wampum Belts, Pipes, and the Shamans or Medicine-men, with numerous illustrations. (H.)

Harvey, Arthur.

The first shot fired in war in Canada. *The Indian* (Hagersville), Feb. 3, p. 3 and p. 26, Feb. 17.

Describes Champlain's tour through Ontario, etc., in 1615-6, with references to Ontario tribes as Neolithic. (H.)

Wanted; the Indians' account of themselves from 1650 to 1700. *The Indian* (Hagersville), Dec. 22, p. 249.

References to the Iroquois-Chippewa wars about Georgian Bay, subsequent to 1650. (H.)

Allumette Island. *Magazine of American History* (1887).

A paper on the archaeological features, etc., of that part of the Ottawa Valley. (H.)

Henry, Alex.

Travels and Adventures in Canada (1809).

At p. 111 mention is made of the skull cave on Mackinaw Island. (H.)

Hind, Henry Yule, M.A., F.R.G.S.

Narrative of the Canadian Red River exploring expedition of 1857, and of the Assiniboine and Saskatchewan exploring expedition of 1858, London, 1860. Two vols. Vol. i, pp. xx, 494. Vol. ii., pp. xvi., 472.

Vol. i., pp. 89-90, describe Indian mounds near Long Rapids, Rainy River; description and discussion of Wampum, 417-420, (references to Lafitau, Sagard, Champlain and Bressany).

Vol. ii., figures of tobacco pipes of the Ojibways of Rainy Lake, p. 139; Huron ossuaries, 165, etc. (C.)

Hirschfelder, C. A.

Gi-ye-wa-no-us-qua-go-wa, Sacrifice of the White Dog. *The Indian*, pp. 73-74, 86-87, 98-99 (1886).

General description of sacrifice of White Dog by the Canadian Onondaga. Describes preparation and adorning the dog, p. 86. (C.)

A Ceremonial Ornament. *The Indian*. March 17th, 1886, (No. 5) p. 49.

Describes a stone found on Christian Island, Georgian Bay, semi-circular, with hole through the centre. (C.)

Anthropological Discoveries in Canada. Read before the Canadian Institute Nov. 18, 1882.

This paper appeared in the *Toronto Mail* Dec. 2, 1882. It deals with the ossuaries of Simcoe Co. (C.)

The Practical and Theoretical Study of Anthropology. Read before the Canadian Institute March 31, 1883.

This paper appeared in the *Toronto Mail* April 14, 1883. (C.)

Anthropological Discoveries in Canada. Report of proceedings of British Association for Advancement of Science. Fifty-fourth meeting (Montreal, 1884), pp. 915-916.

[Abstract.] Brief general description of forts, burial places, ossuaries, archaeological relics. (C.)

Burial customs of the Hurons. *Proc. of the Am. Asso.*, 1891, pp. 363-5.

Mentions ossuary burials, mounds and single graves. Reprinted in *The Week* (Toronto). (H.)

Ancient Earthworks in Ontario. *Proc. of the Am. Assoc.*, 1892, pp. 289-90.

Brief abstract An abridgement of this paper appeared in *The American Antiquarian*, Jan., 1893, vol. xv., No. 1, pp. 42-45. Describes earthworks in South Orillia; on a small island in Lake Couchiching; in Lambton, Elgin and York counties. (H.)

Evidences of Prehistoric Trade in Ontario. Proc. of the Am. Assoc., 1892, p. 290.

Brief abstract of paper given. (H.)

History of the County of York.

C. Blackett Robinson, publisher, Toronto, 1885. Two vols.

Describes (vol. i., p. 107) Indian sites at River Rouge, Greenvale and Claremont in Pickering Township; village site on lot 9, con. 8, Whitchurch, opened in 1848, pp. 148-149; on lot 16, con. 6, pp. 149-150: site near Aurora, p. 150. (C.)

Holmes, W. H.

Sacred Pipestone Quarries of Minnesota and ancient Copper Mines of Lake Superior. Proc. of the Am. Assoc., 1892, pp. 277-9.

Describes Aboriginal mines on Isle Royale. (H.)

