

account of being illustrated by thirty coloured plates, which are excellent examples of the three-colour process. Not only are they for the most part good pictures of the animals they purport to represent, but they also show in most cases the natural surroundings of the respective species, so far as these can be reproduced with fidelity to nature. Unfortunately, in one instance that has come under our notice the wrong species has been depicted. We refer to the plate of giraffes and zebras facing p. 42, where the animal purporting to be the true or mountain zebra (*Equus zebra*) is the northern race of the bonte-quagga, or Burchell's zebra (*Equus burchelli granti*). Had the true zebra been depicted, the plate would then have been wrong, as showing a mountain animal on the open plains. The text includes a brief but well-compiled survey of the whole animal kingdom, from Primates to Protozoa, including sporozoans, with some mention of extinct forms, and the work as a whole appears thoroughly suited to its purpose.

R. L.

Précis des Caractères génériques des Insectes, disposés dans un Ordre naturel par le Citoyen Latreille. A Paris, chez Prévôt, Libraire, Quai des Augustins, et à Brive, chez F. Bourdeaux, Imprimeur Libraire. A Brive, de l'Imprimerie de F. Bourdeaux, au 5 de la R. [1796]. Pp. xiv+208. (Imprime à 200 Exemplaires par A. Hermann, n.d.) Price 7 francs.

This is a reprint of a very rare book, which is seldom to be found even in the best entomological libraries. It commences with a table of the fourteen classes into which the author divides insects (understanding by that term Arachnida, Crustacea, and Myriopoda, as well as Hexapoda), followed by systematic characters for 351 genera recognised by Latreille, one or two others, described by other authors, being passed over as at present unknown to him. Several very familiar genera, such as *Ypsolophus* and *Adela*, are characterised in this book for the first time, but without indication of types, for which reference must be made to Latreille's later works. It is always unsatisfactory to entomological authors to be in doubt respecting the actual contents of a book they only know at second-hand, and we are glad that this scarce book has now been rendered accessible to them in a complete (and, we hope, accurate) reprint.

The Metric and British Systems of Weights, Measures and Coinage. By Dr. F. Mollwo Perkin. Pp. 83; with 17 diagrams. (London: Whittaker and Co., 1907.) Price 1s. 6d.

DR. PERKIN here provides a simply written and clearly expressed account of metric measures of length, area, volume and weight, and, in addition, treats of specific gravities, temperature measurements, and money. As Lord Kelvin has said, "our weights and measures are time-wasting and brain-wearing," and all attempts to familiarise British boys with the simplicity and convenience of the decimal system deserve encouragement. This small volume should prove useful in both day and evening schools, and all engaged in manufacture and commerce would derive advantage from its study.

The Story of Scraggles (A Sparrow). By George W. James. Illustrated from drawings by Sears Gallagher and from photographs. Pp. 88. (London: Chatto and Windus, 1907.) Price 2s. 6d.

THE greater part of this booklet is in the form of the autobiography of an ailing song-sparrow, which could not fly, and was kept in a house for three months. The story, which purports to represent the bird's thoughts and feelings, will probably appeal to little girls, and encourage them to be kind to animals.

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LETTERS TO THE EDITOR.

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Specific Stability and Mutation.

MR. R. H. LOCK at the close of his letter in NATURE of October 17 (vol. lxxvi., p. 616) makes a remark which, after some consideration, still perplexes me. The question involved is so interesting and, indeed, important, that I feel sure that many of your readers would be glad to know the grounds, doubtless not without weight, which led him to it. I quote the passage:—"that natural conditions lead to the obliteration of a host of mutations is as fair a deduction from the fact that such mutations appear under cultivation as the current deduction that the conditions of cultivation actually cause the occurrence of this kind of variation. We have the testimony of de Vries and others that the former process actually takes place. That the latter process does so is an assumption which still lacks the support of facts."

It contains two propositions:—(1) mutations appear under cultivation; (2) that the conditions of cultivation actually cause the occurrence of this kind of variation . . . is an assumption which still lacks the support of facts. It is the latter on which I think some discussion would probably be illuminating. At first sight the two propositions look contradictory. It is possible, however, that Mr. Lock is using "cause" in a very technical sense. But as Mill remarks, "in practice that particular condition is usually styled the cause, whose share in the matter is superficially the most conspicuous." Now, our knowledge of mutations is almost exclusively drawn from cultivated plants. In such cases cultural conditions are obviously an inseparable antecedent to mutations. What I do not understand is why it is an "assumption" to state that there is a causal nexus between the effect and the conditions.

To avoid ambiguity, I may explain that by "variation" I mean insensible and continuous organic change; by "mutation," that which is large, palpable, and discontinuous.

I believe that in nature variation never ceases, and yet "species" do not perceptibly vary. I pointed out some years ago, in a discussion at the Royal Society, the explanation of this seeming paradox. What we mean by a species is an abstraction which has no concrete existence. It is the mean or average of a host of varying individuals. It will be hardly contested nowadays that, so long as the conditions remain constant, the species remains unchanged. As has been frequently pointed out, the Egyptian flora furnishes a remarkable illustration of the fact over a long period of time. Plant remains from tombs believed to be 4000 years old differ in no respect from the species now living to which they belong, and the mere fact of their preservation shows that the physical conditions have undergone no change. To this persistence under constant surroundings I have given the name of "specific stability."

That mutations occur and exist is obvious to everyone. But that they are of frequent occurrence under purely natural conditions is, I think, unsupported by evidence, and, if they do occur, I agree with Darwin that it may be doubted if they "are ever permanently propagated in a state of nature" ("Origin," fifth edition, p. 49). The reason is that an organism is so nicely adjusted to its surroundings that it is in the highest degree improbable that a sudden and extreme structural change would fit in with them.

If species arise in nature by discontinuous variation or mutation, one would expect to see some evidence of their doing so; but in the British flora I can only call to mind a very few instances. There is a form of *Cheilidonium majus* with lacinate leaves and petals. It is said to have first appeared at Heidelberg in 1590; according to Hooker it is only known in cultivation. There are two striking mutations of *Plantago major*, one with a paniculate inflorescence, the other with leafy bracts, which reappear