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## THE HOMOLOGY OF THE "INCA" BONE.

BY C. C. NUTTING.

About two years ago, while examining the interesting series of prehistoric skulls in the collection of the Davenport Academy of Sciences, the writer became involved in an attempt to account for the supernumerary bone which some one has marked the "inca" bone. What the significance of the name may be, I do not know, but the significance of the *fact* is the object of the inquiry involved in this paper.

In a series of about twenty skulls examined by me there were at least six which exhibited the so-called "inca" bone, which is a portion of the occipital, separated from the remainder by a very distinct suture extending across the bone, following the "superior curved line," and about one-half inch above it. This suture is quite constant in position in every skull showing the "inca" bone.

The portion of the occipital which is thus cut off shows a tendency to itself divide into two or three pieces. But the sutures in this case are not constant in position and may, in fact, occur in almost any portion of the "inca" bone.

In attempting to homologize this peculiar bone, three possibilities occur:

*First*—The inca bone is the homologue of the supraoccipital of certain of the lower mammalia.

*Second*—The inca bone may be simply an enormously developed wormian bone.

*Third*—It may be a persistent embryonic character.

As to the first hypothesis, *i. e.*, that it is the supra occipital, we find that the supraoccipital in lower mammalia reaches to and forms part of the borders of the foramen magnum. The "inca" bone, on the contrary, is always remote from the foramen magnum, being above the superior curved line. It can thus be seen that the bone in question cannot be the supra occipital.

The second hypothesis, *i. e.*, that we have here merely an enormously developed wormian bone, would, at first thought, seem to be unworthy of serious consideration. But Gray<sup>1</sup> says, in his classic Anatomy:

"They (the wormian bones) vary much in size, being in some cases not larger than a pin's head, and confined to the outer table; in other cases so large that one pair of these bones may form the whole of the occipital bone above the superior curved lines."

This is the extent of the "inca" bone in all cases, and in at least one

<sup>1</sup>Gray's Anatomy, Eleventh Edition, p. 181.

skull, No. 9 in the sketches, the inca bone is vertically divided into two by a suture a little to the right of the median line. It is probable that if this particular skull were placed in the hands of Dr. Gray he would consider the "inca" bone enormously developed wormian bones. It seems to me, however, that there is a more natural explanation and one more in accord with the facts.

I have here the tabular portion of the occipital of a well advanced human fœtus. It is what would correspond to the supraoccipital of some of the lower mammalia. The bone is cleft on each side, the fissure being just above what will ultimately be the superior curved line. Looking on the inside of the bone, there are indications that at a still earlier stage of development this bone was separated into two parts, the separation being along a line a little above the superior curved line. This is exactly the condition of affairs found in the skulls with the "inca" bone. In other words, we have in the ordinary human embryo a condition of affairs which we find in the adult skulls of these prehistoric people. It seems likely, therefore, that we have here a persistent embryonic character.

Unfortunately I was unable to find any satisfactory record of these skulls in the catalogue of the Academy. Most of them were simply entered by number. One was marked "De Kalb Co., Ill.," and I was told that it and several others came from prehistoric graves in that locality.

If the "inca bone" was a characteristic of a definite race of human beings, it would certainly be sufficient to constitute a new species of the Genus *Homo*. If it was only an occasional, or even somewhat frequent abnormality, it may be regarded simply as a "reversion" indicating that the race possessing it was of a peculiarly low type.

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## NOTES ON THE DISTRIBUTION OF HEMIPTERA.

BY HERBERT OSBORN.

During the past few years I have received from a number of different sources, partly by purchase and partly by sets sent me for determination, a number of collections of Hemiptera, and as some of these records extend the known distribution of the species, or give more specific data regarding them, it seems desirable to give them a permanent record.

The principal collections on which the paper is based, aside from my own, are those made by Mr. Wickham in New Mexico, Arizona and California, and in the northwest, and purchased by the Agricultural College or by myself, those from Prof. C. P. Gillette, of Colorado, Prof. Lawrence Bruner in Nebraska, Prof. V. L. Kellogg in Kansas, Dr. C. M. Weed in New Hampshire, and others.

The Hemiptera present us with a number of interesting cases of distribution. In some cases apparently dependent upon food plant, in others