Hough, Walter.

Aboriginal Fire-making. American Anthropologist, Washington. Vol. iii., 1890, pp. 359-371.

Contains description of Huron fire-making from Lafitau (p. 362), figure of pump-drill used by Onondaga Indians of Canada in 1883 (p. 364) with description of same (p. 365). (C.)

Hunter, A. F., M.A.

Ahoendoe, the last refuge of the Hurons. The Indian (Hagersville), vol. i., p. 217 (1886).

Describes flight of the Hurons (after attack of Iroquois in 1649) to the island of Ahoendoe (Christian Island) in Georgian Bay, and the relics found there. Ruins of fort, stone enclosures, pottery, etc. (C.)

Villages and ossuaries of the Hurons. First Archaeological report, 1886-7. Toronto, 1888.

General description and enumeration of Huron village sites in Simcoe Co., p. 57; description of ossuaries and remains found therein, p. 58. (C.)

French relics from village sites of the Hurons. The geographical distribution of these relics in the counties of Simcoe, York and Ontario. Third Archaeological report, 1888-9. Toronto, 1889.

Pp. 42-46. This paper discusses in detail the important question of the distribution of French relics in the Huron region, with a tabulated statement showing their locations. (C.)

National characteristics and migrations of the Hurons as indicated by their remains in North Simcoe.

Read before the Canadian Institute, Sept. 25, 1891. Transactions of the Canadian Institute, (fourth series), vol. iii., pp. 225-228, with map. Toronto, 1893. (H.)

Indian, The (Hagersville, Halldemand Co.) edited by Dr. P. Jones.

(Dec. 30, 1885, to Dec. 29, 1886) Nos. 1-24, 264 quarto pp.

The publication of this journal lasted but one year, that above defined. It contained useful archaeological notes, the more important as follow:

The Ontario Archaeological Museum. Circular of David Boyle, curator No. 1 (Dec. 30, 1885,) p. 6.

The first shot fired in war in Canada, by Arthur Harvey. (Feb. 3, p. 3 and p. 26, Feb. 17). Describes Champlain's tour of 1615, with references to Ontario Indians as Neolithic tribes.

The Mound Builders, by M. W. Glyndon (Hamilton), p. 2, Feb. 3, p. 37, March 3. General remarks on the Lake Superior copper mines.

Grant asked for a Provincial Museum, p. 35.

A Ceremonial Ornament, by C. A. Hirschfelder, p. 49, March 17. Describes a specimen found on Christian Island, Georgian Bay.

Short note on discovery of Indian skeleton at Adolphustown, p. 49, March 17.

American Antiquities, pp. 50, 61.

Mound Builders (Rainy River), p. 51.

Gi-ye-wa-no-us-qua-go-wa, sacrifice of the white dog. By C. A. Hirschfelder, pp. 73-74, pp. 86-87, pp. 98-99.

Short note on discovery of Indian skeleton with Queen Elizabeth musket, kettle, etc., in 7th concession, London township, p. 82.

Short note on Ossuary, in Markham township, p. 102.

How our ancestors wrote. Picture writing, pp. 137, 149, 163, 176, with specimens.

Old Indian Relics—Interesting discovery in Tiny township (Simcoe Co.) p. 143.

Indian Relics. Find at Withrow ave., Toronto, p. 158.

Short note on Northern Algonquin custom of building fires on newly made graves, p. 187.

Ahoendoe, the last refuge of the Hurons, by A. F. Hunter, p. 217.

Discovery of Indian graveyard in Biscuiting Island, Lake Nipissing, p. 247. (C., H.)

Irish, William C.

In report of Smithsonian Institution, 1879, p. 448.

Reports that mounds and graves occur two miles east of Brighton, on Presquile Point; similar mounds are on Reddick's farm, four miles west of the first mentioned. (C.)

Jameson, Mrs.

Winter Studies and Summer Rambles in Canada. London, 1838. Three vols.

Describes (vol. iii., p. 324) Indian graves; "Island of Skulls," an ancient sepulchre of the Hurons, Georgian Bay, p. 327. (C.)

Jones, Rev. Peter.

History of the Ojebway Indians, 1861.

Chap. v. (pp. 70--), mode of life, wigwams, ancient domestic imple-

ments, mode of travelling dress; mode of burying the dead (98-100); reference to Skull Island, Georgian Bay (112); weapons of war (131-2); amusements (134-5); wampum (139-140). The following plates accompany the work: Opp. p. 73, plate containing figures of pottery and pipes; p. 83 and p. 85, idols; p. 99, Muncey graves; 131, weapons; 135, drums, rattles, etc.; 145, implements of medicine men. (C.)

Life and Journals of Kah-ke-wa-quo-na-by. (Rev. Peter Jones), Wesleyan missionary. Toronto, 1860.

Pages 43-4, description of Pagan "Temple" at Munceytown; pp. 233-4, ornaments; p. 242, deer-fence; p. 385, reference to Skull Island, Georgian Bay. (C.)

Journal of Education for Upper Canada.

Edited by the Rev. Egerton Ryerson, D.D., chief superintendent of schools, assisted by Dr. J. George Hodgins, deputy superintendent. Vol. xviii. (1865). Toronto, 1865.

Canadian Archaeology, pp. 3-4; general remarks on the Huron-Iroquois, p. 3; relics discovered in Hospital street, Montreal, 4; Village of Hochelaga, 4; notice of relics discovered in Augusta township, near Prescott, mounds, tumuli, etc., 4; near Spencerville, in Edwardsburgh township, similar to foregoing, pottery, etc. (C.)

Ditto. Edited by the Rev. Egerton Ryerson, D.D., chief superintendent of schools, assisted by Dr. J. George Hodgins, deputy superintendent. Vol. xiv. (1861), p. 16.

Short note on Indian relics discovered at Montreal. (C.)

Kalm, Peter.

Travels into North America. Three vols. London, 1770.

Passim. The Hurons, p. 178, vol. iii. Various items reprinted in "Primitive Man in Ontario." (Boyle.) (H.)

Kelton, Dwight H., Capt.

Annals of Fort Mackinac.

Describes prehistoric remains of Mackinac Island. (H.)

Kennedy, Wm.

Some Evidences of Commercial Transactions in Prehistoric Times. A paper read before the Hamilton Association, 1885-6.

Describes, generally, the evidences in Europe and America. At pp. 26, 31 are references to finds in Beverly township. (H.)

Kohl, J. G.

Kitchi Gami. Wanderings round Lake Superior (Trans. Lascelles Wraxall). London, 1860, pp. xii, 428.

Contains very full descriptions of the Chippeway (Ojibwa) customs, etc., around Lake Superior. (C.)

Laborbeau, Rev. Th. F.

Reminiscences of the Huron Missions. Proc. Can. Inst., 1887.

Abstract given of paper which embodies some of his investigations of Huron sites. (H.)

Laftau, P.

Mœurs des Sauvages Amériquains. Four vols. Paris, 1724.

Contains much interesting material concerning Indian manners and customs, weapons, etc. (H.)

La Hontan, M. Le Baron de.

Nouveaux Voyages dans l'Amérique Septentrionale, etc. A la Haye, 1703. Two vols.

Vol. i. Facing p. 35, full page illustration of Iroquois bark canoe and paddle, description of same, p. 35; pp. 47-8, calumet de paix; p. 48, collier, belts of wampum; facing p. 73, figure of snowshoes (raquette), description, 73-4.

Vol. ii. Title is: *Memoirs de l'Amérique Septentrionale ou la suite des Voyages de M. le Baron de Lahontan*; pp. 151-2, burial; facing p. 175, figures of bow, arrow and tomahawks; facing p. 189, totems of Hurons, Ouataouas, Nadouissis (Sioux), Illinois; armours, 189-91; facing p. 190, totem of Outchipoues (Sauteurs), Outagamis, Oumamis, Pouteouatamis; opp. p. 191, full page of "Hieroglyphes," with explanations on pp. 191-4. (C.)

Laidlaw, George E.

