

the stone implements of the Scandinavian shell heaps "have usually been polished and sharpened by rubbing; this justifying their assignment to the 'smooth stone age.'" The fact is, artifacts of polished stone characterize a later stage and not the early shell-heap phase of the neolithic. Neither do the "chipped flint daggers of exquisite form" and the perforated diorite axes (pp. 125-126) come from the "kitchen middens," but from the stone cist burials of a later epoch. The statements that the Cro-Magnon race is of neolithic age (p. 115) and that it did not appear until after the mammoth had become extinct (p. 116) would not be admitted by the best authorities. Cro-Magnon is paleolithic and the mammoth lived on until the close of the Magdalenian, as attested by the mural art of the caverns, especially at Font-de-Gaume; and hence was a contemporary of the Cro-Magnon race. In the same paragraph by inference one is led to suppose that the engraved figure of a reindeer from Thayngen is the work of a neolithic craftsman; when on the contrary it is paleolithic.

As might be expected of Professor Wright, much space is devoted to man and the Glacial period, not only in the old world, but also in the new. His estimates of the length of time that has elapsed since the beginning of the Glacial period are moderate. He believes that the Glacial period was practically a unit, there being four phases instead of four distinct epochs, thus differing from some of the most noted living glacialists. The cause of the Glacial period is assigned to land elevation and its disappearance to a subsidence, factors which probably played a rôle in the great climatic drama, but which might have been correlated with other factors such as the changing condition of the sun itself and in the atmosphere.

But little space is given to cultural and somatic evolution, in which field many important results have recently been achieved. The Magdalenian polychrome frescoes on the cavern ceiling at Altamira are referred to as of Aurignacian age, an error into which Sollas ("Ancient Hunters") also fell.

The author's point of view might possibly be best reflected in a few quotations: "Our earliest knowledge of man is of a being fully formed and in possession of all the faculties of his kind" (p. 389). "On the important question of man's first arrival on this planet we may for the present possess our minds in peace, not a trace of unquestionable evidence of his existence having been found in strata admittedly older than the Pleistocene" (pp. 341-2). "The simple arithmetical calculations made above show that when once started, the dispersion over the world, the diversification of the races, the differentiation of languages, and the development of ancient civilization may easily have come about in the course of four or five thousand years, if not in half that time, and that the extension of prehistoric time for eight thousand years affords superabundant opportunity for the growth and development of all the peculiarities and institutions of man as first made known to us at the dawn of history" (p. 493). "The antiquity of man therefore so far as the question depends upon his connection with the Glacial epoch, is not proved to be, even when we allow a generous margin, greater than twelve or fifteen thousand years" (p. 494).

The chapter preceding the "Summary and Conclusion" treats of "The Biblical Scheme." The work has the welcome merit of an engaging style, possessing to a degree the charm of the author's personality. Another attractive feature is the "Appendix" of copious notes and references.

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#### SPECIAL ARTICLES

##### NEW AND EXTINCT BIRDS AND OTHER SPECIES FROM THE PLEISTOCENE OF OREGON

MANY years ago I published in the *Journal* of the Academy of Sciences of Philadelphia an account of the fauna of the Oregon desert region during Pleistocene time. This account was based upon a large collection of fossils sent me for the purpose by the late Professor E. D. Cope, who, with his assistants and a

few other naturalists, had brought this valuable material together. By far the greater part of this consisted of the fossil bones of birds, the mammals and fish having been described by Professor Cope in *The American Naturalist* and elsewhere.

The results of my share of the work have long since passed into the literature of the subject; and, as these are fully set forth in my academy memoir, they need not be especially reviewed in this place. It may only be noted that I announced, for the first time, the discovery of a long list of birds, based on the fossils referred to, the majority of which coincided with species and genera of existing forms, while a somewhat formidable array were extinct and new to science.

At the time my examination was made, the skeletons of existing birds at my command were entirely inadequate for the purposes of making reliable diagnoses and references. During the past twenty years, however, such material has been vastly increased in our museums, especially in the U. S. National Museum, and for the use of this in the present connection I am much indebted.

Several years ago, what may be collectively designated as the Cope collection from the aforesaid region was purchased by the American Museum of Natural History in New York City for its paleontological department; and only a few months ago Dr. W. D. Matthews, the curator of that department, shipped me to Washington the entire collection for the purpose of a complete revision. This task is now practically completed, and the object of the present article is simply to publish an advance abstract as an announcement of the additional birds of the region in question, the fossil remains of which I have found to exist in the aforesaid collection, and a small collection from the same localities (Silver and Fossil lakes), which belongs to the U. S. National Museum. The new species will be fully described in the forthcoming contribution on the subject, accompanying which will be found upwards of 600 figures illustrating the entire avifauna of the Pleistocene of Oregon, in so far as their fossil remains are concerned.

The list is as follows, each species in it, with one exception, being announced for the first time:

1. *Colymbus parvus* (extinct).
2. *Podilymbus magnus* (extinct).
3. *Centrocerus urophasianus*.
4. *Mergus americanus*?
5. *Mergus serrator*.
6. *Mergus* sp.?
7. *Marila americana*?
8. *Marila valisineria*.
9. *Marila marila*.
10. *Marila affinis*?
11. *Marila collaris*?
12. *Charitonetta albeola*.
13. *Histrionicus histrionicus*.
14. *Polysticta stelleri*.
15. *Erismatura jamaicensis*.
16. *Branta c. hutchinsi*?
17. *Branta c. minima*?
18. *Branta bernicla*.
19. *Olor columbianus*.
20. *Olor buccinator*.
21. *Olor matthewi* (extinct).
22. *Ardea herodias*.
23. *Botaurus lentiginosus*.
24. *Aquila chrysaetos*.
25. *Haliaeetus leucocephalus*.

*Erismatura jamaicensis* has been previously announced by Mr. L. H. Miller in the *Bulletin* of the Academy of Natural Sciences of California. The three new extinct birds found, and the descriptions of them, will appear when the memoir is published.

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#### PROCEEDINGS OF THE ENTOMOLOGICAL SOCIETY OF AMERICA

THE seventh annual meeting of the Entomological Society of America was held at Cleveland, Ohio, December 31 and January 1, in the auditorium of the Normal School. The meetings were all well attended and enthusiastic. The following papers were presented:

C. BETTEN, Lake Forest University: *An Interesting Feature in the Venation of Helicopsyche, the Molannidae and the Leptoceridae.*

In the trichopterous genus *Helicopsyche* radius of the fore wing is found in primitive condition, i. e.,  $R_1$  is simple and the sector is dichotomously branched. The homology is but slightly obscured