

nature. It inevitably led, as he points out, to a degeneration both of the slave and the master, both of the woman and the man, and destroyed the possibility of any notable progress in civilization.

In the chapter on slavery among the American aborigines he adduces a few examples, but recognizes that it was not a prevalent institution with the red race. The gynocracy found in some tribes, he explains as merely apparent, not a real government, but confined to industrial aims. On the slaves of Mexico and Peru, he is somewhat full, but confines himself to second-hand authorities and not always the best of these.

From America he passes to the Polynesians and the Mongolians, where the condition of the enslaved classes was as wretched as anywhere. Turning to ancient history, he collects from classical authorities a mass of information on slavery among the Semites, the Egyptians, the Greeks and the Romans. Of course, on the latter he is particularly ample, as the sources of accurate knowledge are abundant. Everywhere he finds the same characteristics evolving in like social environments.

The semi-servile conditions in the Middle Ages, such as those of the serfs, the adscripts of the glebe, and the like feudal dispositions of the lower classes, occupy an instructive chapter.

Finally, the author applies himself to the practical application of his long study of enforced labor. How is it to be avoided? Or so modified as to distribute even taxes on all? To this he devotes his closing pages; but they are too vague, too visionary, too remote from any possible immediate adoption, to satisfy the earnest reader. Slavery, in its ancient forms, is practically extinct; but is not modern freedom, in the face of labor unions on the one hand and monopolies on the other, just what Dr. Johnson defined it a hundred years ago and more, freedom to work or starve? An excellent index closes the volume.

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*The Geological and Natural History Survey of Minnesota.* N. H. WINCHELL, State Geologist. 1892-1896. The Geology of Minnesota, Vol. III. Part II. of the Final Report. Pale-

ontology, by E. O. Ulrich, John M. Clarke, Wilbur H. Scofield, and N. H. Winchell. 4to. Minneapolis, 1897. Pp. lxxxiii. to cliv., 475-1081, plates 35-82, and 133 figures in the text.

The introductory chapter by N. H. Winchell and E. O. Ulrich gives a detailed correlation of the Lower Silurian deposits of the Upper Mississippi province, with those in the Cincinnati, Tennessee, New York, and Canadian provinces, together with the stratigraphic and geographic distribution of the fossils. It is doubtful whether any State Survey has ever before attempted so successfully such a minute study and correlation of the beds and horizons of an extensive series of sediments. It shows a vast amount of careful and intelligent collecting. This kind of work has made possible the preparation of the succeeding excellent chapters on various classes of fossil remains from the Lower Silurian or Ordovician.

E. O. Ulrich, under separate chapters, treats of the Lamellibranchiata and Ostracoda. These classes of animals are generally recognized as difficult to deal with in the fossil state, the former from the common imperfection of preservation, and the latter from their minute size and simple form. The paleozoic lamellibranchs are arranged under twenty-nine families, of which ten will include all or nearly all of the Ordovician genera.

The Trilobites are described by J. M. Clarke, in Chapter VIII. The material is not so rich as in some of the other classes, but is thoroughly elaborated. Valuable sections are added dealing with the American Lower Silurian Phacopidæ, and the subordinate generic relations of the species of the genera *Ceraurus* and *Lichas*. Chapter IX. on the Cephalopoda is by the same author. About fifty species are noticed, including the novel primitive nautiloid type, *Nanno*, about which there has already been considerable discussion in America, England and Sweden.

The final chapter (X.) on the Gastropoda, by E. O. Ulrich and the late W. H. Scofield, occupies more than one-third of the volume. Numerous new genera and species are described and illustrated, showing the richness and variety of this fauna.

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