Balsam Lake, pp. 73-77, Fourth Archaeological Report. Toronto, 1891.

Describes village sites, camp sites, etc., along the old Huron trail from Balsam Lake to Lake Simcoe, and on the islands in the former. Also describes relics found at these sites and in the vicinity. (H.)

Canadian Relics. The American Antiquarian. Vol. xiii., p. 113. (H.)

Balsam Lake, pp. 17-22. Seventh Archaeological Report.

The map accompanying this article shows village sites, graves, etc., in the vicinity of Balsam Lake. A discussion of these is given, and descriptions of relics found at various places shown on the map. (H.)

Aboriginal Remains of Balsam Lake. The American Antiquarian. Vol. xviii., p. 276. (Sept., 1896.) (H.)

Lang, J. D., D.D.

Origin and Migrations of the Polynesian Nation. First edition, 1834.

Brief reference to earthwork near Lake Simcoe in foot note to p. 109. Note not in second edition. (H.)

Langton, John, M.A.

On the early discoveries of the French in North America. *Canadian Journal*, November, 1857.

Accompanied by a reprint of Ducreux's map of the Huron villages. (H.)

Laverdiere l'Abbe.

Oeuvres de Champlain, publiées sous le patronage de l'Université Laval. Four vols., 1870.

The editor, l'Abbe Laverdiere, quotes Dr. J. C. Tache's archaeological researches on Huron village sites, etc., in foot notes to vol. iii. (H.)

Lawson, A. C.

Ancient rock inscriptions on the Lake of the Woods. *American Naturalist*, vol. xix., 1885, pp. 654-658. Illus.

The above paper has been reprinted in pamphlet form. (C.)

McDonnell, Wm.

Manita. A legend. (Pamphlet). (Toronto, 1888.)

Relates to Indian burial place at Bald Point, Sturgeon Lake, Victoria Co. (H.)

Macdougall, Alan, M. Inst. C E, F.R.S.E.

The Indian as an Artist. Trans. Can. Inst. Fourth series. Vol. iii., p. 42.

Abstract of paper given. Mentions similarity of their art and that of moundbuilders. (H.)

MacLachlan, R. W.

Indian Stone Pipes. The Canadian Antiquarian and Numismatic Journal, Montreal, vol. iv., 1875-1876, pp. 15-22, with plate.

Describes pipes of Flathead Indians, 20; pipe found at Balsam Lake, Peterboro Co., 20; pipe from Hochelaga, 21. (C.)

Fragments from the Stone Age of Montreal. The Canadian Antiquarian and Numismatic Journal, vol. iv., 1875-1876, pp. 174-181, with plate.

Spear and arrow heads, 176-177; whetstone, 178; stone hammer, 178; axe, 179; stone celt, 179; knife, 180. (C.)

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

Canadian Savage Folk. Toronto, 1896.

Has many references to interesting features of Ontario archaeology. (H.)

The Indians; their manners and customs. Toronto, 1889, pp. x, 350.

Gives interesting accounts of wampum, pp. 16-20; Indian burial customs, 29-36; the peace-pipe, 54-7; Indian charms, 70-3; picture-writing, 90-4; iron-stone idol, 201-3. (C.)

Martin, Father Felix, S. J.

Life of the Rev. Isaac Jogues.

Appendix A contains full description of Huron village sites in Simcoe Co., at which Father Jogues is supposed to have labored. (H.)

Relation Abregée (Bressani).

The notes to Father Martin's Montreal edition (1852) of this Relation contained much archaeological material concerning the Hurons. (See Bressani.) (H.)

Meyers, R. D.

Two Ontario Caves, pp. 73-74. Eighth Archæological Report. Toronto, 1896.

Examination of two caves in Hastings Co. to determine to what extent they were used by Indians. (H.)

Montgomery, Prof. Henry, Ph. D.

Indian remains in Simcoe and Muskoka. *Toronto Globe*, Aug. 3, 1878.

Mentions Huron ossuaries, burial pits, village sites, pottery, etc., in Medonte township, Simcoe Co., and supposed picture-writing on rock in Muskoka. (H.)

