present knowledge of the case, it would seem that there is considerable encouragement for any village or city within the productive area to drill wells, expecting to obtain gas in sufficient quantity to be of great importance for domestic purposes."

'A preliminary catalogue of the Invertebrate Paleontology of the Carboniferous of Kansas,' by Mr. Bennett, based on university and survey collections, with additions from the reports of Beede and Prosser, finishes the text.

The large number of sections, 'all drawn to an exact scale,' add greatly to the clearness of the presentation of the subject. The physiographic features are well illustrated by a number of half-tones, and the final plate is a preliminary geologic map of Kansas.

Finally, it might be mentioned, that the publication of these investigations, which were conducted almost entirely by Prof. Haworth and students of the university, indicates very clearly the advanced nature of the instruction given by the Geological Department of the University of Kansas.

CHARLES S. PROSSER.

SCIENTIFIC JOURNALS.

THE JOURNAL OF COMPARATIVE NEUROLOGY, VOL. VI., NO. 2, JUNE, 1896.

The Comparative Anatomy of the Insula: By TRACY EARL CLARK. The importance of the insular region in the human brain, and in particular its supposed relation to the speech centers, have led to a thorough investigation of the morphological relations of this area in all groups of the mammals. The insula is present in the Primates, Carnivora, Proboscidia, Ungulata and Cetacea, though with great variation in size and fissuration. The insula and the claustrum may be considered as parts of the same cortical area; the claustrum may be present without the insula; both may be present or both may be absent. The primitive insula, if such exists, is a somewhat elevated area of greater or less size surrounded by a circuminsular fissure and located in the Sylvian fossa or in the fissure, if the fissure is continuous with the rhinal. The paper is illustrated by five plates.

Review of the Golgi Method: By OLIVER S. STRONG. In this paper Dr. Strong undertakes a critical review from the technical side of the method of Golgi and its subsequent modifications. The writer speaks with authority born of long and successful experience with the method. The 28 pages which constitute this instalment of the paper are devoted chiefly to a full translation of the technological portions of Golgi's original memoir.

Two author's abstracts by Prof. B. G. Wilder: *The Dorsal Sack, the Aulix and the Diencephalic Flexure* and *The Ectal Relations of the Right and Left Parietal and Paroccipital Fissures*, a brief editorial on the recent action of the American Neurological Association concerning Anatomical Nomenclature and the usual book reviews complete the number.

SOCIETIES AND ACADEMIES.

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, JUNE 16, 1896.

THE following papers were presented for publication: 'On a collection of fishes obtained in Swatow, China, by Miss Adele M. Fielde,' by Cloudesley Rutter. 'On a collection of fishes made by the Rev. Jos. Seed Roberts, in Kingston, Jamaica,' by David Starr Jordan and Cloudesley Rutter.

Prof. Edw. D. Cope continued his report on the vertebrate remains from the Port Kennedy Bone Fissure. Among the Mustellidæ were five new species of the genera *Lutra*, *Mephitis*, *Osmotherium* and *Putorius*. They were represented by at least forty individuals and were described and named. Remains of the largest known tortoise from this section of the country were described as belonging to a new species of *Clemmys*. *C. insculpta* was also represented, together with a new box tortoise belonging to the genus *Loxaspis*. A close ally of the black snake, genus *Zamænis*, was also described.

JUNE 23, 1896.

REV. H. C. MCCOOK, D. D., reported a series of observations of the California Trap-door Spider, *Cteniza Californica*, made by Dr. Davidson, who had been able to determine the time required for the construction of the burrow in confinement, and other matters connected with the life history of the animal. It

had taken ten hours to construct the nest with its hinged door, another spider having made a hole large enough to conceal itself in two hours. The method of digging was the same in the main as that described by the speaker for the tarantula. The young when they emerge at once build their own miniature nests, which are renewed every spring until they reach the full size. Based on his study of a Lycosid, the speaker had predicted that the enemy of the trap-door spider would be found to be a diurnal wasp. Dr. Davidson had established the fact that such is the case and that the attacking species is *Parapomphilis planatus* Fox.

Mr. H. C. Mercer made a report on his recent exploration of certain caves in Tennessee which he had been able to prosecute under the patronage of the University of Pennsylvania, mainly through the liberality of Dr. William Pepper. In Zirkel's cave, on Dumpling Creek, Jefferson county, Tennessee, crusts of breccia projected from the walls and hung from the roof. From this material the teeth of the tapir, peccary, etc., projected, while in the cave earth below were found bones, nuts, two pieces of Indian pottery and fragments of mica, probably indicating Indian cave burial. There were therefore two ages indicated: one ancient, by the breccia, and the other by the cave earth, comparatively recent. All the fossil remains belonged to the breccia and there was no association between them and the indications of human life.

Another cave, on the Tennessee river, under Lookout Mountain, Hamilton county, Tennessee, presented a floor of two layers, the black top one of three or three and a-half feet in thickness composed of Indian relics, and another of yellow earth containing a few animal remains, but no indication of human existence. *Mylodon* and *Tapirus* fragments found some time ago close to the bottom of the upper layer had probably been scraped up from the lower. Neither, therefore, did this cave present any certain data for the advancement of the date of man's antiquity. On the contrary, the evidence supported the belief that pleistocene or paleolithic man had not existed in that region.

On penetrating the forbidding entrance of Big Bone Cave, near Canly Fork River, Van Buren county, Tennessee, he had found nine hundred feet in, the bones of *Megalonyx* still bearing articular cartilages. Fragments of torches were found beneath the Sloth bones, probably buried by burrowing rats.

Prof. Edw. D. Cope commented on the fossil bones collected in the caves described by Mr. Mercer. The presence of cartilages on the *Megalonyx* bones indicated for them an age certainly not more remote than the existence of man on this continent. Other bones belonging to young individuals were larger than corresponding ones found at Port Kennedy, indicating the validity of the two species, *Megalonyx Wheatleyi* and *M. Jeffersonii*. Mr. Mercer had also collected remains of fifteen or twenty species of birds, six fishes, one batrachian, four tortoises, one rattlesnake and nineteen mammals. The special value of Mr. Mercer's careful work was commented on. The peccary is found in Zirkel's cave, although no trace of it appears in the Lookout Mountain cave. Several undescribed species were indicated.

Edw. J. Nolan,
Recording Secretary.

NEW BOOKS.

Analytic Psychology. By G. F. Stout. London, Swan, Sonnenschein & Co. New York, Macmillan & Co. 1896. Vol. i. Pp. xv+289. Vol. ii. Pp. v+306.

A System of Medicine. By many writers. Edited by Thomas Clifford Allbutt. New York and London, Macmillan & Co. Vol. i. Pp. xxxix +978. $5.00.

Der Lichtsinn augenloser Tiere. By Dr. Wilibald A. Nagel. Jena, Gustav Fischer. 1896. Pp. 120. M. 2.40.

Familiar Trees and their Leaves. By F. Schuyler Mathews. New York, D. Appleton & Co. 1896. Pp. vi+320. $1.75.

A Concise Hand-book of British Birds. By H. Kirke Swain. London, John Weldon & Co. 1895. Pp. viii+210.

Proceedings of the American Association for the Advancement of Science, 44th meeting held at Springfield, Mass., August-September, 1895. Salem, published by the Permanent Secretary. 1896. Pp. cxix+414.