

magnetic portions agree closely with the Barot group.—H. F. Collins: On some crystallised sulphates from the province of Huelva, Spain. Analyses are given of pisanite, chalcantite, coquimbite, copiapite, voltaite, roemerite, etc., from various pyrites mines. Experiments were made to determine the range of miscibility of iron sulphate and copper sulphate in mixed crystals of pisanite ( $R''SO_4 \cdot 7H_2O$ ) and chalcantite ( $R''SO_4 \cdot 5H_2O$ ).—H. Hilton: The graphical construction of the constants of a shear. A graphical construction, based on the gnomonic projection, is given for obtaining the two circular planes of a shear, when the initial and final positions of two crystal-poles or edges are known.—H. Hilton: A note on crystallographic notation. A notation is suggested for the 32 crystal-classes and the 230 groups of movements, which is easy to write and print, and is based on the fundamental principles of structure-theory.—A. F. Hallimond and E. G. Radley: On glauconite from the Greensand near Lewes, Sussex; the constitution of glauconite. A boring through 325 feet of gault at Iford Manor yielded glauconite sand. A discussion of the analysis of this material and of some previously published analyses leads to the formula  $R_2O \cdot (4R_2O_3, RO) \cdot 10SiO_2 \cdot nH_2O$ .—L. J. Spencer: Ninth list of new mineral names.

## DUBLIN.

Royal Irish Academy, June 12.—Prof. Sydney Young, president, in the chair.—G. H. Carpenter and Miss K. C. J. Phillips: The Collembola of Spitsbergen and Bear Island. The collections made by the Oxford University Expedition of 1921 include ten species of Collembola, one of which—*Folsomia sexoculata*—is an addition to the known fauna of Spitsbergen, while another—an *Isotoma* closely allied to the common *I. viridis*—taken on Bear Island is new to science. Twenty species of these insects have now been recorded from Spitsbergen; seven of these have been found also on Bear Island, which possesses, in addition, four species not yet detected on Spitsbergen. Sixteen members of this arctic fauna are represented in Great Britain and Ireland, while thirteen occur in Greenland and North America. Such distributional facts suggest paths of migration to the north of the Atlantic.

## EDINBURGH.

Royal Society, June 19.—Prof. F. O. Bower, president, in the chair.—J. Stephenson: On the pharyngeal glands of the Microdrili (Oligochaeta). The chromophil cells in the anterior segments of the body of the Microdrili have, contrary to the usual view, no direct communication with the alimentary canal, and are not cells of the alimentary lining which have retreated from the epithelial layer while still retaining their connexion with it by means of a long thin neck which acts as a ductule. They are mesoblastic in origin; in the enchytraeids (where they form the septal glands) their secretion reaches the pharynx by percolating along special strands of tissue; in all other cases special channels are wanting and the products of the cells simply mix with the coelomic fluid; their secretion is thus an internal secretion.—W. Peddie: On self light, fatigue, inhibition, and recurrent visual images. Formal development of the trichromatic hypothesis is made beyond the stage at which it was left at the time of Helmholtz's death. Phenomena of contrast and after images, steadily decaying or oscillatory, and phenomena of fatigue and inhibition, are treated. The trichromatic theory of colour vision is founded securely on fact.—R. A. Fisher: On the dominance ratio. The "dominance ratio" upon which the relationship correlations depend, when inheritance follows the Mendelian scheme, has a numerical value

for certain human measurements, very near to one-third. This value presents a difficulty to the Mendelian interpretation of the human relationship correlations, in that it could occur only if the frequency ratio of the several factors were unsymmetrically distributed, in such a way that the dominant phase was commonly more numerous than the recessive phase. When, however, the effects of selection are taken into account the distribution of the frequency ratio may be calculated; the distribution obtained is unsymmetrical in the manner required, and the dominance ratio is exactly one-third. The distribution produced by selection also explains the occurrence among the non-recessives of the harmful character sometimes brought out by inbreeding.—A. P. Laurie: Chemical combination and Sir Alfred Ewing's magnetic atom. Sir Alfred Ewing's paper on hysteresis of iron has profound significance for the chemist, for it shows that it is possible to devise an atom of fixed and rotating magnets free from polarity, and that on the approach of another atom the rotating unit can be swung into an unstable position and then fall into a new stable position with evolution of heat. If we assume the electrons to be moving in the tiny orbits but arranged in space round a positive nucleus, the results obtained by Sir Alfred Ewing can be applied to chemical combination, ionisation, and catalytic action.

