

SCIENTIFIC SERIALS

THE *Geological Magazine* for June (No. 96) opens with an interesting article by Mr. Dyer, on some fossil wood from the Lower Eocene of Herne Bay and the Isle of Thanet, in which the author describes and figures the microscopic structure of the wood of a Dicotyledonous tree, showing the peculiar phenomenon known under the name of "tylose."—Mr. G. Poulett Scrope communicates some notes on the late eruption of Vesuvius.—From Mr. T. McKenny Hughes we have a note entitled "Man in the Crag," in which the writer discusses the interpretation to be given to certain crag sharks' teeth with holes bored in their substance, and sometimes through them from side to side, which have been supposed to be the work of human hands. Mr. Hughes is of opinion that there is no evidence to support this opinion, and that the cavities in question have been produced by boring mollusca.—Mr. A. R. C. Selwyn, Director of the Canadian Geological Survey, notices the occurrence of some fine fossil footprints in a stratum of dark shale belonging to the Carboniferous series of Nova Scotia, and these footprints are described and figured by Principal Dawson. The latter writer states that the principal footprints are of two kinds—a large one resembling the form described by him as *Sauropus sydnerensis*, but having a strong claw on the fifth toe of the hind foot, which has left its mark strongly impressed upon the slab containing the prints, and a smaller impression, sometimes trifid, but occasionally showing the marks of four or five toes. The former (which he names *Sauropus unguifer*) he thinks may have been made by *Baphetes planiceps*; the latter perhaps by a species of *Dendropteron*.—Mr. James Geikie concludes his valuable series of papers on changes of climate during the Glacial epoch, and gives an important tabular view of the Quaternary deposits of the British Islands, with their equivalents in some other countries. Mr. G. H. Kinahan notices the supposed middle gravels of the drift of Ireland. The Rev. O. Fisher describes the occurrence of a worked flint in the brick-earth of Crayford. The Rev. T. G. Bonney has a paper on supposed Ice scratches in Derbyshire, which he regards as slickensides; and Prof. Traquair furnishes a supplementary note on *Phaneropleuron* and *Uronemus*.—Among the notices we may mention an account of the human skeleton lately discovered in a cavern at Mentone.

Revue Scientifique, Nos. 43-50.—No. 43 commences with an article by M. Wolf on the Transit of Venus in 1874, illustrated by five diagrams. Mr. Keith Johnston's paper read before the Royal Society of Edinburgh on the Lake-basin of Eastern Africa is translated. In subsequent numbers we find a continuation of M. Claude Bernard's course of lectures on Animal Heat. A paper presented by M. Ch. Grad to the Geographical Society of Paris on the resources of Alsace. Dr. Günther's paper on *Ceratodus Forsteri* is translated from NATURE. M. Dumas contributes an article on the higher instruction in Agriculture at the Central School of Arts and Manufactures in Paris. M. G. de Morillet on Cave-man; epoch of the Madeleine. M. Granddier contributes a most interesting series of papers on his scientific voyage to Madagascar. Translation of the chapter on the evolution of religious ideas among savages, from Sir John Lubbock's "Origin of Civilisation." Translation of Captain Noble's lecture delivered at the Royal Institution on the Explosive Force of Gunpowder. Report of the meeting of the Congress of German Naturalists and Physicians at Rostock in Sept. 1871, department of Geography and Chemistry.—In No. 44 is a history of the Observatory of Paris. Biography of M. Pictet by Soret. We have besides in each number abstracts of the proceedings of the various scientific societies: the Académie des Sciences, Académie de Médecine, Société de Biologie, Société Chimique, Société Géologique, Société Botanique, Société d'Anthropologie, and of the foreign scientific societies at Vienna, Berlin, London, Palermo, &c.

THE *American Naturalist* for June does not contain so many original articles as usual. The longest is by Dr. R. H. Ward, on "Students' Microscopes," with particulars of the relative advantages offered by the instruments furnished by different makers.—Mr. J. A. Allen continues his "Ornithological Notes from the West," discoursing this time on the birds of Colorado.—There are two interesting shorter articles: by Mr. B. Pickman Mann, on the "White Coffee-leaf Miner" (*Ceniosstoma coffeelani*), so destructive to the coffee culture of Brazil, with a plate; and by Prof. Sanborn Tenney, on the Remarkable Simulation of Death presented by the Hibernation of the Jumping Mouse (*Faculus Hudsonius*) of the Western States.

