

ment of himself as the director of the Meteorological Service of India. We now look forward with the greatest interest to the promised "Manual of Indian Climatology," which, as an addition to the "Atlas," and especially in the interest of the general public, is indispensable. Our knowledge of the meteorology of India has now extended so far beyond the region of the instructive and concise work of Henry F. Blanford, "Climate and Weather of India" (London, 1889), that a new description on a broader foundation appears to us an absolute necessity.

J. HANN.

#### A NEW TREATISE ON EVOLUTION.

*Einführung in die Deszendenztheorie. Sechs Vorträge.* By Prof. Karl Camillo Schneider. Pp. viii+147. (Jena: Gustav Fischer, 1906.) Price 4 marks.

THIS is a book with many good points. It gives a fairly complete account of current opinion on the subject of evolution, including the most recent views concerning the nature of variation and the laws of inheritance. Most of the facts cited are sufficiently familiar, but they are explained with unusual lucidity and conciseness. Where authorities differ, their conclusions are as a rule impartially stated; and when, as often happens, the author's own judgment is at fault, he will generally be found to have supplied his readers with material for forming a sounder opinion. The illustrations are copious and well-selected, and the book as a whole will serve as an adequate introduction to modern evolutionary theory.

So far as argument goes, the most effective part of the work is its criticism of Lamarckism, from which, however, we miss any mention of Prof. Ray Lankester's convincing demonstration of the self-contradictory nature of Lamarck's "laws." The author appears to attach far too much importance to the "mutations" of de Vries, and regards as well-established certain conclusions on this head which recent researches have seriously shaken. His objections to the part assigned to selection by Darwin and his followers are singularly feeble, and we are not surprised to find that his knowledge of many of the most important facts bearing on this branch of the subject is imperfect. His account of mimicry, for instance, is quite out of date; and the vast mass of highly significant material that has been accumulated under the influence of Fritz Müller's theory of common warning colours is almost entirely ignored. An error, or rather a series of errors, which unfortunately found their way into Weismann's latest work (as pointed out in NATURE, vol. lxxii., 1905, p. 201), reappears in the coloured plate appended to the present treatise. As these errors remain uncorrected in the English translation of Weismann, and have since been copied into several other publications in Germany and America, it may be well to direct attention to them here in detail.

In the plate referred to (Taf. II.), Fig. 1 represents, not, as stated, the male of *Papilio merope*, but the female of the north-east African form, *P. antinorii*. Figs. 3 and 4 are not "forms of *P. merope* from

South Africa," Fig. 3 being the *hippocoön* form of the female of *P. tibullus*, a race of *P. dardanus* which occurs in East Africa from Mombasa to Delagoa Bay, and Fig. 4 representing the female of *P. echerioides*, a species quite distinct from the *dardanus* or *merope* group. The butterfly represented in Fig. 6 is not, as stated, *Amauris niavius* from South Africa (the form usually called *dominicanus*), but belongs to the West African race of the species. Finally, in Fig. 7 is shown, not the Danaine *Amauris echeria*, "the immune model of Fig. 4," but another *Papilio*, viz. the *cenea* form of *P. dardanus* ♀, the mimic having been here mistaken for its model. These mistakes are the less excusable in that several of the forms in question have been carefully discussed and figured by Prof. Poulton.

The great difficulty to be faced by those who, like the author of the present treatise, seek to minimise the influence of selection, is the universal prevalence of adaptation. We accordingly turned with some interest to the passages in which he gives his own solution of the problem. We must confess to a feeling of disappointment. The author makes no serious effort to grapple with the question; he appears to be satisfied with vague phrases about "extra-personal correlation" which explain nothing, while his dictum—emphasised by spaced type—"Artbildung ist einerseits Vervollkommnung, andererseits Anpassung," when taken with its context, seems to savour of the heresy of orthogenesis. However, he claims for his book that it is only an introduction, not an attempt at explanation, and in both parts of the claim we think he is justified.

F. A. D.

#### OUR COAL RESOURCES.

*The Coal Question.* By the late W. Stanley Jevons. Edited by A. W. Flux. Third edition. Pp. 1+467. (London: Macmillan and Co., Ltd., 1906.) Price 10s. net.

THE first edition of Jevons's lucid and exhaustive work was published in 1865 and the second in 1866, and since that date it has constantly been referred to, but almost always misunderstood. The Royal Commissions of 1866 and 1901 both shared the general misunderstanding. This is certainly surprising in view of the care the author took to make his position clear. He argued that within a century the want of coal would seriously check our material progress if the rate of progress in consumption shown at the time at which he wrote were maintained.

Since Jevons's tragic death in 1882 (NATURE, vol. xxvi., p. 420), no one has pointed out the superiority of his logical method over that of his many critics. It is, therefore, a matter for congratulation that Prof. Flux, of McGill University, who was formerly Stanley Jevons professor in the Owens College, Manchester, has edited a third edition, in which he has wisely preserved the text unaltered so far as might conveniently be done, while making such additions as were necessary to embody the knowledge accumulated in the forty years since its original issue. The most important change in the general situation since then is the development of the coal resources of Germany.