## Official Publications Received.

Royal Botanic Gardens, Kew. Bulletin of Miscellaneous Information, 1921. Pp. 4+415+42. (London: H.M. Stationery Office.) 10s. net.

Department of the Interior: United States Geological Survey. Water-Supply Paper 487: The Arkansas River Flood of June 3-5, 1921. By R. Follansbee and E. E. Jones. Pp. 44. Water-Supply Paper 477: Surface Water Supply of the United States, 1918. Part 7: Lower Mississippi River Basin. Pp. 38. (Washington: Government Printing Office.)

Memoirs of the Department of Agriculture in India. Botanical Series, Vol. 11, No. 7: Correlation of Colour Characters in Rice. By G. P. Hector. Pp. 153-183. (Calcutta: Thacker, Spink and Co.; London: Thacker and Co.) 1.4 rupees; 1s. 8d.

Smithsonian Miscellaneous Collections, Vol. 72, No. 15: Explorations and Field-Work of the Smithsonian Institution in 1921. (Publication 2669.) Pp. 128. (Washington: Smithsonian Institution.)

Survey of India. General Report, 1920-21, from 1st October 1920 to 30th September 1921. Pp. vi+48+8 maps. (Calcutta: Surveyor-General's Office.) 2 rupees; 4s.

Botanical Survey of South Africa. Memoir No. 4: A Guide to Botanical Survey Work. Pp. 89. (Pretoria: Department of Agriculture.) 1s. 6d.

Southern Rhodesia. Geological Survey Bulletin No. 8: (1) The Geology of the Diamond-bearing Gravels of the Somabula Forest, by A. M. Macgregor, with Notes by the late A. E. V. Zealley; (2) On a Collection of Fossil Plants from Southern Rhodesia, by Dr. A. C. Seward and R. E. Holtum. Pp. 48+12 plates. (Salisbury: Geological Survey.)

Board of Scientific Advice for India. Annual Report for the Year 1920-21. Pp. vii+64. (Calcutta: Government Printing Office.) 12 annas.

Imperial Department of Agriculture for the West Indies. Report on the Agricultural Department, Grenada, January-December 1921. Pp. iv+15. (Barbados.) 6d.

Imperial Department of Agriculture for the West Indies. Report on the Agricultural Department, Montserrat, 1920-21. Pp. iii+33. (Barbados.) 6d.

## Diary of Societies.

## FRIDAY, JULY 14.

INTERNATIONAL NEO-MALTHUSIAN AND BIRTH CONTROL CONFERENCE (at Kingsway Hall, Kingsway, W.C.2), at 10.—Dr. C. K. Millard: Birth Control and the Medical Profession.—Dr. A. Nyström: The Necessity for abolishing Laws against Preventive Measures.—Dr. H. Rohleder: Neo-Malthusianism from the Medical Standpoint.—N. Haire: Sterilisation of the Unfit.—Dr. D. R. Hooker: Effect of X-rays upon Reproduction in the Rat.

INTERNATIONAL CONFERENCE OF SETTLEMENTS (at Toynbee Hall, 28 Commercial Street, E.1), at 10 and 2.15.—A. Greenwood, Miss E. M. McDowell, F. J. Marquis, J. J. Mallon, and others: Settlements and Industry.

## SATURDAY, JULY 15.

INTERNATIONAL CONFERENCE OF SETTLEMENTS (at Toynbee Hall, 28 Commercial Street, E.1), at 10.—H. R. Aldridge, T. Adams, Capt. Reiss, Rev. D. MacFadyen, and others: The Relation of Settlements to Health and Housing Reform.

## WEDNESDAY, JULY 19.

FELLOWSHIP OF MEDICINE (at 1 Wimpole Street, W.1), at 5.—V. Bonney: Myomectomy as opposed to Hysterectomy.