

(p. 1) confirms his discovery of a glacial conglomerate, the Pakhuis bed, in the Table Mountain series near Clanwilliam. A thousand feet of sandstones, probably fluviatile, overlies these glacial strata, and the Devonian Bokkeveld beds follow, so that the antiquity of the conglomerate, as compared with the well known Dwyka beds, is put beyond a doubt. Mr. Schwarz (*ibid.*, p. 9) makes a block of gneiss from the volcano of Tristan d'Acunha serve as the text for a dissertation on oceanic islands in general, which he expands further into a treatise on several points in theoretical geology. We confess to a feeling of nightmare, as the one innocent specimen leads us on into enormous fields of speculation, where a considerable area is occupied by the slaying of the slain. When, after twenty-six pages, we reach the question, "What, after all, are volcanoes?" we are tempted to turn over the next eight, to where the description of "the rocks of Tristan d'Acunha" nestles humbly as an appendix. Mr. A. L. du Toit (p. 53) furnishes a serious paper on the forming of the Drakensberg, which summarises many recent observations. Stress is laid on the numerous volcanic necks and lava-flows, which are later than the Cave Sandstone. In some cases, the vents contain no igneous matter, but merely masses of exploded sandstone and shale, in a ground of pulverised grit. Dr. R. Broom re-opens (*ibid.*, p. 73) the whole question of the age and affinities of Tritylodon. Those who were present at the memorable meeting in London in 1884, when Owen laid upon the table what was believed to be the oldest known mammalian skull, will read with some surprise of the doubt which hangs over the locality and horizon of the fossil. Dr. Broom believes that it came, as then stated, from Basuto-land; if so, it is from the Stormberg beds, which he regards as of Lower Jurassic age. As was pointed out in NATURE, vol. lxxii. p. 36, the reference of the reptilian beds of South Africa to the Permian may carry back the Stormberg beds also, and this will make Dr. Broom's defence of Tritylodon as a mammal, and not a reptile, of even greater interest as research goes on.

Dr. A. E. Salter (*Proceedings of the Geologists' Association*, vol. xix. p. 1) produces a large amount of original evidence bearing on the sources of the superficial deposits found above the Jurassic and Cretaceous strata to the south, north-west, and west of London. The area studied is a wide one, and Dr. Salter traces fluvial action in it to an epoch before the deposition of the "Boulder-clay." Among his interesting conclusions, we note that a large amount of "drift" material in the lower basin of the Thames is of southern origin, suggesting that "the southern slope was formerly more extensive than at present," the distribution of such material having been probably aided by earth-movements. In support of this latter contention, it is shown that Lower Greensand chert from the Wealden area occurs 650 feet above the sea at Goring Gap. The Lower Thames Valley is thus held to be of recent geological age (pp. 17, 25, &c.). Other evidence is adduced of the modification of the general direction of drainage by earth-movements since the higher gravels were deposited.

Dr. O. Mann begins, in the *Sitzungsberichte der Gesellschaft Isis* (1904, p. 61), what promises to be a detailed account of the tin-deposits of the Erzgebirge, including a microscopic examination of the veins of quartz, tourmaline, and cassiterite.

Dr. J. W. Spencer further emphasises his views as to submerged river-channels and continental shelves in two notices of the work of Hull and Nansen (*American Geologist*, vol. xxxv. pp. 152 and 222). He provides us also with a useful bibliography of the subject in relation to America (*American Journal of Science*, vol. xix. p. 341).

A preliminary note on the geology of the provinces of Tsang and Ü in Tibet, by H. H. Hayden (*Records, Geol. Survey of India*, vol. xxxiii. p. 160), forms a pleasant outcome of the recent political expedition. Marine Cainozoic beds are found north of the Sikkim border, and there is evidence of a former considerable extension of glaciers northward from the Himalayas. The granite near Lhasa is intrusive in a wide area of Jurassic strata, which have suffered much from crushing and metamorphism. The country does not appear rich in minerals, and even the gems are imported.

G. A. J. C.

## UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—Amongst the list of donations to the university benefaction fund which was recently published by the Vice-Chancellor the following sums may be mentioned:—the Right Hon. Lord Rayleigh, 5000*l.*; the Right Hon. Lord Iveagh (further donation), 1000*l.*; C. J. Heywood, Esq., 100*l.*; J. Lumb, Esq., 100*l.* Besides these a number of smaller sums have been received, some of which are especially allocated to the Huddersfield lectureship in pathology. In addition to these sums the Cambridge University Association has collected more than 6000*l.* towards the fund for the university library. The success of this is due almost entirely to the energy of the registrar. The Schuter scholarship in St. Bartholomew's Hospital has been awarded to Mr. R. B. S. Sewell, late scholar of Christ's College.

DR. T. G. PINCHES has been invited to join the staff of the institute of archaeology of the University of Liverpool as assyriologist.

THE resignation of Mr. H. J. L. Beadnell from his position on the Geological Survey of Egypt is announced. Mr. Beadnell has been connected with the survey since 1896, *i.e.* from the time it was established.

FROM a long list of recent changes we extract the following appointments to professorships at technical colleges:—Prof. M. Distel at Dresden, for descriptive geometry; Mr. Camillo Körner and Prof. K. Zsigmondy at Prague, for machine construction and mathematics respectively; Dr. Leo Grünmach at Berlin; Dr. Gustav Rasch at Aachen; Dr. Clarence Feldmann at Delft, for electro-technics; Dr. A. Tobler at Zurich, for applied electricity; Prof. F. Schilling at Charlottenburg, for geometry. W. König, of Greifswald, has been appointed professor of physics at the University of Giessen, and Dr. Karl Stöchl professor of mathematics and physics at Passau.

THE proposal made by the Emperor of Germany for the temporary interchange of professors with America for a course of lectures is leading to a number of important results. Harvard University has invited Prof. Ostwald, of Leipzig, to give a half year's course, Columbia University has secured lectures from Prof. V. F. Bjerknes, of Stockholm, on "Fields of Force," and from Prof. H. A. Lorentz, of Leyden, on "Extensions of Maxwell's Electromagnetic Theory." Is Great Britain with its usual insularity going to keep aloof from the new movement? It is hardly likely that any proposal from our country would fail to obtain hearty support either in Germany or in America.

## SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, March 9.—"The Rate of Transmission of the Guatemala Earthquake of April 19, 1902." By R. D. Oldham.

This paper contains a complete study of an earthquake from the point of view of the rate of transmission. The time and place of origin are known with a sufficient degree of accuracy, and the shock was of sufficient power to give distinct records even at 160° from the origin. Three phases of wave motion are recognised, the third phase including all those which are distinguished in Japan by the symbols  $P_3$  . . .  $P_3$ , as the author believes that it is doubtful whether there is any real difference in the character of the wave motion, or whether, in these so-called phases, we have not waves of essentially similar nature, but varying rates of propagation. The first and second phases are, however, of distinct character, being mass-waves, differing from each other not only in rate of propagation but in character of wave motion. Of these, the first phase shows a continuous increase in the apparent rate of propagation as the distance from the origin becomes greater, and seems to emerge almost simultaneously at all points more than 145° from the origin. The second phase shows an increase in the apparent rate of propagation up to 100°, and a decrease beyond this; the result is unexpected, but the author, while remarking that it must not be rejected on that