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

posts antedated the construction of the transcontinental railroads which now traverse the States and Territories in which most of them are located.

Bendire was a man of energy, perseverance and courage, and in our Indian wars naturally took a prominent part. This part was sometimes that of a dreaded foe who followed them relentlessly over mountain and desert and penetrated their most distant retreats; sometimes that of a peacemaker, as when in the midst of the bloody Apache war he boldly visited the camp of Cochise, the celebrated Apache chief, and induced him to abandon the war path. He treated the Indians, as he did everyone else, with perfect frankness and fairness, and never deceived them. They were not long in learning that they could rely absolutely on his word, which gave him a positive advantage in all his dealings with them, for they always respected him and when not at war liked him.

Aside from his movements in the field in connection with Indian wars, he led a number of expeditions for other purposes, such as laying out roads, surveying routes for telegraph lines, and exploring unknown country—as when he crossed Death Valley in 1867, and explored the deserts of south-central Nevada as far east as Pahranagat Valley. No other American naturalist in modern times has spent half so much time in the field as Bendire, and his voluminous note books attest the accuracy and range of his observations.

It is hard to say just when Bendire's scientific work began, or even exactly when he commenced making his famous collection of birds' eggs, though it is certain that he was collecting in 1870. Like many other army officers stationed in the West, he sent Professor Baird from time to time natural history specimens and notes. When stationed at St. Louis he became an intimate friend of the eminent botanist, Dr. George Engelmann, to whose herbarium he was a valued contributor.

His earliest published writings are in the form of letters to well-known naturalists, chiefly Allen, Baird and Brewer. The first volume of the Bulletin of the Nuttall Ornithological Club (1876) contains several such letters, published by J. A. Allen.

In 1877 he published an important paper on the Birds of Southeastern Oregon, based on three years' field work in the region around Fort Harney. In all, he has written about fifty papers, most of which relate to birds and their eggs, though several treat of mammals and fishes. But the work which will carry his name and fame to future generations is his 'Life Histories of North American Birds,' of which the second volume was reviewed in Science not long ago (N. S. Vol. IV, No. 96, October 30, 1896, pp. 657-658). It is a calamity to the science of ornithology, for which he was in no way responsible, that the remaining volumes of this great work, which contains more original information on the habits of our birds than any other since the time of Audubon, Wilson and Nuttall, were not made ready for publication.

In his personal life Bendire was a man of simple habits and unusual frankness. He had an inborn aversion for all kinds of circumlocution and insincerity, and was himself a model of directness and truthfulness. He was generous, kind hearted and ever ready to help others, no matter at how much personal inconvenience, if he believed them worthy. He had a large number of correspondents in all parts of the country who considered it a privilege to contribute notes and specimens for his use. These and many others will mourn his loss, but none so deeply as the small coterie who were so fortunate as to be numbered among his intimate personal friends.

C. Hart Merriam.