

A SUGGESTION FOR ANTHROPOLOGICAL WORK IN NOVA SCOTIA.
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A lover, rather than a student, of anthropology, I take upon myself the task of laying this appeal before the members of this society. The absence of a real anthropological society has been filled to a slight extent by our Nova Scotian Institute of Science, and also by a recently formed branch of the Archæological Society of America. Something has been done in ethnological research, especially by Mr. Piers who, a few years ago, read a couple of long papers before the Institute on the Indian relics now in the Provincial Museum at Halifax. At one or two county museums some Indian relics are stored which may also reveal to a critical mind their yet hidden import.

But the osteological remains of our Nova Scotia Indian are noticeable by their absence; and his physical characteristics, his relations, anthropologically speaking, with his neighbors, are confined to generalizations. Micmac anthropometry as a local study is a thing of the future. The language, customs, history, and origin of the Micmas alone is to some an interesting theme; but back of the Micmacs and their ancestry stretches a vista of possibilities in anthropology that only patient and persevering labor can open up. There on the borderland of geology lies the secret of the earliest peopling of America: and why should not the caves and clays of Nova Scotia rival the gravels of Trenton, the lavas of Idaho, or the loess of Lansing, in carrying back the antiquity of man.

There are yet many questions to answer regarding the peopling of America; pre-glacial or inter-glacial man being, I suppose, the most important and most warmly debated. Yet

Dr. Abbott's discoveries in the gravel pits of Trenton, N. J., and the image of Nampa, Idaho, as well as the skull of Lansing, seem to bring strong, if not decisive, evidence to bear on the knotty problem. Very important evidence has also been derived from the exploration of the burial caves and mounds of America, and much otherwise curious information gathered from them. While the mounds contain almost exclusively round heads, many of the caves as well as the outlying islands contain long heads; and yet far back of this many of the earliest men are round-headed.

There seems to have been in America, at different times, at least four or five distinct types of men among the ever moving and mingling waves of immigration: some of them including many linguistic families.

The following table, though not at all up to date, will give an approximate idea of these types. The form of the skull is indicated by the proportion of length to breadth, by length to height, and by breadth to height: called respectively, (*a*) the cranial index, (*b*) the vertical index, and (*c*) the parietal index. The measurements for these indices are taken as follows: For the cranial index,—distance from the glabella to the occipital point compared with the greatest parietal width. For the vertical index,—the greatest length (as in the cranial index) compared with the height from the basion to the bregma, which is the highest point in the coronal suture. For the parietal index,—the greatest parietal width compared with the basion-bregma measurement. By these and numerous other proportions is the human skull and skeleton measured and racial differences determined. In cranial indices a proportion of 74 and below compared to 100 is called dolicho-cephalic or longheaded; from 75 to 79 compared to 100 is called meso-cephalic; while from 80 and upward to 100 is called brachy-cephalic or round-headed. This list could be made more reliable by taking into consideration the discoveries of recent years, not now available;

but being approximately correct it will show some of the points on which new evidence from Nova Scotia would be welcomed.

Tribes	Habitat	Number of skulls	Cranial Index	Vertical Index	
Very ancient graves..	Saugus, Mass.....	2	71.8	70.5	} Long-heads. V. I. less than C. I.
Pre-historic cemeteries	S. Catalina Id., Mexico	38	71.8	69	
“ “	S. Barbara, Cal.	49	71.8	71	
“ “	S. Clemente, Cal.	15	74.2	70.3	} V. I. greater than C. I.
Eskimos	Greenland		70.5	74.5	
“	Labrador.....		71.8	75	} V. I. equal to C. I.
Hurons	Canada.....	74	73.6	73.3	
Iroquois	New York		74	74	} M e d i u m- heads. V. I. less than C. I.
Shell heaps.....	Deer Id., Me.	2	75.3	73.4	
Cave burials.....	Coahuilla, Mexico....	22	75.6	73.5	} Many varied indices.
Pre-Columbian graves	Trenton, N. J.	17	75.8	77.4	
Modern indians	Mexico.....	Many	76 to 78	77 to 78	} Many varied indices.
“ “	United States.....	Many	77 to 82	76 to 82	
Mound builders.....	United States.....	Abt. 100	86	82	} Bushman- like skulls
Very ancient.....	{ Burlington and Trenton, N. J. }	2	80.6	64	

