Hapalemur, but with one important exception, namely, the incisors and canines, are normal in form, and not proclivous, as in recent Lemurs. This is exactly what we should expect to find in an ancestral Lemur, as that peculiar modernization in the form of the lower incisors and canines in the Lemurs probably occurred at a very late geological epoch. In the jaw of *Megaladapis*, of the late Tertiary or Pleistocene epoch of Madagascar, the incisors are not preserved, but, from the extreme massiveness of the jaw symphysis and its upward bend, I think further discovery will show that in this form the lower anterior teeth were upright in position as in the Eocene Lemurs.

As already mentioned, the teeth of the Old World *Adapidæ* closely resemble those of the recent Lemuroidea, especially the forms included in the subfamily *Lemurinæ*. The American forms which are supposed to be related to Adapis cannot be considered as ancestral to any of the existing Lemurs, on account of the sexitubercular structure of their superior molars. The question is: Are these American genera monkeys? As before stated, it is very probable that the ancestral Lemur had a generalized type of dentition in that the incisors and canines were of the normal form, as in the Apes. The *Hyopsodontidæ* then can hardly be designated as monkeys, simply because they have retained, in the shape of their anterior teeth, the form common to to the ancestors of both monkeys and Lemurs. The term Pseudolemurs, which Schlosser has proposed to apply to fossil Lemurs, with the full number of premolars, is appropriate especially for the American fossil lemurines. Moreover, this name has the advantage of showing that these forms are not directly ancestral to the true Lemurs, but that they developed parallel with the latter.

Mivart, in discussing the relations of the Lemurs to the Ungulates, came to the conclusion, that merely on account of the similar structure of the placenta in these two groups, as a result, they cannot be considered as closely related. For we know that in the order *Edentata* there are several well marked types of placentæ, as the zonary of *Orycteropus*, (2) the diffuse *Manis* and the discoidal deciduate of the Armadillos and Sloths. Again, as Balfour remarks, "The presence of zonary placentæ in *Hyrax* and *Elephas* does not necessarily afford any proof of affinity of these types with the Carnivora." He further states that the resemblance between the metadiscoidal placenta of man and of the *Cheiroptera*, *Insectivora* and *Rodentia* is rather physiological than morphological. Balfour considers that, although the placenta is capable of being used to some extent in classification, it does not warrant its being employed except in conjunction with other characters.

In conclusion, from a study of the osteology of the recent and extinct Lemuroidea, I believe that this suborder of the Primates is related genetically to the Apes, that *Tarsius* is a true synthetic type, connecting the Lemuroids with the Anthropoids, finally *Tarsius* shows that both Apes and Lemurs have arisen from a common ancestral form.

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THE PRIMARY SEGMENTATION OF THE BRAIN.

In a recent paper on the 'Segmentation of the Nervous System of *Squalus acanthias*,' Dr. H. V. Neal of Harvard University, entirely sets aside the 'Metameres,' or 'Neural Segments' observed by Locy in the neural folds, as not having any phylogenetic significance whatever. This conclusion is particularly interesting when it is taken into account that Locy claims to have traced these "Neural Segments onward in an unbroken continuity until they become the 'neuromeres' of other observers."

In addition to the above, the chief con-

clusions arrived at by Neal may be briefly summed up as follows: He finds that six neuromeres are included in the cephalic plate at the time of its closure, but states that a seventh neuromere is subsequently added to this number, making seven in all which enter into the formation of the encephalon, in which they are distributed as follows—the first and second form the fore- and mid-brains respectively, the remaining five (three to seven inclusive) the hind brain.

The evidence which he advances as to the metameric value of the hind brain neuromeres concerns their correspondence with somites (Van Wijhe's somites, 2-6 inclusive), motor nerves and visceral arches. This correspondence he finds complete for all the hind-brain neuromeres, with the exception of the fourth, which however on hypothetical grounds he regards as possessing a metameric value equivelant to the others, and thus concludes "that these five hind-brain neuromeres are good criteria of the number of primitive segments in this region of the head."

The first two neuromeres (I. and II.) he regards as morphologically equivalent to the hind brain neuromeres, and considers that the absence of a motor nerve in the first is correlated with the loss of musculature of that segment, while the relation of a ventral motor root, the occulomotorius, and Van Wijhe's first somite to the second neuromere (mid-brain expansion), justifies the opinion that these structures are components of a single metamere only.

So far as can be seen by the writer, Neal's conclusions add little to our previous knowledge of the hind-brain neuromeres. One fact, however, in connection with his conclusions which is most gratifying, is that they confirm, wholly or in part, the observations of former investigators, a circumstance which he has apparently overlooked.

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CHARLES E. BENDIRE.

MAJOR CHARLES E. BENDIRE, U. S. A., Honorary Curator of the Department of Oology in the U. S. Natural Museum, died at Jacksonville, Florida, February 4, 1897, of Bright's disease. Weary of confinement indoors he went to Florida in hope of finding a milder climate where he might sit outside to enjoy the fresh air and watch the trees and birds—a hope that was not realized, for he died five days after leaving Washington.

Major Bendire was born in Hesse Darmstadt, Germany, April 27, 1836. He was a relative of Weyprecht and Payer, the Austrian Arctic explorers who discovered and named Franz Josef Land.

He came to this country in 1852, and in June, 1854, enlisted as a private in Company D of the 1st Dragoons, U. S. Army. During the next 10 years he was promoted to Sergeant, and served as Hospital Steward in the 4th Cavalry. In 1864 he was transferred to the 1st Cavalry and promoted to 2d, and soon after to 1st Lieutenant. In February, 1873, he attained the rank of Captain, and in April, 1886, was retired on account of an injury to the knee. In February, 1890, he was breveted Major for gallant services rendered on September 13, 1877, in fighting the Indians at Cañon Creek, Montana—an illustration of the subsequentness of glory in the army!

During his long period of service as an army officer he was stationed at a number of the most remote and inaccessible posts in the West, among which may be mentioned Cantonment Burgwyn, in New Mexico; Forts Bowie, McDowell, Wallen, Lowell and Whipple, in Arizona; Bidwell and Independence (the latter in Owens Valley), in California; Harney and Klamath, in Oregon; Vancouver and Walla Walla, in Washington; Boise and Lapwai, in Idaho, and Custer, in Montana. And it should be remembered that his service at most of these