

of the volume, are two complete 35-year tables of sunshine and wind, and 26-year continuations (1890 to 1915) of eight other tables. It is rather unsatisfactory to find upon investigation that the monthly maximum and minimum temperatures thus tabulated do not, as might be reasonably expected, come from the eye-readings of the maximum and minimum thermometers, but from the thermograph registers. Discordances ranging up to rather more than five degrees suggest that the Radcliffe thermograph is no more free from error than others, and no shadow of excuse is made for thus regarding it as a standard instrument.

But the main interest of the volume is, like that of the sandwich, in the middle section, which is devoted to a complete series of twelve years' daily readings of a set of five platinum resistance thermometers sunk in the ground at depths ranging from 6 in. to 10 ft. Dr. Rambaut has successfully resisted the temptation to extend the series indefinitely, and twelve years is very likely quite long enough for this particular purpose. Full accounts are given of the difficulties encountered and the precautions adopted, and a comparison is made of the resulting permeation coefficient with those obtained at Edinburgh and Greenwich.

W. W. B.

The Involuntary Nervous System. By Dr. W. H. Gaskell. Pp. ix+178. (London: Longmans, Green and Co., 1916.) Price 6s. net. It would be difficult to find anything in the literature of physiology quite comparable to this work of Gaskell's. The book is of great scientific value, and at the same time an unintended record of the distinctive qualities of a valuable section of English life and thought.

Nowhere in this volume is there the slightest chance of contact with either "superman" or "missionary," but everywhere a gentle man is busy quietly recounting the important business of a valuable lifetime, and setting his intellectual affairs in order so that they may be found clearly expressed and arranged for the advantage of knowledge. His sustained effort has been completely successful, and his son's valuable aid, which in places he takes quiet pains to put clearly on record, has enabled this posthumous publication of a small volume of outstanding value.

No student of physiology will neglect to possess a work in which the meaning of the outlying streamers of the central nervous system is defined every whit as clearly as it was undoubtedly understood by this master of the subject. Nor, probably, will many morphologists afford to be without this rare testament to the value of their science written by one whom time may well reveal to them as also "master."

The opening chapter has in an odd way—pity that this was not seen and corrected—absorbed for itself the title that should more properly have been given to the book as a whole, "History of the Involuntary Nervous System." The work is, in fact, such a history, viewed clearly most persistently elucidated, and deftly explained.

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LETTERS TO THE EDITOR.

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A Further Probable Case of Sex-Limited Transmission in the Lepidoptera.

In pursuit of my investigations of the past few years in hybridising Lepidoptera, two of the species chosen for experiments were *Oporabia dilutata* and *O. autumnata*. Both possible crosses between these two forms were made and fertile ova secured. These ova, as in the pure species, remained as such over the winter, and hatched in the spring of the following year. The larvæ fed up rapidly and well, with but little loss, and pupated in May and June.

Here, however, an abnormality stepped in; the females of the *autumnata* ♀ × *dilutata* ♂ cross emerged a few days after pupation. Dissection revealed that they lacked ovaries or possessed rudimentary ones. This, nevertheless, was not the most important feature. Instead of being distinctly intermediate between the original species, as were the males which emerged later, they were of the paternal type—i.e. they displayed the specific characters of *dilutata* ♀ only.

In October, accompanied by the males of the former hybrid, both sexes of the reciprocal cross *dilutata* ♀ × *autumnata* ♂ made their appearance; again the males were clearly intermediate, but the females displayed paternal characters only, being exactly of the *autumnata* type.

I had some suspicion that the matter was a case of sex-limited inheritance, but would not form any definite opinion as the result was seriously complicated by abnormal behaviour in the inheritance of the melanism which characterises all Middlesbrough races of *dilutata* and that race of *autumnata* used in the experiment. Preparations were therefore made for further trials; to nullify any possible interaction of the melanism a stock of pupæ from a local, non-melanic, birch-feeding microgene of *autumnata* was amassed. Local material of a similar form of *dilutata* not being available, ova of white *dilutata* from Enniskillen, Ireland, were obtained and reared.

Utilising these stocks, once more I made the crosses and secured precisely the same results. In both cases the hybrid females were manifestly of paternal type only.

To confirm and analyse these facts a further set of crosses, both of the hybrids (when possible) *inter se*, and back with the parents, has been made, the outcome of which will be detailed later.

Still, there can be but little doubt that these observations show that, in these two species, as in *Abraxas grossulariata*, the female passes on the typical characters of her species to her male offspring only.

J. W. H. HARRISON.

181 Abingdon Road, Middlesbrough, November 3.

Scarcity of Wasps.

THE distribution of wasps this summer would seem to have been rather local, for this village is less than two miles from Christon, where Mr. St. George Gray was plagued with wasps (see NATURE, November 16, p. 209), yet here they have been very scarce, small, and apparently starvelings, though a few full-sized queens have been caught recently. Christon lies on a sunny slope, and this village is at the foot of the north side of a hill, yet that could not account for all the difference, for we have had more wasps than enough in recent years.

C. S. TAYLOR.

Banwell Vicarage, Somerset, November 17.