

SOCIETIES AND ACADEMIES.

LONDON.

Linnean Society, November 30.—Sir David Prain, president, in the chair.—J. Small: The floral anatomy of some Compositæ. The vascular supply of various bilabiate or ray-florets was discussed, and it was shown that in these the vascular supply varies more or less with the size of the anterior lip of the corolla. The floral anatomy of *Senecio vulgaris* was described in detail. The corolla in the Cichoriæ has a very constant type of vascular supply, similar to *Senecio*, but with the posterior upper peripheral bundle dividing into three to supply the edges of the ligule and the posterior stamen. *Taraxacum officinale* is described in detail. The ray-florets of *Calendula officinalis* and *Tussilago Farfara* show a very simple type of anatomy. The peculiar homogeneity within itself of the Cichoriæ and its isolation from the rest of the Compositæ are extended to the floral anatomy.—J. Small: Wind dispersal apparatus. The purpose of the apparatus is to determine the exact velocity of the wind required to blow the fruits of the Compositæ a sufficient distance to secure proper dispersal. It has been found that the following minimum winds are necessary for the dispersal of the fruits of the species named below:—*Senecio vulgaris*—1.6 m.p.h.= a light air; *Senecio vulgaris*, var. *radiatus erectus*—1.89 m.p.h.= a light breeze; *Ursinia speciosa*—2.6 to 2.94 m.p.h.= a light to gentle breeze; *Taraxacum officinale*—1.5 m.p.h.= a light air; *Tussilago Farfara*—0.62 to 0.65 m.p.h.= less than a light air; *Centaurea imperialis*—7.7 m.p.h.= a moderate breeze; *Leontopodium alpinum*—4.78 m.p.h.= a gentle breeze.—T. A. Dymes: A note on the seed of *Iris Pseudacorus*, Linn. There are two forms of seed in each capsule:—(1) Flat seeds in the straight portion; (2) more or less rounded seeds at the curved top and bottom of the capsule. The seeds drop or are blown from the placenta after the capsule dehisces. They lie over until the late spring. Those that fall on to the mud and remain there appear to perish from decay. The loose, light testa enables the seeds to float for a period of at least four months. Seeds that have not sunk germinate on or near the surface of the water in the latter half of May. The flat seeds germinate before the rounded. The cotyledon remains within the endosperm. The radicle elongates and branches freely; it does not curve downwards, but grows along the surface of the water. Adventitious roots are formed close up against the seed, and they also branch freely. The unbranched upper portion of the radicle secretes chlorophyll. The plumule grows slowly; it, too, lies along the surface of the water. When the root system is well developed the leaves begin to curve upwards and the seedling gradually assumes a vertical position, after which the leaves grow much more rapidly. The fate of those seeds, if any, that sink before germination has not yet been determined. The dispersal agents are, in the first instance, the wind, and afterwards water. Even on a slow stream the seeds may drift many miles during the four months of the floating period.

Aristotelian Society, December 4.—Dr. H. Wildon Carr, president, in the chair.—Dr. B. Bosanquet: The function of the State in promoting the unity of mankind. The essence of the Greek and German theory of the State has been mistaken by recent critics, although it has been rightly explained by English thinkers. The so-called absolutism of the State is merely a caricature of the unique relation between a man and the community with which his will is united, especially in so far as it provides an adjustment of all practical relations. Essentially, according to the theory, as having the same task in different terr-

itories, States are co-operative. Their function is the organisation of rights. The State, then, is a moral being with a conscience, and when its conscience is perverted it will fight for the wrong as its right. It is true that the moral position of the State is not comparable to that of a private individual, and this view is described as absolutism from unintelligence of what constitutes a moral situation and duty. As to wider loyalties and units than that of the nation-State, there is no being like the "humanity" of the Comtists, and humanity as a quality belongs chiefly to exceptional communities. Wider communities than the nation-State may be possible, but only if they fulfil the same condition of unity—namely, a general will. Without this, all leagues, federations, etc., are mere force and dangerous, and with it, scarcely necessary. The true outlook for peace is to the removal of causes of discontent by organisation at home, especially by freedom of human intercourse and absence of privilege. World-wide human relations are no reason for world-wide political units. A system of States, each well organised at home, might be just as peaceful as, and much more valuable than, a world-State.

PARIS.

Academy of Sciences, November 20.—M. Camille Jordan in the chair.—C. Richet: The alternating use of antiseptics. It has been shown by the author in earlier communications that micro-organisms can acquire immunity towards certain antiseptics, and this immunity can be transmitted. In the treatment of wounds by antiseptics this fact should be taken into account, and the conclusion is drawn that in the treatment of a wound the same antiseptic should never be used on two consecutive days.—P. Vuillemin: The supposed heterotaxy of nasturtium flowers.—E. Borel: The approximation of incommensurable numbers by rational numbers.—G. Julia: Some properties of the Fuchsian group formed from modular substitutions which do not change an indefinite Hermite form.—E. Kogbetliantz: Series of ultra-spherical functions.—G. Koenigs: Properties of the second order of plane movements with two parameters.—H. Vergne: A method of calculating perturbations of a known movement.—L. Roy: The problem of the wall in electrodynamics.—M. Russo: Geological notes on the region of Bou Laouane (western Morocco).—C. Galaine and C. Houbert: The Hermelles reefs and the drying up of the bay of Mont Saint-Michel.—G. Lardennois and J. Baumel: Gangrenous infection of wounds by anaerobic germs.—H. Bierry: The detection of tubercle bacilli in expectorations and various animal fluids. Isolation and detection of elastic fibres. The technique for sputa consists in the addition of very dilute alkali and sodium hypochlorite at 35°–40° C. The liquid is just rendered acid with acetic acid, and the resulting precipitate, which contains the tubercle bacilli and elastic fibres, separated by the centrifuge. Details are given of the modifications suitable for the examination of blood, pleural secretions, and cephalo-rachidian fluid.

BOOKS RECEIVED.

Opere Matematiche. By L. Cremona. Tomo iii. Pp. xxii+520. (Milano: U. Hoepli.) 30 lire.

A Bibliography of British Ornithology. By W. H. Mullens and H. Kirke Swann. Part iv. (London: Macmillan and Co., Ltd.) 6s. net.

The Earliest Voyages Round the World, 1519–1617. Edited by P. F. Alexander. Pp. xxiii+216. (Cambridge: At the University Press.) 3s. net.

The Scientist's Reference Book and Diary, 1917. Pp. 134+Memoranda. (Manchester: J. Woolley, Sons, and Co., Ltd.) 2s. 6d.