Naturaliste Canadien. Le.

Age de la pierre taillie chez nos Aborigenes. Tome xvi., 1886-1887, pp. 65-72.

Discusses the stone age in Canada. (C.)

Nature.

VI. 264 (1872.)

Wilson on the Huron Indians.

Crillia Packet.

June 21, 1889.

Describes fishing stakes at the Narrows, Lake Simcoe. (H.)

Parkman, Francis, LL.D.

The Pioneers of France in the New World.

Notices Dr. Tache's examination of Huron sites. (H.)

La Salle and the Discovery of the Great West.

Notices of Aboriginal customs. (H.)

Jesuits in North America in the Seventeenth Century. (1867.)

At p. 79 occurs a footnote on Dr. Tache's examination of bone pits, etc., of the Hurons. (H.)

Peterborough Examiner

Sept. 5, 1896.

Contains description of the Otonabee and Asphodel mounds. (H.)

Reynolds, Thomas, M.D.

Discovery of copper and other Indian relics near Brockville. *Canadian Journal*, new Series, 1856, pp. 328-334, with 4 figures in text.

Describes discoveries of chisels, knives, together with a portion of a pipe, a clay mask, etc., at Les Galojs Rapids, while digging the St. Lawrence Canal, in 1847. (C.)

Sagard [Theodat], F. Gabriel.

Le Grand Voyage au Pays des Hurons situé en l'Amérique vers la mer douce, es dernières confins de la

Nouvelle France dite Canada, avec un dictionnaire de la langue Huronne, etc. A Paris, 1632. Nouvelle Edition. Publiée par M. Emile Chevalier. Paris, Librairie Tross, 1865. Deux Tomes, pp. (orig. paging, 380.)

Describes Canots (canoes), p. 89 (129); vessels of bark, 91 (132); cradles, 118 (170); chapelets, 135-6 (194-5); burials, 199 (285), 200 (287); birch - bark drawing, 245 (348), 246 (349); De la grande feste des Mort. 203-6 (291-5.) (C.)

Scadding, Rev. Henry, D.D.

Toronto of Old. (Toronto, 1873.)

At pp. 399-401 describes Indian burying ground at the Sandhill, Yonge Street, near Bloor Street; p. 400, Upper Canada Proclamation for the protection of Indian burying grounds, etc. (H.)

Schoolcraft, H. R.

Onéota; or, characteristics of the Red race. (1845.)

Notices (p. 326) earthworks near Dundas, five to eight miles in length. (See also Squier, p. 142.) (C.)

The Indian in his Wigwam; or, characteristics of the Red Race of America. (New York, 1847.)

Pp. 324-7 contain a letter, dated from Dundas, Oct 26, 1843, giving an account of a visit to an ossuary in Beverly township. At page 130 is a tradition of "Aingodon and Naywadaha," apparently referring to the neighborhood of Lake Simcoe. (C.)

Science (New York)

Vol. iv. (1884) pp. 316-320.

Brief abstracts of papers read at Montreal meeting of the Brit. Assoc. for Adv. of Science.

Huron-Iroquois as typical race of Amer. Aborigines. Wilson, 318.

Anthropological Discoveries in Canada. Hirschfelder, 318.

Origin of Wampum. Hale, 320. (C.)

Sellar, Robert.

History of the County of Huntingdon and of the Seigniories of Chateauguay and Beauharnois, from their first settlement to the year 1838. Huntingdon, P. Q., 1888, pp. viii., 584.

Notices (pp. 4-5) mound on Nun's Island, and (p. 5) relics found in Chateauguay. (C.)

Shea, Dr. John Gilmary.

Summary of the character and history of the Tobacco Nation. *Historical Magazine*, v. 262.

Title is: "An Historical Sketch of the Tionontates or Dinondadies, now called Wyandots." It has references to the remains of the Tobacco Nation found near Georgian Bay, in Simcoe Co. (H.)

Slafter, Rev. E. F., M.A.

Champlain's Voyages. Translated into English by Dr. C. Pomeroy Otis. With memoir by Rev. E. F. Slafter. Issued by the Prince Society; Boston, 1878-82. 3 vols.

