

American Resorts, with Notes upon their Climate. By Bushrod W. James, A.M., M.D. (Philadelphia and London: F. A. Davis, 1889.)

WHOEVER imagines, from the imposing exterior of this volume, that he will find much information within its covers on American health-resorts, is doomed to disappointment. In most cases he will be as well or better off if he consults a good gazetteer or geographical dictionary. It is true it contains a translation of some chapters of Dr. Woeikof's "Die Klimate der Erde"; indeed, this forms more than one-third of the volume—a singular method of producing an "original" work.

This translation no doubt contains a great deal of technical detail, but there is extremely little in it to help the ordinary inquirer to select a suitable winter or summer resort. If a possessor of this volume desired to obtain for instance, some accurate and detailed information as to the climate of Southern California and its principal resorts, he would find the whole of this important region disposed of in less than four pages; while one of its most rising resorts, Santa Barbara, is disposed of with fourteen lines at p. 52, and exactly the same number of lines at p. 152; and another, Los Angeles, gets less than ten lines. No references to meteorological observations, and no climatological details of any kind, are contained in these extremely meagre accounts. In other parts of the book, seven or eight health-resorts are disposed of in a single page (pp. 33, 37, 44). Less than three pages are devoted to Florida and all its resorts. Again no meteorological details of any kind. Denver is disposed of in eight lines, Colorado Springs in a like number, and Salt Lake City in two lines.

It is scarcely necessary to deal seriously with a book put together in this fashion.

Idylls of the Field. By Francis A. Knight. (London: Elliot Stock, 1889.)

WITH the papers in this dainty volume readers of the *Daily News* are already familiar. In spirit and style they closely resemble the papers included in the same author's "By Leafy Ways." Mr. Knight has a genuine love for the poetic aspects of Nature, and in these "Idylls," as in his previous book, he gives many a vivid sketch of scenes and incidents by which he himself has been impressed. The text is illustrated by a number of photogravures from drawings by Mr. E. T. Compton.

LETTERS TO THE EDITOR.

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A New Logical Machine.

A STRANGE little instrument has been sent to me from Auckland, intended to illustrate the connection between the mathematical laws of thought and the laws of growth.

The machine itself is simple, and consists of two wheels so arranged that, by turning a horizontal one, a perpendicular one is made to revolve. The axle of this latter projects; and on it can be fastened a piece of cardboard. All the magic is in the precise forms of the cards sold with the machine; and of these I must now speak.

Mr. Betts, of the Government Survey, Auckland, devised a mode of stating arithmetically the main laws of thought. (He had not read George Boole's book; but his principle is, in the main, the same as that on which my husband worked.)

Mr. Betts wished to make diagrams which might represent his formulæ to the eye. Having arranged his scales, he proceeded to draw the diagrams; and found, to his surprise, that he was drawing the outlines of various leaves. These leaf-forms have

been seen by many artists, who declare that they are not *conventionalizations* but true *simplifications* of leaves occurring in Nature. Mr. Betts next cut these leaf-forms out in white cardboard; cutting slits to mark the growth-lines. When one of these cards is fastened on the axle of his machine, and whirled, bands of colour appear, which differ according to the form of the leaf; but the preponderating colour is green.

When Mr. Betts told me of this by letter, I confess I hardly believed his account; but he has now sent me a machine and some cardboard leaves, and several friends have seen the colours.

Although I understand Mr. Betts's main principle, and am sure that it is identical with my husband's, I will not attempt to explain it, my object being to induce mathematicians here to put themselves in communication with this extraordinary mathematical logician, who, not knowing the calculus of Newton, has supplemented his deficiency by inventing a calculus of *form*, which is so far like in principle to that used by the Creator, as to have received from Nature the consecration of *colour*.

I have, of course, seen the colours; but, having bad sight, I distrusted my own impressions, till I had heard many persons, more fortunate than myself in this respect, describe what they saw.

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Lamarck versus Weismann.

MR. WALLACE'S note with the above title in NATURE (vol. xl. p. 619) contains an illustration of a kind of reasoning that is so common with the post-Darwinians (I know of no other concise expression to designate this class of thinkers) that I desire to call attention to it. His remarks are *à propos* of the twist in the skull of the flat-fishes, and of Dr. Lankester's comments on the explanation of its origin offered in his book "Darwinism." Mr. Wallace has, as it appears to me justly, ascribed the rotation of the eye of these fishes to the "transmission of a series of slight shiftings of the eye acquired in successive generations by the muscular effort of the ancestors of our present flat-fish" (Lankester, in NATURE, vol. xl. p. 568). This, observes Lankester, pointedly, is "flat Lamarckism." Now Mr. Wallace explains that he has added the following language, which he thinks negatives the explanation cited by Dr. Lankester; "those usually surviving whose eyes retained more and more of the position into which the young fish tried to twist them." Mr. Wallace then says that the "survival of favourable variations is even here the real cause at work."

In the three sentences cited from Mr. Wallace, we have the whole question at issue between the post-Darwinians and the neo-Lamarckians in a nutshell. We have stated the "origin of the fittest" and its probable cause; the "survival of the fittest"; and the *non sequitur* of the post-Darwinians closely following. I point expressly to the words of Mr. Wallace, that the "survival of favourable variations is even here the real cause at work," as containing the paralogism (as Kant would say) which constitutes the error of post-Darwinian reasoning. That survival constitutes a cause is clear enough, since from survivors only, the succeeding generations are derived. But it is strange that it does not seem equally clear, that if whatever is acquired by one generation were not transmitted to the next, no progress in the evolution of a character could possibly occur. *Each generation would start exactly where the preceding one did, and the question of survival would never arise*, for there would be nothing to call out the operations of the law of natural selection. Selection cannot be the cause of those conditions which are prior to selection; in other words, a selection cannot explain the *origin* of anything, although it can and does explain survival of something already originated; and evolution consists in the origin of characters, as well as of their survival.

The attempt to produce variations by mutilations, or by abrupt modifications of the normal conditions of plants and animals, is not likely to prove successful, as it has evidently not been Nature's way of evolving characters, although some well-authenticated instances of such inheritance are on record. And the fact that we have not as yet an explanation of inheritance, may be applied with equal force against any and all theories of evolution that have been entertained.

E. D. CORE.

Philadelphia, November 3.