it, so far as it goes, is well selected and in the main correct.

Many a "creeper" and new hand on Eastern estates and elsewhere will owe Mr. Frank Braham a debt of gratitude for this handy little volume, which doubtless is the nucleus of a future work of more extended scope, not one with large type on art paper, but a planter's "Molesworth," of use to the old hand as well as to the beginner.

The author's section on general information will be found specially useful, and his essential rules for the preservation of health in tropical climates are admirable if intended for the young planter going out to the East for the first time; but for the older resident in the tropics "drink as little as possible—fluids inflate the bowel" is dangerous advice. The ingestion of a sufficient quantity of water or other bland liquid is essential if for no other reason than to counterbalance the effects of excessive perspiration. In hot weather the kidneys are very largely relieved of their excretory duties by the skin. If then the individual for years has been in the habit of still further relieving them by drinking as little as possible, it is not astonishing that in cases of emergency they are unable to return to their normal state of efficiency, and if blackwater fever is encountered death in such cases may be the result.

In these essential rules also mention of the all-important hot bath and change at sundown would have added to their completeness. The book, however, should command a ready sale.

Die moderne graphische Reproduktion. Ein Führer und Ratgeber durch das Gebiet des Illustrationswesens unter Berücksichtigung der für die Wiedergabe bestimmten Originale. Gemeinverständlich dargestellt von L. P. Mosler. Pp. vi+52+xiv plates. (Jena: Gustav Fischer, 1911.) Price 2 marks.

In this booklet the author gives a concise description of the methods of illustration as at present practised, so that those who desire to avail themselves of such methods may have some idea of their characteristics and possibilities, and be guided as to their choice. He refers also, shortly, to methods of making drawings and photographs for reproduction. Following the text are fourteen plates. Nine of these are impressions from half-tone blocks made from the same original to show the effect of the fineness of the screen, a reproduction of a reproduction, a "duplex" print, &c. There are also a four-colour print, a colotype, and a photogravure.

LETTERS TO THE EDITOR.

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The Distastefulness of *Anosia plexippus*.

REFERRING to the interesting note on "The Distastefulness of *Anosia plexippus*" in NATURE of October 12, I should like to suggest that the experiment, though interesting in itself, does not materially strengthen the case for the usefulness of mimicry. To make a good case for mimicry in the sense in which that term is ordinarily used, the mimic *Basilarchia archippus* should be tested and found palatable. Further, if mimicry means anything at all with reference to these two species, North American birds should eat some butterflies but not molest *Basilarchia archippus*. So far as observations have been reported, American birds eat butterflies very rarely, and there is no evidence, so far as I know, either from direct observa-

tion or from the thousands of stomach-content examinations made by the United States Department of Agriculture, that its non-mimetic relatives are eaten more often than *Basilarchia archippus*.

If European birds show the same indifference towards butterflies as is manifested by North American birds, either the "model," *Anosia plexippus*, or the mimic, *Basilarchia archippus*, might with impunity become widely disseminated in Europe.

A. M. BANTA.

Cold Spring Harbor, N.Y., November 20.

I HAVE a shrewd suspicion that if the result of my experiments upon *Anosia plexippus* had proved this butterfly to be highly palatable, the dwindling minority of mimicry sceptics would have made the very most of the fact, and claimed that it "materially strengthened the case" against Bates's theory of mimetic resemblances; and in this they would have been perfectly right, so far, at all events, as the particular instance is concerned. But since the experiments proved the precise opposite, those who believe in the theory may reasonably maintain that the case for the usefulness of the mimicry to *Basilarchia archippus* is thereby materially strengthened. It appears to me that few more important items of evidence in favour of the theory of mimicry can be established than demonstration of the distastefulness of "models."

Again, I think Mr. Banta overrates the negative evidence he cites in support of the view that birds seldom prey upon butterflies under natural conditions. My opinion to the contrary is based upon a large number of experiments made in the gardens of the Zoological Society of London, and published in the Proceedings of the society for September. I can recollect no exception to the rule that insectivorous birds were roused to attention at once by the sight of butterflies, their keenness suggesting very forcibly that they knew them, either by instinct or by experience, to be part of their natural diet.

Not less strongly suggestive was the determination with which they pursued, and the precision with which they generally caught, the butterflies on the wing when let loose in the shelterless aviary. Conversely, the skill evinced by the butterflies in dodging their pursuers in mid air was one of the most striking features of the experiments. Just as one is compelled to believe that the instinctive doubling of the coursed hare when overtaken by greyhounds indicates the habitual method of escape of the species from fleet-footed foes, so must one believe that the evasive twist of a butterfly when pursued by a bird is an inherited habit that has proved a means of salvation to members of that species in the past when chased by similar enemies. If, as is maintained, birds do not under natural conditions prey upon butterflies to a sufficient extent to be reckoned as serious enemies, what explanation is to be offered of the marked reaction observable between the two sets of animals when pitted against one another?

R. I. Pocock.

Zoological Society, December 6.

The Weather of 1911.

I HAVE studied with great care and interest Dr. Shaw's letter in NATURE of November 30 disclosing a promising field of inquiry into the causes of such abnormalities of weather as we have, for example, experienced during the summer and first half of the autumn of the present year. Seizing hold of the very fact Dr. Shaw's letter refers to, which has apparently induced him to look in the direction of the upper atmosphere above 9 kilometres for new lines of investigation, namely, that certain types of distribution of barometric pressure, normally rainy, occasioned little or no rainfall in the summer of 1911, I had before reading his letter entertained the idea that somehow or other the persistent, parching drought might have been due to an abnormally reduced absolute humidity of the atmosphere (at least of those strata not immediately in contact with surface water supplies) over these islands, so much reduced that the convection currents adequate to produce rain in more normal conditions failed to do so in the present year. I admit, of course, that a decreased absolute humidity of the air in hot summer weather, with the ocean all round us, would be a very different thing to account for, and perhaps could only be brought about by a persistent flow