In vol. i., the memoir has footnotes locating sites of Huron villages visited by Champlain, as laid down by investigations of Dr. J. C. Taché. (H.)

Smith, W. H.

Canada: Past, Present and Future. Toronto, 1851. 2 vols.

Vol. i., p. 35, mentions origin of "The Point of Skulls," about twenty miles beyond Sault Ste. Marie. (H.)

Squier, E. G., M. A.

Antiquities of the State of New York, being the results of extensive original surveys and explorations, with a supplement on the Antiquities of the West. Buffalo, 1851.

Notices (pp. 15-16), remains found on Canadian side opposite Morrisville by Dr. Reynolds (q. v.); p. 16, figure of terra cotta mask found there. Pages 100-107, treat of ossuaries, etc., in Simcoe Co. after Bawtree (q. v.) P. 100, human bones, etc., discovered near Barrie in 1846, ossuary near St. Tincents (Vinecents); 100-103, ossuary near Penetanguishene in Township of Giny (read Tiny), examined in 1847, from which skulls, 26 kettles of copper and brass, 3 large conch-shells, piece of beaver-skin, large iron axe, human hair, copper bracelet, beads, etc., were taken, description of pit, p. 101, kettles, 100-102 (figure on p. 102); axe, with figure, 102; pipe, 102-103; beads, 103. Pages 103-104, describe another pit (two miles from above), and contents; 104-105, a pit discovered in Oro township in November, 1847, in which several hundred skeletons, 26 kettles, one conch-shell one iron axe, a number of flat perforated shell-beads and pipe were found. Pages 105-6 describe a pit in the Township of Giny (Tiny) from which a large number of skeletons, 16 conch-shells, a stone and a clay pipe, copper bracelets, and ear-ornaments, red pipestone beads, and copper arrowheads were taken. Pages 106-108 deal with a fifth pit in the centre of the Township of Tiny, with figure and plan opposite p. 107. P. 108 notices a burial place on Isle Ronde, near the extremity of Lake Huron, and one near Hamilton. Pages 108-110 contain quotation from Charlevoix (ii., 194) on the Fête des Morts among the Hurons and Iroquois. On p. 142 and p. 267 are brief references to earthworks in Canada. (C.)

Stone, Wm. L.

Orderly book of Sir John Johnson during the Oriskany Campaign, 1776-7. Albany, 1882.

A note on page 68 describes a large Indian burial ground on the shore of Button Bay, Wolfe Island, discovered in 1878, by reason of the washing away of the shore. Find of large spears, arrowheads and skulls (encased in mica). Also a mound covering skeletons. (C.)

The Week (Toronto.)

April 16, 1885.

Account of Rev. Prof. Bryce's examination of the Rainy River mounds. (H.)

Thomas, Miss Nora.Burial Ceremonies of the Hurons. Translated from the *Relations des Jesuites*, 1636, pp. 128-139. Supplemental Note to "Burial Mounds of the Northern Section of the United States," by Prof. Cyrus Thomas in Fifth Annual Report of the Bureau of Ethnology, 1883-4. (Washington, 1887), pp. 3-139.

Describes the burial customs of the Hurons as recorded by Brebeuf in the Jesuit Relations. (C.)

Thompson, Samuel.

Reminiscences of a Canadian Pioneer. Toronto, 1884.

Paleolithic implements, found near Toronto, are mentioned at pp. 286, 365. (H.)

Toronto Empire (Newspaper.)

Feb. 24, 1894.

Describes six large ossuaries, etc., in Simcoe County, from description by Dr. E. W. Bawtree. (See Squier, E. G., and Bawtree, E. W., M.D.) (H.)

Toronto Globe (Newspaper.)

Aug. 3, 1878.

Indian remains in Simcoe and Muskoka. By Prof. H. Montgomery.

Mention Huron ossuaries, burial pits, village sites, pottery, etc., in Meldonte township, Simcoe Co., and supposed inscribed rock in Muskoka. (H.)

