proceedings there was a discussion on 'Alternation of Generations,' opened by Dr. Lang, of Glasgow University. Dr. F. F. Blackman, of Cambridge, gave a lecture of a semi-popular character on the 'Lungs of Plants.'

The Friday evening lecture was by Professor Sollas, F.R.S., on 'Funafuti—the Study of a Coral Island,' and the Monday evening lecture by Mr. Herbert Jackson on 'Phosphorescence.' The lecture to workingmen on Saturday evening was by Professor Poulton, F.R.S., on the 'Ways in which Animals Warn their Enemies and Signal to their Friends.'

The report of the Council of the Association to the General Committee nominated Professor Rücker as trustee in the room of the late Lord Playfair, the other trustees being Lord Rayleigh and Sir John Lubbock. The establishment of experimental agricultural stations, of a hydrographic survey of Canada, the adoption of civil reckoning for astronomical purposes and the establishment of a Bureau of Ethnology under the auspices of the British Museum were reported upon.

In accordance with the regulations, the retiring members of the Council are Professor Edgeworth, Mr. Victor Horsley, Mr. G. J. Symons and Professor W. Ramsay. The Council recommend the re-election of the other ordinary members of the Council, with the addition of Dr. W. H. Gaskell, F.R.S.; Dr. J. Scott Keltie; Major P. A. MacMahon, F.R.S.; Mr. L. L. Price and Professor W. A. Tilden, F.R.S. An invitation to hold the annual meeting of the Association in the year 1900 at Bradford, and an invitation from Cork for a future meeting, were received.

Professor Rücker, the General Treasurer, showed in his report for 1897–98 that the receipts amounted to £4,623 and the expenditures to £2,920, leaving in hand a balance of £1,703. The investments amounted to £11,137.

NOTES ON INORGANIC CHEMISTRY.

Two years ago Moissan described a carbid of tungsten of the formula W_2C, prepared by heating the metal or its oxid with excess of carbon in the electric furnace. In a recent *Comptes Rendus* P. Williams describes a new carbid of tungsten which has the formula WC. It is formed by heating a mixture of tungstic acid and carbon with iron in an electric furnace or even by means of a powerful forge. The carbid differs from that of Moissan by being unattacked by chlorin even at a red heat. It is harder than quartz and is extremely difficult to decompose, water and hydrochloric acid having no effect upon it at high temperatures; it is little affected by other acids. In these respects it differs very materially from most of the known carbids.

To the last *Zeitschrift für anorganische Chemie* A. Piccini contributes a study of the alums of titanium, formed by reduction of titanic acid by the electric current in the presence of sulfuric acid and an alkaline sulfate. Piccini calls particular attention to the advantage of using cesium and rubidium salts in forming alums difficult to crystallize, owing to the comparative insolubility of cesium and rubidium alums. A very similar study was carried out at Washington and Lee University last year by Mr. E. A. O'Neal, and an account of it presented by me to the Chemical Section of the American Association at the Boston meeting. The conclusions reached were like those of Piccini. The cesium and rubidium alums of iron and cobalt were described in our paper.

As an appendix to his paper Piccini describes the cesium manganese alum formed electrolytically. Potassium and ammonium manganese alums were described by Mitscherlich. Repeated efforts have been made in the Washington and Lee Laboratory to form them according to Mitscherlich's description and in other ways, but without

success. The same has been the experience of other workers, notably Franke and Christensen. The latter, indeed, bases an argument as to the chemical character of manganese on the non-existence of manganese alums. In working with manganese, O'Neal, though using apparatus similar to that just described by Piccini, was not so fortunate as to obtain definitely a manganese alum, but now that it has been obtained by Piccini there would seem to be no doubt of the existence of trivalent manganese in salts of oxy-acids.

The cause of color in the sapphire has been ascribed to various substances, but the weight of authority seems to favor the presence of chromium, probably in the form of a lower oxid. Deville and Debray, who carried out many experiments on the subject, are quite positive that chromium is present. The effort has been made by Andre Duboin to form chromium glasses of a blue tint, and his results are described in the *Chemical News*. Mixtures of silica, alumina, lime and chromate of potassium were heated to redness for several hours in a crucible brasqued with charcoal. With this mixture only a dull blue tint was obtained. When, however, the lime was wholly or partially replaced by baryta a fine blue color resulted. Jena glass and other boric-acid glasses were also colored blue by chromium. Calcium carbid, used instead of charcoal as a reducing agent, gave blues, but less fine. Of common glasses, soda glass gave only a green and Bohemian glass a bluish violet, but only in the vicinity of the layer of charcoal. It would, therefore, seem to be quite possible that the blue of sapphire is a lower oxid of chromium.

J. L. H.

CURRENT NOTES ON ANTHROPOLOGY.

THE TRENTON ICE MAN.

The meeting of the Anthropological Section in Boston was noteworthy for the absence of palæolithic man. He did not attend in person or by representative. Probably he modestly felt that he had been too much in evidence at Toronto. But in the last number of *L'Anthropologie* (No. 3) the Marquis de Nadaillac, supported by some new material furnished by Professor Putnam, says a good word for his quondam existence at Trenton.

This new evidence is the exhumation by Mr. Volk of argillite chips below the ferruginous layer in the sands. This proves, reports the Marquis, that the sands above and below that layer are of the same age, *and both glacial.*

If I read the testimony printed in Science aright, it proved, indeed, that both were of the same character, and that both were *eolian* and distinctly long *post-glacial.*

ANCIENT MEXICAN MIGRATIONS.

In a recently published quarto of ninety-two pages the Count de Charencey, well known for his many valuable contributions to American linguistics, presents a careful study of the statements in Sahagun's History concerning the traditional migrations of the Aztecs and Toltecs. He compares the old monk's account, which he no doubt justly assumes was the popular tradition of the time, with those of other writers, such as Veitia, Tezozomoc, Ixtlilxochitl, and also with the renderings of the Codices.

The result is a critical and valuable contribution to the subject. He does not credit the interpretation of those who trace the migrations across continents, but rather holds that Sinaloa or Jalisco limited the horizon of the tale-tellers; though somewhat inconsistently, he thinks that some of the narratives had an Asiatic origin (p. 34). (*L'Historien Sahagun et les Migrations Mexicaines.* Alençon. A. Herpin, 1898.)

THE COLOR OF THE AMERICAN INDIAN.

In the *Zeitschrift für Ethnologie*, 1898, Heft 2, Dr. Karl E. Ranke has an article on the