NOTICES OF MEMOIRS.

I.—Report on a Series of Specimens of the Deposits of the Nile Delta, obtained by the Recent Boring Operations. By J. W. Judd, F.R.S., Pres. Geol. Soc. Proceedings of the Royal Society, No. 240, 1886, pp. 213–27.

THIS paper contains the results of a microscopic analysis of specimens from the borings, which have lately been carried on, under the auspices of the Royal Society, in three different places in the Nile Delta. That at Kasr-el-Nil, Cairo, was carried to a depth of 45 feet, whilst those at Kafr-ez-Zayat and Tantah, places about half-way between Cairo and the Mediterranean, were 73 and 84 feet deep respectively. In none of these borings was the rocky floor of the Nile valley reached. The beds passed through consisted of an admixture, in varying proportions, of blown sand and alluvial mud. The *sands*, when examined under the microscope, are seen to consist of two kinds of grains; the larger, usually perfectly rounded and polished, are of quartzitic materials evidently derived from granitic rocks, with particles of red and brown jasper, Lydian stone, fragments of silicified wood, nearly unaltered felspar grains, hornblende and jade. The smaller sand grains, often subangular and angular, include a greater variety of minerals than the larger, and comprise, in addition to those above mentioned, mica, augite, enstatite (?), tourmaline, sphene, iolite (cordierite), zircon, fluorspar, and magnetite, all in a nearly unaltered condition. These sand grains have been derived either directly from the breaking up of granitic and metamorphic rocks, or from older sandstones formed of the *débris* of these rocks.

The *mud* is singularly deficient in kaolin, and seems to be composed of extremely minute chips and flakes of quartz, felspar, mica, hornblende and other minerals, mingled with some organic particles and frustules of Diatomaceæ. In the Tantah boring fragments of tufaceous limestone were also met with.

The striking feature in the character of these delta deposits is the comparatively unaltered condition of the felspars and other complex silicates in the sands and muds, and the absence of kaolin. Under the usual processes of disintegration of rocks in temperate climates, the felspars and other silicates are reduced by chemical action to soluble silicates of potash, soda, etc., and carried away in solution, whilst the kaolin remains behind. It appears, however, from the nature of these deposits, and from the small amount of soluble solid matter in the water of the Nile, notwithstanding the concentration resulting from extensive evaporation, that chemical action has had but little effect in the drainage area of the Nile, in comparison with the mechanical influences resulting from extreme variations of temperature, the action of the winds, and torrential rains. G. J. H.

II.—Ueber die Fossilen Säugethier-Ueberreste von Baltavár. Von J. Pethö. Jahresbericht d. K. Ung. Geolog. Anstalt für 1884, pp. 63–73. Budapest, 1885.

On the Fossil Mammalian Remains fron Baltavár. By Dr. J. Pethö. Annual Report of the Royal Hungarian Geological Survey for 1884.

ABOUT 35 years since, some remains of fossil mammalia were discovered near Baltavár, in the Trans-Danubian province of Hungary, which Prof. Suess determined to be nearly entirely identical with the Pikermi fauna. They consisted of the following species: *Machairodus cultridens*, *Hyæna hipparionum* (=*H. eximia*, Gaudry), *Dinotherium*, *Rhinoceros*, *Sus erymanthius*, *Antilope brevicornis*, *Helladotherium Duvernoyi*, and *Hippotherium gracile*. The deposit was supposed to have been exhausted, but now lately fresh remains have been discovered by the Hungarian Survey, and from these, and from the collection stored in an adjoining monastery, Dr. Pethö has determined the under-mentioned list of fresh species, which further show a remarkable connection with those from Pikermi. They include *Mesopithecus Pentelici*, Wagn., *Dinotherium giganteum*, Kaup, *Mastodon Pentelici*, Gaudr. et Lartet, *Tragoceros amaltheus*, Roth-Wagn., *Cervus*, sp., cf. *Matheronis*, Gerv., *Chalicotherium Baltavárensis*, n.sp., and *Rhinoceros pachygnathus*, Wagn.

REVIEWS.

The Survey of Western Palestine. Memoir on the Physical Geology and Geography of Arabia Petræa, Palestine, and Adjoining Districts, With Special Reference to the Mode of Formation of the Jordan-Arabah Depression and the Dead Sea. By Edward Hull, LL.D., F.R.S., 4to. pp. 145, with Maps and Sections. (Published for the Committee of the Palestine Exploration Fund, 1886.)

IT is now generally recognized that the social and political history of the inhabitants of any country has been largely influenced by its physical characteristics, and that consequently in order to elucidate the one, it is necessary to obtain a thorough knowledge of the other. The Committee of the Palestine Exploration Fund, in its efforts to obtain a complete knowledge of the ancient inhabitants of Palestine, took therefore a wise step in organizing an expedition to this country to study its physical structure. Prof. Hull was chosen as the leader of the expedition, and the present memoir gives the outcome of his observations.

The geological features of Palestine and the adjoining regions have for many years past been pretty well known through the works of several competent investigators, amongst whom may be mentioned Bauerman, Lartet, Milne, Fraas, Ritter, Russegger, and others, and considerable light has also been thrown on its geology by the explorations of Zittel in the Libyan Desert. A very excellent résumé of the existing knowledge of the subject has been given by