

proving the daring of the jay in dealing with the most audacious of the bird-destroying hawks; second, in showing the assistance which an expert hawk, or a pair of hawks hunting together, must gain from the inclination of the jays and woodpeckers to hector them instead of seeking safety in retreat. The advantage which the owl enjoys in drawing other birds around him is well known, but it is not often that so good an illustration is given in the case of the hawk.

Chocorua, N.H., Aug. 20.

FRANK BOLLES.

#### Tornado-Whirls in the Upper Clouds.

THIS morning I witnessed what seemed to me a very interesting and unusual phenomenon, which may be worthy of record. I noticed that a number of light flock clouds, moving north-east in the upper atmosphere, became, on reaching a certain small well-defined area, very ragged, and assumed the characteristic tornado forms. Many looked like jagged craters, reminding me strongly of the photographs of sun-spot whirls; some were honey-combed, and all were greatly torn. In the course of some ten minutes' observation, I saw at least a dozen such tornado-centres in cirro-cumulus, detached clouds floating almost directly above me. Such appearances in the lower clouds I have often observed, but this is the first time I remember seeing the upper clouds disturbed in this manner. The wind at the time on the surface of the earth was a forty-mile gale from the south-west, and there were frequent dust-whirls.

HIRAM M. STANLEY.

Marquette, Mich., Aug. 18.

#### The Brutal Dove.

TWENTY-ONE years ago (Aug. 14, 1871), a mature, male dove flew into the house of Mr. Paul Closius of Chicago, and soon became quite domesticated. "Old Tom," as he is called, was rescued from the great fire of the following October, and later was given a female mate, which he pecked to death.

Thinking that it might be an instance of incompatibility, he was given another, which he tormented, neglected, and abused, until she also perished.

Naturalists are aware of the sentimental error which typifies gentleness in the dove, and have often remarked its ferocity. This instance also confirms the belief that doves are long-lived.

S. V. CLEVINGER.

Chicago, Aug. 17.

#### BOOK-REVIEWS.

*Temperament, Disease, and Health.* By FRENCH ENSOR CHADWICK. New York, G. P. Putnam's Sons. 85 p.

A REAL service is rendered science by those who emphasize the individual as well as environmental side of pathology. The tremendous development along certain lines of modern pathology should not be allowed to obscure the fact that predisposition of the organism is as potent a "cause" of disease as virulence of the germ.

The author of this book avows himself a special pleader on the very first page: "This little book is written primarily to put forward two ideas: First, that there is associated with temperament a specific rate of change; second, that the failure to keep up that rate, or, in other words, a failure to have elimination keep pace with accession of material, is the primal cause of organic disease." This thesis is maintained quite consistently throughout the book. "I thus venture to define what is known as 'organic disease' as a failure in rate of change. And, further, that, however associated, bacteria are the resultant rather than the causes of such diseases" (p. 16).

It will not be perfectly obvious to everyone that the phrase "failure in rate of change" brings us much nearer the real problem. The vexatious question will still be asked, Why should there be this failure to obtain adequate elimination of broken-down material? The final solution of this question of temperament must wait for a much deeper knowledge of the individual cell as well as of the cell-complex. Every attempt, however, at an explanation, although necessarily tentative and imperfect in character, serves its purpose in keeping the subject open and in stimulating research.

Errors of statement do not seem to be numerous. One strongly suspects, however, that the Mitchell mentioned on page 33 is no

#### Reading Matter Notices.

Ripans Tabules cure hives.

Ripans Tabules cure dyspepsia.

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other than the Prudden a few lines below. On this same page "Micro-coccus pyogenes amicus" is spoken of as "a bacillus."

Sometimes a curiously involved sentence is met with, as the following: "We are thus not fixed entities, as most of us are apt to consider ourselves; nor have we the gratification of even thinking ourselves here for the formerly supposed seven years at least" (p. 20). An over-critical reader, too, might take exception to the introduction of the personal element in the following: "Following the logic of these views, Dr. Koch's theory as to the possibility of the cure of consumption by an injection of a preparation of what may be called the dejecta of the bacillus of consumption must of necessity be an error, and I would say that I have held this view from the time of first publication of his supposed cure" (p. 68).

*The History of Modern Education.* By SAMUEL G. WILLIAMS. Syracuse, C. W. Bardeen. 12°. 403p. \$1.50.

THIS work consists of a series of lectures which the author has been delivering for some years past as professor of the science and art of teaching in Cornell University. The entire course comprised also an account of ancient and mediæval education; but the part relating to modern times is the only part now published as being more generally interesting than the rest. Mr. Williams begins his narrative with the Renaissance, of which in its bearings on education he gives a brief but excellent account. In dealing with the religious Reformation and its results, he is not so happy; and throughout the book the subject of religious education receives less attention than it deserves. Mr. Williams treats the history of educational progress by centuries, showing what in his view were the leading characteristics of each century and its principal contributions to educational thought and practice; and this account of the general characteristics of the century is followed in each case by a sketch of the most prominent educators that the century produced. Throughout the book the author shows great impartiality and much good sense in his judgment of men and methods; and, what is no small merit in the

present age, he is entirely free from hobbies. Some of our educators talk as if real education came into the world with Pestalozzi and Froebel, and that in the theory and practice of certain "advanced thinkers" of the present day it has reached perfection. Mr. Williams is under no such hallucination. He reminds his readers that time is the only sure test of historic events, and intimates that some of the ideas of the present day may be found hereafter to have no such importance as is now attached to them. Nevertheless, he devotes one of his longest and most elaborate chapters to the leading educational ideas of the nineteenth century, thus bringing his work down to the very decade in which we now live. He takes pains to show, however, that many things that are thought to be specially characteristic of the present age were anticipated by the thinkers and teachers of the sixteenth and seventeenth centuries. Mr. Williams's style is not always so clear as might be wished, and has no great literary merit; but it is generally intelligible, and its moral tone is good. On the whole, these lectures will serve a useful purpose as an introduction to the educational history of modern times.

*Influenza.* By CHARLES H. MERZ, M.D. Sandusky, O. 96 p.

It would be manifestly unfair to expect too much of a "little treatise" that attempts to discuss a very special topic in a very general manner. The book was evidently written to meet the popular interest in its subject, and this fact alone explains perhaps the infelicities, not to say inaccuracies, of expression that are far too frequent on its pages. The history, etiology, symptoms, pathology, diagnosis, and prognosis, complications, and treatment of influenza are discussed with more or less success, the whole leaving a decided impression of hasty construction.

One is somewhat amazed, for example, when one reads, *apropos* of the phagocyte theory, of the odds arrayed against the Darwinian principle: "It is a fight between two forces and the survival of the fittest" (p. 23). On the same page the name of the eminent author of the doctrine of phagocytosis is hardly recognizable under the mask of "Metschini-Koft."

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