

# SCIENCE

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FRIDAY, OCTOBER 6, 1899.

ADDRESS BY THE PRESIDENT OF THE  
BRITISH ASSOCIATION FOR THE AD-  
VANCEMENT OF SCIENCE.\*

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

He who until a few minutes ago was your president said somewhere at the meeting at Bristol, and said with truth, that among the qualifications needed for the high honor of Presidency of the British Association for the Advancement of Science, that of being old was becoming more and more dominant. He who is now attempting to speak to you feels that he is rapidly earning that distinction. But the Association itself is older than its President; it has seen pass away the men who, wise in their generation, met at York on September 27, 1831, to found it; it has seen other great men who in bygone years served it as presidents, or otherwise helped it on, sink one after another into the grave. Each year, indeed, when it plants its flag as a signal of its yearly meeting, that flag floats half-mast high in token of the great losses which the passing year has brought. This year is no exception; the losses, indeed, are perhaps unwontedly heavy. I will not attempt to call over the sad roll-call; but I must say a word about one who was above most others a faithful and zealous friend of the Association. Sir Douglas Galton joined the Association in 1860. From 1871 to 1895, as one of the General Secretaries, he bore, and bore to the great good of the Associa-

\* Dover Meeting, 1899.

## BOOKS RECEIVED.

*Einführung in die Chemie in leichtfassliche Form.* LASSAR-COHN. Hamburg and Leipzig, Leopold Voss. 1899. Pp. xii + 299. M. 4.

*Qualitative Analysis for Secondary Schools.* CYRUS W. IRISH. New York, Cincinnati and Chicago, American Book Co. 1899. Pp. 99.

*Laboratory Exercises, with Outlines for the Study of Chemistry.* H. H. NICHOLSON and SAMUEL AVERY. New York, Henry Holt & Co. 1899. Pp. vi + 134. 60 cents.

*The Hygiene of Transmissible Diseases.* A. C. ABBOTT. Philadelphia, W. B. Saunders. 1899. Pp. 311.

## SCIENTIFIC JOURNALS AND ARTICLES.

*The American Naturalist* for September opens with 'A Contribution to the Life History of *Autodax lugubris* Hallow,' by Wm. E. Ritter and Loye Miller, followed by an account of 'The Worcester Natural History Society,' by Herbert D. Braman. The third of the very useful 'Synopsis of North American Invertebrates,' is by J. S. Kingsley and deals with the Caridea; and N. R. Harrington who this summer sacrificed his life in order to study *Polypterus*, contributes a valuable article on its life habits. The 'Pads on the Palm and Sole of the Human Fœtus' are discussed by R. H. Johnson who considers them homologous with the walking pads of some mammals. Among the topics discussed by the editor is that of 'New Species,' many of which are considered to be founded on very trivial characters.

## DISCUSSION AND CORRESPONDENCE.

## NATURALISM AND PHILOSOPHY.

"Had men in the discoveries of the natural world, done as they have in the intellectual world, involved all in the obscurity of doubtful and uncertain ways of talking, volumes writ of navigation and voyages, theories and stories of zones and tides, multiplied and disputed, nay, ships built and fleets sent out, would never have been taught us the way beyond the line, and the antipodes would still be as much unknown as when it was declared heresy to hold there were any."

IN a discussion, in the current number of *SCIENCE* of my criticism of Ward's *Naturalism and Agnosticism*, it is intimated that my 'harshness' may, perhaps, be due to irritation by Ward's

castigation of Spencer. I therefore wish to say that I read this with interest and sympathy, and found it by far the most valuable part of the book; but as Ward's method of treating the Synthetic Philosophy is an old story to zoologists, I saw no reason to review it for readers of *SCIENCE*.

As I understand Ward's reasoning on this subject, I fully agree with it, and should myself put it in these words: It is not by generalization and abstraction, but by discovery, that knowledge is advanced; but the first principles of this philosophy are based upon abstraction and generalization and can add nothing to knowledge.

Zoologists have long been aware that they who, in past generations, sought to advance our knowledge of living things by generalizing them, or referring them to genera, hindered the progress of zoology, which began to advance with rapid strides as soon as naturalists perceived that our only source of knowledge of living things is the study of the living things themselves. So far as it concerns the zoologist, Ward's method of handling the works of the author of 'The Principles of Biology' is ancient history—a record of a fight that was fought out fifty years ago.

Passing, then, to another topic, I ask space for a few quotations which seem to have a bearing upon the assertion by my critic that Ward's book is 'wrought out in sympathy with scientific methods.'

Ward says, II., 44.—"Granted that we are only entitled to say that the dice actually do fall, when they are thrown from the box, not that they must fall; granted that we may only say that their after course *is* entirely and absolutely the result of the initial conditions, not that it must be; still this is enough. \* \* \* On the naturalistic assumption \* \* \* matter and energy are indestructible and ingenerable, and the laws of their working rigorous, exact and unalterable."

It is not the naturalist, but the philosopher, who asserts that the dice *will* fall. The naturalist expects them to fall, but expectation, however well founded and reasonable, is not fatalism. Naturalism knows nothing of determinism. It does not assert that the after course of the