It will be seen from the foregoing table that the mound-builders and the Eskimo occupy extreme positions, the first being pronounced round-heads, while the last are just as pronounced long-heads. Next to the mound builders come the present Indians of the United States and Mexico; then follow the historic Iroquois and Hurons and the prehistoric inhabitants of the New England coast and Mexico, who seem to have some affinities with the Iroquois. There is in fact much evidence to show that the Algonkin invasion overran a former long-headed population somewhat closely related to the Huron-Iroquois race, and to which the Cherokees also belonged. Then on the islands off the south coast of California we find prehistoric cemeteries full of skulls of a race fully as long-headed as the Eskimo. At Saugus, Mass., as well as in the Florida shell-heaps, skulls have been found resembling those of California.

But though the California, Saugus, and Eskimo skulls are all long-headed, relationship is not probable because while the Eskimo skulls show a vertical index greater than the cranial index the other skulls show the reverse.

The mound builders are so extremely round-headed as to sanction the idea that artificial distortion of the skull may have increased the average indices in the table here given. And now we come to skulls of a shape so peculiar that Prof. Hedlicka has pronounced them (at least as strong evidence of), the type of a race new to America anthropologists. I refer to the two skulls found at Trenton and Burlington, N. J., the average cranial and vertical indices of which are 80.6 and 64. While round-headed, the vertical indices are far below that of any skulls yet found in America, even among the long-heads, and thus closely resemble the Bushmen of South Africa. Their cranial capacity, however, averages a little higher than that of the Bushmen, viz. 1310 to 1270 cubic centimeters. Whether a race as low as the Bushmen ever lived in America in post-glacial times is a question yet to be answered, perhaps from Nova Scotia.

But back of this lies the presumed pre-glacial or inter-glacial man whose skulls are said to be of the long-headed type. Among the problems yet to be solved are the following:

1st. Anthropometrical study of the earliest Micmac remains.

2nd. Possible extension of long-headed races to Nova Scotia in pre-Micmac times.

3rd. The former existence in Nova Scotia of savages of the Bushmen type.

4th. The existence in Nova Scotia of a long-headed race of inter-glacial or pre-glacial age.

Grouped around these are many questions of affinity and pre-historic intercourse that we could aid in throwing light on.

When we look back on the surprising revelations given to the world by cave excavation alone, there is good reason for

the prosecution of such work in Nova Scotia. The exploration of Kents Cavern in England; of the Cave of Spy, the Caverne de l'Homme, Mort, in France; the Cave of Neanderthal in Belgium; and the gravels of the Somme, was among the chief incentives to the study of the antiquity of man a generation ago, the result of which was the placing of the study of anthropology on an entirely new footing. In the caves, kitchen-middens, and ancient burial places of Nova Scotia, many like secrets are waiting to be unveiled. Among the kitchen-middens of Nova Scotia worthy of exploration are those of Chester Basin and Musquodoboit Harbor, in which many Indian relics have been found. There are many ancient burial places, especially at Indian Gardens and Fairy Lake. Caves are known at Five-Mile River, Gay's River, and in Cape Breton, and probably other places. We have seen the advantage to anthropological science derived from the exploration of the kjokken-moddings or shell mounds of Denmark, and while those of Nova Scotia may not yield such valuable results they will amply repay investigation. The desultory digging now being carried on in these kitchen-middens, prompted by the curiosity of idle men and boys, is lessening the chances for systematic and scientific excavation as the years go by. Cave excavation though more difficult is usually more productive of results, as the contents are not so much subject to disturbance and injury by the elements. When this work is carefully carried on by experienced and conscientious explorers, by the removal, layer by layer, of the successive deposits, and the information and relics so obtained are tabulated, we should have before us a history of that particular cave or deposit, a book of nature in fact, more unimpeachable than any human literary production.

I feel strongly the lack of the latest facts on this subject, but I trust that these remarks will be taken as an evidence of my earnest wishes for the future. I shall be well satisfied if my suggestions encourage others to open up a new field of scientific research in Nova Scotia.