Thirteen years ago, the writer described an experiment in which the result was the direct opposite to that called for by reading on it one of the most prominent of the laws stated by Maxwell. The proposed paper describing it was rejected by one of our leading societies on the ground that if true (which was very easily demonstrated) it was such a serious matter to refute one of Maxwell's laws that it ought to be kept a secret! It is needless to say that the writer published it; broad-minded electro-physicists have accepted this correction of that law.

Let us hope that our younger physicists will be more progressive and will develop the true scientific spirit of desiring to be corrected when it can be shown that what they teach their students is wrong.

CARL HERING

PHILADELPHIA,
November 1, 1921

THE SCIENTIFIC BUREAUS OF THE GOVERNMENT

TO THE EDITOR OF SCIENCE: Since my return to Washington from my summer's field work my attention has been called several times to circulars which have been sent broadcast throughout the country by Mr. Arthur MacDonald, The Congressional, Washington, D.C., recommending the reorganization of all of the government scientific bureaus under the direction of the Smithsonian Institution. While the institution appreciates the confidence in it implied by his suggestion, I desire to point out that his scheme is entirely impracticable and was not suggested or authorized by the Smithsonian Institution, with which Mr. MacDonald is not connected in any way.

I shall be glad if you will have the goodness to publish the above in SCIENCE, in order that your readers may understand thoroughly that the institution is in no way responsible for this propaganda.

CHARLES D. WALCOTT,
Secretary

THE SMITHSONIAN INSTITUTION,
November 5, 1921

QUOTATIONS

MEETING OF THE AMERICAN ASSOCIATION IN CANADA

THE American Association for the Advancement of Science is to hold its annual meeting in Toronto this winter. The rules of the association, recently revised, give the term "American" a Continental instead of a national connotation, so that the visit to Canada will be regarded as a normal rather than as an extra-territorial event. There is thus a departure from the constitutional precedent of the British Association and of its French and German parallels. These bodies are national, although they welcome foreign guests, and have occasionally paid visits to foreign countries. Were the matter political, difficult questions might arise with regard to the proposed visit of the British Association to Toronto in 1924. The former visits of the British Association to Montreal and Toronto, and later to South Africa and Australia, were regarded as not different in kind from visits to Edinburgh or to Bournemouth. The formation since then of a South African Association for the Advancement of Science would certainly not place any obstacle in the way of another British visit to the Cape. The inclusion of Canada in the American sphere similarly should not affect the prospects of future visits of the British Association. It is all to the good that science should prefer geographical to political frontiers. We confess to a feeling of envy, however, when we read of the concessions made by American railways to science. The utmost efforts failed to extract from the British railways such reductions in fare to members of the British Association going to Edinburgh as they readily concede to pleasure parties and week-end excursions. The railroads of America are acting differently. Reduced rates for visitors to the Toronto meeting have been granted by all the railways of Canada and by those covering practically all the New England and Atlantic Coast States down to Virginia, and by those serving Ohio, Indiana, Michigan, and Illinois. Other concessions are expected, and so far as the railway journey

is concerned, scientific men throughout the vast continent will be given every inducement to attend the Toronto meeting.—*The London Times.*

SCIENTIFIC BOOKS

Text-Book of Geology. By Amadeus W. Grabau. Two volumes. Part 1, General Geology, 864 pages, 734 text figures; Part 2, Historical Geology, 976 pages, 1980 text figures. D. C. Heath & Co.

A text-book in science may be written, like other books, for name and fame; or to set forth new truth; or for desired remuneration (which may be in inverse ratio to value); or simply because the author can not help it. This latest ambitious addition to geologic literature is another expression of the mental activity and scientific industry of the author, as it is his third important and voluminous work within a few years. In 1909–1910 he published, in conjunction with H. W. Shimer, two handsome volumes on "North American Index Fossils," covering only the invertebrates, with 1762 pages and profusely illustrated. In 1913 he produced another original work, "Principles of Stratigraphy," with 1185 pages. This latest, if less original, work is even more voluminous.

Facing the writer are several shelves filled with the antiques of English and American geologic literature, text-books and treatises dating back to the early part of the last century. The striking comparison between the old and new invites a brief homily on the development of American geology, as illustrated by the text-books.

These oldest books are amusing and pitiful in their diminutive size, narrow scope, queer ideas, and their occasional illustrations of exceeding crudity. If Science admitted pictorial illustrations a comparison of the old cuts with modern engravings of the same subjects would show the progress of graphic art. The older books antedate photography, which has been the greatest aid in study of nature.

Many of the old books have a theologic flavor, and some close with a pious exhortation. Beginning with Leibnitz (1646–1716) the writers sought to harmonize the facts of the new science with ancient Hebrew philosophy, and in particular tried to prove that Moses really meant "day" when he wrote it (in English). While there are yet people who give to old Hebrew literature more credence than to modern science, the time has gone by when American authors of scientific works have to defer to superstition.

Geology as a recognized branch of study in the schools is less than a century old. As a systemized branch of science and a part of general culture of the educated man geology began with Charles Lyell. His masterly writings (1830–1857) proved the continuity of geologic processes and set the standard for geologic literature. Previous to about 1840 American students relied chiefly on English works, or on American reprints. As late as 1837 Edward Hitchcock republished Dela-Beche's "Researches in Theoretic Geology," a small octavo of 342 pages and with no illustrations.

The oldest American text-book in this file is a little duodecimo of 122 pages, with 17 pages of index and errata, by W. W. Mather, entitled "Elements of Geology for the use of Schools," date 1833. This has a very few small diagrammatic illustrations. The writer's copy has pasted in the front cover a printed commendation by B. Silliman, of date June 18, 1834.

Two other old books are "Outlines of Geology," 1837, 384 pages, by J. L. Comstock; "Elements of Geology," by Charles A. Lee, 1839, 375 pages.

The second period of American geologic literature (1841–1860) began with Edward Hitchcock's "Elementary Geology," 1841. For two decades this was the American authority, and by 1860 it had run to the 30th edition, with 424 pages. The publication of a number of volumes by other authors suggests the stimulus to scientific study. Three of these had the favorite title "Elements of Geology"; by Samuel St John, 1851 (334 pp.); Justin R. Loomis, 1852 (198 pp.); Ayonzo Gray and C. B. Adams, 1853 (354