Vol. xlvi., No. 190. Aug. 9, 1890.

Contains on pages 1 and 2, a lengthy article on Indian archaeology, illustrated by numerous wood-cuts of specimens in the possession

of the Ont. Archaeo. Museum, including stone and clay pipes, tubes, awls, totems, copper implements, etc., by David Boyle. (C.)

Jan. 15, 1887. Indian graves on the Humber.

Notice of paper read before the York Pioneers by Chas. Durand, Dec. 26, 1886. (C.)

Sept. 8, 1896,

P. 7 contains account of discovery of the Otonabee Serpent Mound. (H.)

Toronto Mail (Newspaper.)

Sept. 14, 1889.

Contains account of human bones found in Mindemoya Cave, Manitoulin Island. (H.)

Sept. 20, 1889.

Notice (p. 8, col. 2) of ossuary and contents, near Thornhill, York County. (C.)

Toronto Telegram (Newspaper.)

Mound Builders. Mar. 16, 1886 (or a few days earlier.)

Reference to the mounds of Rainy River. (H.)

Traill, Mrs. Catherine Parr.

The Canadian Crusoes; A tale of the Rice Lake Plains. 376 pp. Boston. 1881.

Contains: description of preparation of rice (pp. 203-204), mortar (204), stone implements (368), artistic work (pp. 375-6). (C.)

Van Courtland, Edward.Notice of an Indian burying ground. *Canadian Journal*, vol. i., 1852-1853, pp. 160-161.

Describes an Indian burying ground and contents discovered at Bytown (Ottawa) in 1843. (C.)

Wallace, Joseph, Sen.Early History of Orillia. *Orillia Packet*. Nov. 15 and 22, 1895.

Mentions various prehistoric sites on the ground now occupied by the town of Orillia. (H.)

A Fishing Station of the Ancient Hurons Identified. The Canadian Indian (Sault Ste. Marie). Pp. 134-138.

Describes hurdles for fishing, at the Narrows, Lake Simcoe. (H.)

Wallbridge, Thomas Campbell. On some ancient mounds upon the shores of the Bay of Quinte. *Canadian Journal*, new Series, vol. v., 1860, pp. 409-417, with two plates between pages 482-483.

Describes mounds and contents in the neighborhood of Rednersville and Massassiga Point. (C.)

Weld, Isaac, Jr. Travels through the States of North America and the Provinces of Upper and Lower Canada during the years 1795-7. Fourth Edition. Illustrated and embellished with 16 plates. London, 1807, 2 vols.

Describes Indian dress and ornaments, 231-8; brooches, 236; bracelets, rings, ear-rings, etc., 236; nose pendants, 237; silver and shell breast-plates, 237; utensils, 241-3; weapons, 243-4; wampum, 249-52; quill-work, 259-60. (C.)

Wilson Sir Daniel, LL. D., F. & S. E. Hints for the formation of a Canadian collection of ancient crania. *Canadian Journal*, vol. iii., 1854-1855, pp. 345-346. Signed "D. W." (C.)

Observations suggested by specimens of a class of conchological relics of the Red Indian tribes of Canada West. *Canadian Journal*, vol. iii., 1854-1855, pp. 155-159.

Describes specimens of tropical shells found with Indian remains; also describes an ossuary in Beverly township. (C.)

Displacement and extinction among the Primeval Races of Man. *Canadian Journal*, second Series, vol. i., (1856) p. 4. (H.)

The Ancient Miners of Lake Superior. *Canadian Journal*, second Series, vol. i., (1856) pp. 225-37. (H.)

Discovery of Indian remains in the County of Norfolk. *Canadian Journal*, new Series, vol. i. (1856) pp. 511-519.

Describes discovery of a skeleton, fragments of pottery, etc., in the Township of Windham. (C.)

Indian remains. *Canadian Journal*, new Series, vol. i. (1856) pp. 554-556.

Describes an Indian barrow near Orillia, Simcoe County, from which 70 skulls, some beads, copper kettles, etc., were taken. Signed "D. W." (C.)

Physical ethnology. Smithsonian Report (1862), Washington, 1863, pp. 240-302.