SOCIETIES AND ACADEMIES

LONDON

Royal Society, June 13.—"Further Experiments on the Effect of Alcohol and Exercise on the Elimination of Nitrogen, and on the Pulse and Temperature of the Body." By E. A. Parkes, F.R.S.

1. The elimination of nitrogen during exercise was unaffected by brandy; and since the experiments led to the same result in the former series during comparative rest, it seems certain that in healthy men on uniform good diet alcohol does not interfere with the disintegration of nitrogenous tissues.

2. The heat of the body, as judged of by the axilla and rectum temperatures, was unaffected by the amount given.

3. The pulse was increased in frequency by four ounces of brandy, and palpitation and breathlessness were brought on by larger doses, to such an extent as to greatly lessen the amount of work the man could do, and to render quick movements impossible. As the effect of labour alone is to augment the strength and frequency of the heart's action, it would appear obviously improper to act on the heart still more by alcohol. In this effect on the heart, and through it on the lungs, is perhaps to be found the explanation of the trainer's rule, which prohibits alcohol during exertion. Whether in a heart exhausted by exertion alcohol would be good or bad is not shown by these experiments; but it can hardly be supposed that to urge a heart which requires rest, as would then be the case, can be proper.

4. It seems clear, from the suddenness with which marked narcotic symptoms came on after the third dose was taken on each day, that the eight hours from 10 to 6 o'clock were not sufficient to get rid of the brandy taken at 10 and 2, and that in fact the body must have been still saturated at 6 o'clock.

The exact amount of brandy which commenced to lessen the labour the man could perform is not shown by these observations, and would require more careful modes of investigation. It was evidently some quantity more than 4 ounces which produced effects sufficiently marked to attract his attention, but I should not wish to affirm that every 4 ounces produced no effect in this direction. The man himself was of opinion that 4 ounces had no influence either way. He was quite certain it did not aid his work, but he could not see that it injured it. The second 4 ounces decidedly produced a bad effect.

5. That neither exercise on water nor on alcohol produced any effect on the phosphoric acid of the urine. The result is in accordance with that of the experiments recorded in No. 89 of the "Proceedings of the Royal Society."

The effect on the free acidity of the urine was also inappreciable. The free acidity may have been a little increased in the brandy period, but the change is so slight as to fall within the limits of normal variation.

The effect on the chlorine was not certain, as its ingress was not sufficiently constant.

As the action of alcohol in dietetic doses on the elimination of nitrogen and on the bodily temperature is so entirely negative, it seems reasonable to doubt if alcohol can have the depressing effect on the excretion of pulmonary carbon which is commonly attributed to it. It can hardly depress, one would think, the metamorphosis of tissues, or substances furnishing carbon, without affecting either the changes of the nitrogenous structures or bodily heat. It seems most important that fresh experiments should be made with respect to its effect on carbon elimination, as without a perfect knowledge on that point the use of alcohol as an article of diet in health cannot be fairly discussed.

Royal Geographical Society, June 10.—Major-General Sir Henry C. Rawlinson, president, in the chair. "On the New Hebrides and Santa Cruz Islands in the South-west Pacific," by Lieut. A. H. Markham. The paper described the topography, volcanic phenomena, and ethnology of these groups of islands, visited by him during the cruise of H.M.S. *Rosario*, under his command, between October 1871, and February 1872. He gave a history of the progress of discovery in this part of the Pacific, commencing from the voyage of Mendaña in 1568. All the various expeditions for three centuries did little more than sail through the groups and have deadly encounters with the natives. The islands lie in N.N.W. and S.S.E. direction, and contain some of the most continuously active volcanoes on the surface of the globe. The volcanic cones may be traced in a linear direction for 600 miles. The islands are remarkable for the absence of coral reefs around them, which is attributed by Dana to the destruction of the zoophytes by the heat produced by submarine