fessor Charles E. Vanderkleed, as professor of pharmaceutic chemistry.

DISCUSSION AND CORRESPONDENCE

AFTONIAN SANDS AND GRAVEL IN WESTERN IOWA

To THE EDITOR OF SCIENCE: During the past summer investigations made by the writer for the Iowa Geological Survey revealed widespread deposits of Aftonian sands and gravels in the western part of Iowa.

The beds, where undisturbed, in some cases reach a thickness of 35 feet, and furnish fine examples of cross-bedding and interbedding of sands and gravels. They lie unconformably between the Pre-Kansan and Kansan drifts, and were evidently deposited in flooded streams during an interglacial period.

That the climate of this period was comparatively mild is shown by the presence of fossil shells of species of mollusks still living in Iowa, belonging to the genera *Unio, Sphærium, Pisidium, Valvata, Planorbis, Ancylus,* etc., and of numerous bones and teeth of extinct herbivorous mammals belonging to the genera *Elephas, Mamut, Equus,* etc. The latter were found exclusively in the coarse gravels, while the former occurred chiefly in the finer sands.

At a number of points these sands and gravels were plowed and folded, and heaped up to a height of more than 100 feet above the Missouri Valley by the mass of Kansan ice which passed over them and in some cases even displaced the underlying Pre-Kansan.

The discovery is of special interest because these western gravels may now be definitely referred to the Aftonian, and because the fossils present a fauna practically new to that horizon, and throw light upon the climatic conditions which existed during the period of deposition.

B. SHIMEK
STATE UNIVERSITY OF IOWA,
December 14, 1908

SCIENTIFIC BOOKS

National Antarctic Expedition. Vol. IV., Zoology. London, British Museum, 1908. 4°, pp. 6, 279, and 65 plates. (Containing) *Solenogastres,* by H. F. NIERSTRASZ; *Aptera,* by G. H. CARPENTER; *Schizopoda,* by W. M. TATTERSALL; *Copepoda,* by R. NORRIS WOLFENDEN; *Echinoderma,* by F. JEFFREY BELL; Echinoderm larvæ, by E. W. MACBRIDE and J. C. SIMPSON; *Myzostomidæ,* by R. RITTER VON STUMMER-FRAUENFELS; *Sipunculidæ,* by W. F. LANCHESTER; *Actiniæ,* by J. A. CLUBB; *Tetraxonida,* by R. KIRKPATRICK; and *Calcarea,* by C. F. JENKIN.

Under the supervision of Mr. F. Jeffrey Bell, of the British Museum, another fine volume has been added to the series describing the scientific results of the expedition to the Antarctic under Captain Scott, R.N., and his companions. A brief reference to the subject-matter of the various memoirs is all that our space permits.

A single species of *Proneomenia* was obtained in about latitude of 78° S. This is described by Nierstrasz in great detail, followed by a proposed division of the family Proneomeniidæ into a large number of groups, based on the structure of the glands and radula. It may be heterogeneous, and the forms of which it is composed may be related to different members of the Proneomeniidæ.

Carpenter reports the presence of a wingless insect belonging to the Collembola in moss from Granite Harbor in 77° S. latitude, though the specimens were in rather imperfect condition. Enough was made out to allow placing it in a new genus, *Gomphiocephalus,* of the Poduridæ.

The Schizopod crustacea collected embraced considerably over ten thousand specimens, but of these the vast majority belong to a single species and the total number of species collected is only thirteen. The abundant material of the *Discovery* party enables Mr. Tattersall to combine under Dana's original name four subsequently described species taken from mutations due to age, or variability. Two species are cited as "bipolar" but further investigations of the deep sea may reveal them as cosmopolitan.

Of the Copepods seven proved new, and one new genus, *Paralabidocera,* is proposed by Wolfenden. Of the twenty-eight Antarctic species recognized, two are regarded as "bipolar," though many have Arctic an-