of nature. To record an event according to nature-history is to fix its place in nature; and to assist the student in his record a series of skeleton classificatory schemes is provided. These tabular statements contain many terms new to orthodox science, and serve to illustrate the compiler's predilection for classification.

Nietzsche in Outline and Aphorism. By A. R. Orage. Pp. viii+188. (Edinburgh and London: T. N. Foulis, 1907.) Price 2s. 6d. net.

AFTER a short introduction dealing with Nietzsche's works, a few pages of "definitions" and a sketch of the philosophy formulated by the champion of nihilism, the compiler brings together a series of his author's aphorisms classified under such headings as "Philosophers and Philosophy," "Morality," and so on. As indicative of the searching character of the maxims, one may be quoted from each of the sections mentioned:—"The doer alone learneth"; "Education ruins the exception for the sake of the rule."

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

The Photoelectric Property of Selenium.

I HAVE lately constructed small seleno-aluminium bridges for the electrical measurement of starlight, and it occurred to me to put these bridges into a vacuum to see whether their sensitiveness to light is thereby increased or diminished. One of them, formed, of course, with conducting selenium, had a resistance of 61×10^6 ohms in air and great sensitiveness to light. It was placed in a glass tube connected with an air-pump. About twelve hours after the tube was exhausted to a pressure of about 0.01 mm., the resistance of the bridge had dropped to 61 ohms! From this it fell gradually, and it has now (three days after exhaustion) a resistance of 17.5 ohms.

I conclude, after repeating the result with three bridges, that conducting selenium when placed in vacuo drops in resistance about four million times, and possibly still more. Also it loses completely its sensitiveness to light.

Other things connected with this strange result are under investigation. I use the term "bridge," in preference to "cell" or "resistance," at the suggestion of Dr. A. A. Rambaut. These bridges are far more simple and easily used with a telescope than the "cells" which I used in the observatory of Dr. W. E. Wilson in Westmeath. The selenium employed was specially purified by Prof. Threlfall, who very kindly gave me a supply.

GEORGE M. MINCHIN.

The Electrical Laboratory, Oxford, December 21.

Early Chinese Description of the Leaf-Insects.

"YUEN-KIEN-LUI-HAN," a Chinese encyclopædia completed in 1703, tom. cdxlvi., fol. 9, b, has the following quotation from the "Tau-hwang-tsah-luh," written c. ninth century:

"In Nan-hai a peculiar manner of bees (or wasps) live on the *kan-lan* tree (*Canarium pimela* or *C. album*). They look as if this tree's leaves were grown with hands and legs, wherewith to grasp branches and so deftly address themselves thereto that they are quite indistinguishable from the foliage. Therefore, to collect them the southern people used to fell the tree first and await the withering and falling of its leaves; and only then they are enabled to discern and gather the insects, which they employ as philter."

Nan-hai, literally "Southern Sea," was anciently the appellation of a province, the present Kwang-tung, but sometimes it was applied to the Indian Archipelago (Bretschneider, "Botanicon Sinicum," part iii., p. 579).

But for specifying them as bees or wasps, this Chinese account of the mimetic articulate would appear fairly to tally with that of the leaf-insects (*Phyllium*). Probably it is a very early, if not the earliest, description of these Orthoptera.

KUMAGUSU MINAKATA.

Tanabe, Kii, Japan, November 14.

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THE SALMON.¹

WE have no hesitation whatever in advising all persons interested in the salmon, whether as fishermen, naturalists, or legislators, to add this book to their libraries. The blue and grey covers of the official reports of the Scotch Fishery Board and the Irish Department of Agriculture contain a great deal of most valuable information bearing upon the life and habits of the salmon, and, so far as Scotland is concerned, Mr. Calderwood has now collected into the book under review the information spread over a series of reports. In the case of Ireland the reports of salmon-marking experiments are now published separately in pamphlet form, and deserve a far wider circulation than they possess.

Mr. Calderwood, we think wisely, confines his book almost exclusively to the life-history of salmon in Scotch waters, but is careful to direct attention to points in which the habits of the same fish in some or all Irish rivers appear to differ in points of detail. He would have us, in the first place, regard the salmon as essentially a marine fish, and in this he may be right, though we see no real reason why an anadromous species need be definitely relegated to the category of either fresh-water or marine forms. We are, however, quite in agreement with his view that the Salmonidæ are derived from originally marine ancestors, and would even hazard the suggestion that the presumably herring-like stock from which the Salmonids and Alepocephalids are derived may have been driven in the struggle for existence either to adopt an anadromous life or fresh-water habitat (as in *Osmerus*, *Salmo*, *Thymallus*, and *Coregonus*), or to retire into the deep sea like the Alepocephalids, *Argentina*, *Microstoma*, and *Bathylagus* found off our own coasts.

We must, in any case, look upon the salmon as a fish growing and feeding in the sea, resorting to fresh waters when feeding ceases on the approach of the spawning season, and spending the early part of its life near the place of its birth until strong enough to venture seawards; this is the standpoint from which we must regard and seek to explain the known phenomena of its life-history.

It is now more than forty years since the discovery was made that the first two years of the salmon's life are normally spent in the parr stage, while a few parr may move seawards in the first year and a certain proportion may spend three years in fresh water. Mr. Calderwood attributes this discovery to the Stormont-field investigations, but we fancy he is so far in error here that the percentages he quotes were really derived from Dunbar's Thurso experiences, communicated by him to Archibald Young when Commissioner of Scotch Salmon Fisheries.

At a length (in the Tay) of five or six inches, the parr assumes the silvery livery of the smolt, and passes seawards, in Scotland, so far as observed, always in spring. The second late summer or early autumn migration of smolts, noted annually in some Irish rivers, and intermittently in others, has not yet been observed in Scotland, and accordingly is not here dealt with.

On reaching the sea the smolt for a time eludes the ken of man, or, at all events, all fishing gear ordinarily employed by him, until it reappears as a grilse. This, hitherto little known, period of the fish's history is admirably handled by Mr. Calderwood. The few British and Irish records of young salmon between the lengths of six inches and two feet are carefully examined, and Dahl's Norwegian researches are cited

¹ "The Life of the Salmon; with Reference more especially to the Fish in Scotland." By W. L. Calderwood. Pp. xxiv+165. (London: Edward Arnold, 1907.) Price 7s. 6d. net.