

necessities of the present nomadic life of the tribe.

The clay lamps and kettles and other household utensils are similar to those of the Eskimo of the Yukon River.

The food of the Maritime Chukchee is to a very great extent derived from the sea, consisting largely of sea-mammals, while the Reindeer Chukchee live on reindeer taken from their herds. In connection with this subject, the author describes a number of taboos. Vegetable food is used rather as a substitute, in case of scarcity of meat, than as a side-dish.

In smoking, pipes evidently related to those of Chinese type are used.

One chapter of the book is devoted to a description of the manufactures, among which those relating to the preparation and utilization of skins occupy a prominent part.

The clothing is made of skins, that of the men consisting of skin boots and stockings, trousers and a double shirt, while the women wear combination-suits. It is peculiar to note that the fur jackets of the women are cut very low. In cold weather separate hoods are worn.

The women, particularly those of the Maritime Chukchee, are tattooed, and the tattooing is believed to have a magical significance. Many of the ornaments described by the author are also at the same time charms.

The book closes with a description of the games and sports of the people, among which tossing on blankets, wrestling and races play a prominent part. A number of ball games, and some cat's-cradles are described. The book is accompanied by many illustrations and by a detailed map, giving exact information as to the present location of the native tribes of northeastern Asia. It appears from this map that the Eskimo are confined to the region north of Anadyr Bay, and that the coast regions southwest of this district are occupied by the Kerek, a branch of the Koryak. Another map (p. 17) gives the approximate ancient distribution of the tribes before the invasion of the Yakut and of the Russians.

FRANZ BOAS.

Nebula to Man. By HENRY R. KNIPE. With fourteen full-page illustrations in color and fifty-seven full-page tinted illustrations by Ernest Bucknall, John Charlton, Joseph Smit, Lancelot Speed, Charles Whympere, Edward A. Wilson and Alice B. Woodward. London, J. M. Dent & Co. 1905. Small folio. Pp. xvi + 251.

This sumptuous volume, beautiful in typography, glowing with splendid illustrations from the studies of the most skillful delineators of animal life in the British metropolis, is a marvel in more ways than one. Its publication is remarkable from the standpoint both of the man of science and of the man of letters. It is 'an attempt to present a sketch of the evolution of the earth on the nebular hypothesis,' and this not in prose, but in the form of poetry. In six cantos the author traces the great drama of mundane evolution. The first division of the poem deals with the development of the globe from the nebula out of which it was evolved, and the beginning of the operations of life upon its slowly cooling surface; the next four cantos deal in order with the Paleozoic, the Mesozoic, the Cenozoic and the Quaternary ages; the last canto brings Neolithic man into view, and leaves us at the threshold of human history. The attempt to clothe the latest results of geological and paleontological research in the garb of poetry is daring. To marshal the facts of the paleontological laboratory in metric guise and to compel the sesquipedalian terms of the geologist and comparative anatomist to bend themselves to the service of the muse is bold indeed. While not always successful, nevertheless in the main the author has forced the cumbrous terms of science to do duty with grace, and has clothed a vast body of scientific facts in the garments of verse.

The opening lines, which face a splendid reproduction of a photograph of the great nebula in Orion made at the Yerkes Observatory, present a graphic picture of the planetary system in the making:

A glowing mist, through realms of space un-
bounded,
Whirls on its way, by starry hosts surrounded.
Dim is its lustre as compared with theirs,

And more the look of stars dissolved it wears.
 Volumes of heat, from its prodigious stores,
 To endless space, it never ceasing pours.
 Formless and void it seems, and yet it holds
 A coming world within its hazy folds.
 A sun lies spread within its depths and heights;
 Planets are there, and all their satellites.
 But still as yet they lie confused and blent,
 Like starry dust, lost in the firmament.

A fine reproduction of the Spiral Nebula in
 Canes Venatici made at the Lick Observatory
 faces the second page of the book, and then,
 celestial parturition having taken place,

Loosed now are all the planets on their ways;
 Each with its burden of collected haze
 To run a destined course; and left alone
 Spins the main core, a glowing central sun.

* * * * *

Here moves our planet, sun-held as the rest,—
 Our mother Earth; but on her molten breast
 No life as yet can dwell; and should the clouds,
 Which gird her round with wind-swept vapour
 shroud,

Condense and pour their rains, no solid floor
 Has she as yet on which to hold their store.

The birth of unicellular life, when at last
 the seas are formed, is told, and in rapid suc-
 cession the development from age to age of
 the floras and faunas of the successive geologic
 periods is depicted. The mutations of the
 surface of the earth and the emergence and
 subsidence of the land masses, particularly
 those of Europe, are sketched, and the strange
 forms of vegetable and animal life are por-
 trayed, as the great drama of development
 proceeds, issuing at last in the appearance of
 man upon the scene.

As an example of the manner of treatment
 employed by the author in delineating the
 main facts as to the animal life of the past,
 the following lines, culled from that part of
 the fourth canto which deals with the Jurassic
 age, may be quoted:

Great dinosaurs, like those of earlier days,
 Still haunt Europa's woods and waterways;
 And hold their own through all these Jura times,
 In spite of lands wiped out, and changing climes.

* * * * *

Whilst through Europa's land these monsters
 range,
 Upon Columbia's scenes are forms as strange.
 Here lumbers Stegosaurus on his fours,
 With high-arched back, a king of dinosaurs.

But forms surpassing Stegosaurus are seen.
 In point of size, and of as wierd a mien.
 Some here there are that look like plesiosaurs
 With elephantine legs, as on all fours they creep
 along,

and reference is then made to 'knobbed Cera-
 tosaurs,' 'necky Brontosaurus' and 'those long
 yards of life, Diplodoci.'

The illustrations of the book are particu-
 larly handsome, and represent the latest views
 of paleontologists of reputation. It would be
 invidious to draw comparisons, but the writer
 of these lines can not fail to express his pleas-
 ure at the rather spirited drawing by Miss
 Alice B. Woodward representing a *Diplo-*
docus, a beast with the bones of which the
 reviewer possesses considerable familiarity.
 Miss Woodward's sketches of *Mærittheria*,
Palæomastodon, and *Arsinoitherium* are re-
 markably fine. There is great animation in
 her drawings, and she has profited to some
 extent, no doubt, by having at her elbow her
 father, one of the most honored and distin-
 guished of living paleontologists, and his col-
 league Dr. C. W. Andrews, whose paleonto-
 logical researches have given him a world-
 wide reputation. Very meritorious are also
 some of the drawings of Smit, which are based
 upon the work of the well-known American
 delineator, Charles R. Knight. The repro-
 duction of the water-color sketch of 'A Frozen
 Sea' from the brush of Mr. E. A. Wilson, who
 has recently returned from the Antarctic
 voyage of the *Discovery* is appropriately in-
 serted in that part of the poem which deals
 with the glacial epoch.

Upon the whole the book is most interesting
 and suggestive, and is one of the most enter-
 taining contributions to popular literature
 dealing with paleontology and the doctrine of
 evolution which has recently appeared.

W. J. HOLLAND.

SOCIETIES AND ACADEMIES.

NEW YORK STATE SCIENCE TEACHERS'
 ASSOCIATION.

THE tenth annual meeting of this body was
 held at Syracuse, December 27-29. The offi-
 cers for 1905 were: