

tion. For in place of instructing the angler in the art of alluring river-fish of all kinds, this volume, as, indeed, is indicated in its supplementary title, tells him only how to capture the wily trout. Since, however, this is, *par excellence*, the sporting fish of English rivers, there may be some justification for the designation. The author has already published a more ambitious work on trout-fishing, which has, we believe, been well received by anglers; but that volume is intended mainly for the benefit of those who are already experts in the gentle art, whereas in the one now before us it is sought to instruct the beginner in the elementary principles of trout-fishing.

Mr. Hodgson is evidently one of those who believe that salvation is to be found otherwise than by "dry-fly" fishing; and a considerable portion of his work is accordingly devoted to other methods, inclusive of spinning with minnows, and luring with the luscious wasp-grub. That the author will not please every angler in all details may be regarded as a matter of course; but, speaking generally, he seems to have treated his subject in a manner which ought to satisfy those who are making their first essays at trout-fishing. The book is well illustrated, and likewise contains a number of observations on the natural history of the subject, and, indeed, on nature-study generally.

R. L.

GENETICS.<sup>1</sup>

THE last contribution to the fast-increasing pile of Mendelian literature is unique. It is at once the bulkiest, within the limits of two covers, that has been made of this subject, and at the same time the most condensed, the most varied, and the most valuable.

The third International Conference on Genetics, held under the auspices of the Royal Horticultural Society, and under the presidency of Mr. Bateson, was a veritable Mendelian orgie. The history of all new theories is the same. They are judged not so much on their own merits as on the number and variety of natural processes, previously unintelligible, which they explain. The result of the publication of the "Origin of Species" was, as Mr. Bateson has pointed out, the distraction of the attention of biologists from the process of evolution itself and its diversion into the hitherto dry channels of palæontology, classification, embryology, comparative anatomy, and distribution. It was not until the end of the nineteenth century that men returned to the study of evolution. The relation between man and a new theory is the same as that between a child and a new toy. When we first get the toy we are occupied in playing with it in every possible way, and as often and as much as we can. But when all legitimate sources of interest have been tapped, we tire of playing with the toy and begin to wonder how it works; and, to satisfy our curiosity, we pull it to pieces. The result of the attempt to satisfy this curiosity in the case of Darwin's theory was the growth of a conviction that natural selection did not provide a sufficient explanation of the diversity of organic forms. The history of Mendelism has been like that of Darwinism. The flood of energy let loose by the re-discovery of Mendel's papers has spent itself rather in work based on the assumption that the interpretation which Mendel put on the facts he discovered was true than in the attempt to discover whether that interpretation were true or not; and in our opinion it is right that this should be so. The merely critical spirit is a barren one. The enthusiasm of the kind

<sup>1</sup> Report of the Third International Conference, 1906, on Genet. c. Edited by Rev. W. Wilks. Pp. 486. (Printed for the Royal Horticultural Society by Spottiswoode and Co., Ltd., n.d.) Price 15s.

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which follows the birth of a new theory such as Darwin's or Mendel's has been as productive of discovery in the case of the latter as it was in that of the former. At the same time, we should not forget that Mendelism is now in the stage in which Darwinism was before it was subjected to the process of being overhauled; and though we may perhaps be right in holding that criticism is barren of discovery, we should guard against the possibility of entering that frame of mind which regards criticism as blasphemy. Mendel's peas have already been called classical; and it is a very remarkable fact that no one has repeated Mendel's experiments with the deliberate intention of testing the Mendelian interpretation of the results. People speak as if Mendel got to the bottom of the inheritance of roundness and wrinkledness, yellowness and greenness, and as if there was nothing more to be said on the subject. On p. 88 of the report before us there is a table exhibiting the result of crossing a yellow with a green pea to the fifth generation. The proportion of pure yellows, impure yellows and greens is given both for the fourth and for the fifth generation as 1 : 2 : 1, and it is stated on the bottom of p. 88 that this process of segregation will be continued "practically for ever." It is highly probable that the three categories do form respectively 25, 50, and 25 per cent. of generations four and five; but Mendel never published any figures which prove this to be so. All he said was: "The proportions in which the descendants of the hybrids develop and split up in the first and second generations presumably hold good for all subsequent progeny. Experiments one and two have already been carried through six generations, three and seven through five, and four, five, and six through four, these experiments being continued from the third generation with a small number of plants, and no departure from the rule has been perceptible."<sup>1</sup>

We offer no apology for adopting this critical attitude towards Mendelism. There is plenty of admiration for "Mendel's incomparable achievement," and we share it; but we do not find it impossible to combine it with a suspicion that Mendel's interpretation of his results may not have been right after all.

The report is, of course, absolutely indispensable to every student of genetics, whether his interest is purely scientific or purely horticultural, or both. The keynote of the conference was struck by a pealing of the marriage bells of Science and Practice. We could have no better guarantee that their union will be fertile than that their hands were joined by the Rev. W. Wilks, who has earned the gratitude of every study of heredity by editing this report, and of every lover of flowers by creating the Shirley poppy.

## NOTES.

PROF. H. LE CHATELIER has been officially nominated professor of chemistry at the Paris Faculty of Sciences in succession to the late Prof. Henri Moissan.

It has been decided by the Paris Municipal Council to perpetuate the memory of Prof. Berthelot by re-naming the Place du Collège de France the Place Marcelin Berthelot.

WE regret to have to record that Prof. Karl Vogel, director of the Astrophysical Observatory at Potsdam, died on August 13.

WE regret to have to announce the death of the Rev. Dr. John Kerr, F.R.S., formerly lecturer on mathematics in the Glasgow Free Church Training College.

<sup>1</sup> This is Bateson's translation, Mendel's "Principles," p. 57. The original may be consulted, most accessibly, at p. 16 of No. 121 of Ostwald's *Klassiker der exakten Wissenschaften, Versuche, über Pflanzenhybriden* Price 1 mark.