

THE METRIC SYSTEM.

TO THE EDITOR OF SCIENCE: Is it not a little incongruous for American scientists and scientific journals to urge upon Congress the legalization of the metric system to the exclusion of the old, while SCIENCE prints, without comment and in a quasi-editorial way, an abstract of government researches in which all weights are in ounces?*. Would you not be warranted in declining any contribution in which were not given at least the metric equivalents?

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[Men of science and scientific journals ought certainly to use the metric system when possible. The United States Department of Agriculture cannot, however, afford to lessen its usefulness and to awaken criticism by making such of its researches as are intended for the general public more technical or difficult to understand than is necessary. It is consequently not certain that the metric units should have been used in this work on metabolism so long as foods are sold by pounds and ounces. It is often useful to give the common equivalents of the metric system in order that the matter may be understood and to teach the equivalents, but it is not often desirable to give the metric equivalents of the common system. Nothing is gained in clearness for Anglo-Saxons, and, as far as missionary work goes, the long series of decimals naturally required to express ounces or feet in the metric system give it a cumbrous and forbidding aspect. ED.]

SCIENTIFIC LITERATURE.

The Formation of the Quaternary Deposits of Missouri. By JAMES E. TODD. Reports of the Missouri Geological Survey, Vol. X. [1896], pp. 113-217, with two maps, four section plates, five full-page illustrations, and five small figures in the text.

No detailed study of the Quaternary deposits of Missouri has ever been attempted, except in a few limited districts, but short references to them are scattered through all the reports of the several Geological Surveys which have, in the past, been instituted in the State. By a

* Experiments upon metabolism, etc., March 26, 1897, pp. 493-496.

careful compilation of these fragmentary notes, supplemented by much personal observation, Professor Todd has collected a large body of valuable information on the later geological history of the northern portion of the state. His intimate knowledge of the general features of the Pleistocene formations as developed in other states, has enabled him to produce a very concise description, and his conclusions, in the main, seem to be fully warranted by the data given.

The Quaternary formations are classified into (1) the Bouldery Drift, (2) the Loess and Gray Loamy Clay, (3) Terrace Deposits, and (4) Alluvium.

In many respects the drift deposits of Missouri are remarkable. The till, or boulder clay, is found in the north-central portion of the State in considerable thickness, but thins thence in a southwardly direction, as also toward the Mississippi and Missouri rivers. Over a large portion of the state north of the Missouri river it is less than five feet in average thickness, "and over considerable areas consists of small, shallow, detached patches. Toward the margin of the drift it usually disappears, and gives place to sparsely scattered boulders of northern origin." There is a total absence of distinct moraines, drumlins, kames, eskers, 'kettle holes,' basins, knobs, and the other classes of irregularities of surface usually found in drift-covered regions. No buried forest beds have been reported, and but few striae observed. Probably the most interesting part of Professor Todd's discussion of the drift proper is a description of the small driftless areas in Ralls, Pike, Lincoln and Saint Charles counties. They correspond to a similar driftless ridge studied by Leverett in Pike and Calhoun counties, in western Illinois.

The second great formation of the Quaternary deposits of Missouri is the Loess and Gray Loamy Clay. The two are considered merely as different phases of the same formation. This is shown to extend, in probable original continuity, over nearly the whole of the northern portion of the state, but to terminate southwardly at an irregular line, whose position seems to be controlled by the topography. It descends from about 950 feet above the sea, at