

always been that Venus in March of that year was invisible, while she ought to be a morning star in Pisces, which she was twelve months later. But it was pointed out six years ago that Dante very likely took the position of Venus from a perpetual Almanac compiled by a Jew. In the Hebrew original all the cycles begin in 1301, while in the Latin translations they begin in 1300, except those of Venus and the sun, which begin with 1301. It is therefore quite possible that Dante took the places of Venus for 1301, believing them to be for 1300, and Angelitti's tempting theory must therefore be abandoned, to the regret of the author of the present work, in which we cordially join.

J. L. E. D.

*FOUNDATIONS OF SYSTEMATIC BIOLOGY.*

*Abstammungslehre—Systematik—Paläontologie—Biogeographie.* Unter Redaktion von R. Hertwig und R. v. Wettstein. Pp. ix+620. (Leipzig and Berlin: B. G. Teubner, 1914.) Price 12 marks.

“TO no nation, except the German,” says General von Bernhardt, “has it been given to enjoy in its inner self that which is given to mankind as a whole. We often see in other nations a greater intensity of specialised ability, but never the same capacity for generalisation and absorption.” That is the German way of expressing the German capacity for organisation and compilation, which, when it produces works such as that of which the present volume is a portion, performs a valuable service to the intellectual world. The whole work, “Die Kultur der Gegenwart,” purports to be a systematic survey of modern culture on a historical basis, portraying the fundamental achievements of the diverse centres of civilisation in their relation to the whole as it exists now or promises to be developed hereafter. The division allotted to the organic natural sciences comprises four volumes, of which this is logically the last. Volume ii., the only other as yet issued, was reviewed by us in April, 1914 (vol. xciii., p. 107).

In view of the claim mentioned above, it is interesting to note that the contributors are not all German, for besides R. Hertwig, L. Plate, A. Brauer, A. Engler, and K. Heider, there are the Austrians, R. v. Wettstein and O. Abel, the Dutchman, W. J. Jongmans, and the Dane, J. E. V. Boas. It is, moreover, pleasing to observe that these authorities do not neglect the workers in other countries, but, by the lists of leading books which they furnish, prove that in this department, at all events, all nations take their share, and that the fellow-countrymen of

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Darwin have no reason to feel ashamed. The truth is that, though in art there must be nationality, science has become absolutely international: the observation made by a Dane to-day is checked by a Japanese to-morrow, and an American then carries it a step further.

It would not be possible, even in several pages, to give a critical summary of what is itself a summary, and an admirably critical one, of the whole world's work in that which, from a theoretical point of view, is the most important branch of biology. Few men could have written a more lucid, a more just, or a more thought-compelling account of the doctrine of descent than Prof. Richard Hertwig. “It is,” he concludes, “the only possible theory . . . and the one that has given the weightiest impulse to this science. The crowd of exact investigations that has resulted from Darwin's writings may seem to have gone beyond or even away from him; but these last years show an unmistakable return to the views of the great British naturalist.”

The articles on geographical distribution by Profs. Brauer and Engler, on palæontology by Profs. Abel and Jongmans, on the classification and phylogeny of plants by Prof. von Wettstein, and on the phylogenies of invertebrate and vertebrate animals by Profs. Heider and Boas, may be open to criticism in details, but afford on the whole admirable digests, made interesting by the fact that the distinguished authors have taken their own lines on disputed questions. It is, however, the chapter by Prof. L. Plate on the principles of taxonomy with special reference to the classification of animals that fills the most urgently felt want. The mere description of new species, as carried out by too many writers, is far from being good systematic work, or even scientific work at all. But the true systematist has perpetually to exercise his mind with the most complicated problems of his science, cannot venture to eschew metaphysics, and has even to rival the poet in his use of the imagination. All systematists who would understand their own task should read Dr. Plate's illuminating review of modern methods and ideas. F. A. B.

*SCIENCE, METAPHYSICS, AND EDUCATION.*

- (1) *The Anthropology of the Greeks.* By E. E. Sikes. Pp. xii+112. (London: David Nutt, 1914.) Price 5s. net.
- (2) *The Mechanistic Principle and the Non-mechanical.* By Paul Carus. Pp. 125. (Chicago and London: The Open Court Publishing Company, 1913.) Price 4s. net.
- (3) *Transformisme et Créationisme.* By Prof.