Treats of crania of Canadian Indians, 256 table of measurement of Huron crania, 259; of Algonkin crania, 260. (C.)

The Huron race and its head form. *Journal of the Anthropol. Instit. of Great Brit. and Ireld.*, vol. i., (1872) pp. 262-263.

A paper read before the Canadian Institute, April 8, 1872. (C.)

The Huron race and its head form. *Canadian Journal*, second Series, vol. xiii. (1871-3) pp. 113-134.

Has comparison of Barrie skull with that of a mound builder. Plates opposite pp. 113, 126, 128: table of measurements, p. 131. (C.)

Prehistoric Man. Researches into the origin of civilization in the Old and New Worlds. London (1862), 2 vols.; second edition (1876), 2 vols.

Passim, and at i., 105, archaeological discoveries at Toronto. (C.)

Ethnical Forms and Undescribed Artificial Distortion of the Human Cranium. *Canadian Journal*, second Series, vol. vii. (1862), pp. 399-446.

Plates, 399 (Barrie skull), 406, 438; Huron skull from Barrie, 400, 401. (C.)

Some Ethnological Aspects of Conchology. *Canadian Journal*, second Series, vol. iii. (1858), pp. 377-409.

Shell ornaments of Chinook Indians, p. 380; find (in 1848) of shells and pottery, p. 399: Indian cemetery near Orillia, pp. 399-400. (C.)

Narcotic Usages and Superstitions of the Old and New World. *Canadian Journal*, second series, vol. ii. (1857), pp. 233-264, continued, pp. 324-344.

Plate of Babeen and Chippeway pipes, p. 254: Mohawk pipe, p. 326; Chinook, p. 331: Cree, p. 333; pipe of Chippeways of Manitoulin Island, p. 333; plate of Babeen pipe, p. 334. (C.)

Supposed prevalence of one Cranial Type throughout the American Aborigines. *Canadian Journal*, second Series, vol. ii. (1857), pp. 406-435.

Measurements of Chippeway skulls (Lake Couchiching), p. 422: general type of Canadian Indian skulls, p. 424-425; Western Canada Hurons, p. 428, Six Nations, p. 429. (C.)

Supposed prevalence of one Cranial Type throughout the American Aborigines. *Edinburgh New Philos. Journ.*, vii. (1858), 1-32. (C.)

Some Ethnological phases of Conchology. *Ibid.* ix. (1859), 65-82; 191-210. (C.)

On some modifying elements affecting the ethnic signifi-

cation of peculiar forms of the human skull. *Ibid.* xiv. (1861), 269-281. (C.)

On some modifying elements affecting the ethnic signification of peculiar forms of the human skull. *Canadian Journal*, second Series, vol. xv. (1861). (C.)

Trade and Commerce in the Stone Age. *Trans. Roy. Soc., Canada*, sect. ii. (1880), pp. 59-87.

Contains descriptions of Canadian flints (pp. 71-72), obsidian (79), pipes, Chippewa (82): stone relics (85), spear-points (85). (C.)

The Huron-Iroquois of Canada. A Typical Race of the American Aborigines. *Trans. Roy. Soc., Canada*, vol. ii. (1884), sect. ii., pp. 55-100. (C.)

The Lost Atlantis and other Ethnographic studies (1892).

A collection of monographs, including various references to Ontario archaeology. (H.)

Winsor, Justin.

The progress of opinion respecting the origin and antiquity of man in America. *Narrative and Critical History of America*. Edited by Justin Winsor. Vol. i. (1889), pp. 369-412.

Contains valuable bibliographical items. Also, p. 377 and 389, figure of Hocheлага skull from Dawson's "Fossil Men." (C.)

Withrow, Rev. W. H.

Last of the Huron Indians. *Canadian Monthly* ii., 409. (H.)

The Mound Builders and Cliff Dwellers, *Methodist Magazine and Review*, Nov. 1896.

Refers to the "extremely valuable discovery or identification that has just been made" of the Serpent Mound "in the Township of Otonabee by Mr. D. Boyle." (H.)