

the purpose of showing the method of working of this division of the U.S. Signal Service, the "Division of Telegrams and Reports for the benefit of Commerce and Agriculture." The system appears to us to be thorough and careful, and calculated to lead to valuable scientific results in the department of meteorology. For each of the three daily times mentioned in the title, there is first a tabulated meteorological record from 72 stations in the United States and British N. America, showing the state of the barometer, thermometer, humidity, wind, clouds, rainfall, weather. This is followed by a weather-map constructed on the preceding record, on which, by clearly distinguishable marks, the state of the weather at all the stations is shown, whether clear, cloudy, snow, rain, &c., the direction and velocity of the wind, and the average elevation of the locations. Following this is a synopsis of the record, in which the general results of a comparison of the particular observations are briefly stated. This synopsis is succeeded by a statement of "probabilities," which are the deductions made from the conditions exhibited in the chart, considered in their sequence, as to the meteoric changes probably to follow within the twenty-four hours next ensuing. Then come the "facts" by which the "probabilities" may be tested, these facts being a classified statement of the state of the weather at the various stations at the next succeeding time of observation, with "general remarks" showing how far the probabilities have been realised. This is done, as we have said, three times every day of the month for which this Bulletin is published, and the value of the publication to students of meteorology is evident. "As a contribution of data, at least, to meteoric science," the introductory statement justly says, "and a demonstration that it needs only that governments should will and act through proper organisation to make meteoric knowledge of daily and practical use to the people, the publication must have its value." The Government of the United States deserves the highest credit for the wisdom it displays in perceiving what the true interests of the country are, and for its liberality in supporting a scientific department such as the one from which this Bulletin issues, whose business it is, by publishing the result of scientific research, to "benefit commerce and agriculture." By a patient pursuit of the system exhibited in this Bulletin, and by adopting what improvements may from time to time suggest themselves, we have no doubt that results of great value to science will follow.

The Treasury of Botany: a Popular Dictionary of the Vegetable Kingdom, with which is incorporated a Glossary of Botanical Terms. Edited by J. Lindley, M.D., and Thos. Moore; assisted by numerous contributors. New and revised edition, with Supplement. (London: Longmans, Green, and Co., 1874.)

THERE is no more difficult task than that of editing re-issues of scientific works published some years since. The progress of science is so rapid, the number of new facts accumulated year by year so enormous, that the most satisfactory and exhaustive treatise on any subject written by a specialist in that subject, becomes to a certain extent obsolete or imperfect in ten years. And yet, where can our scientific men be found with leisure to write or edit new dictionaries of science every ten years? The re-editing of old dictionaries seems, therefore, the inevitable alternative, though one attended with many disadvantages, which disadvantages are greatly increased when the objectionable plan has been adopted, as in the present case, of stereotyping the plates of the original work. The new facts can then only be placed before the reader in the form of a supplement, which may often seem at variance with the work itself, while errors or imperfect descriptions cannot fail to be reproduced. Lindley and Moore's "Treasury of Botany" was so admirable a work in its day, containing such an enormous mass of informa-

tion, that a new edition must necessarily be welcome, although botanical science has made such rapid strides since its first publication in 1866; and the welcome will be more hearty when it is found that the new matter has been entrusted to such competent authorities as Dr. Masters, Prof. Thiselton-Dyer, Mr. Britten of the British Museum, Mr. Jackson of the Kew Museum, and the surviving editor. The only fault we have to find with the supplement is that it occupies five times too little space; under 100 pages out of 1,350 is clearly entirely insufficient for even a brief account of the main additions to botanical knowledge made during the last eight years. Had the new contributors been allowed a larger space, the book would have been a far more satisfactory one. It is to be regretted that at a time when so much attention is being paid to vegetable histology, a description of the vegetable cell should be republished without comment, not only so inadequate, but so misleading in our present state of knowledge, as the following:—"Cavities in the interior of a plant; the cells of tissue are those which form the interior of the elementary vesicles;" or that no description whatever should be given of the structure or mode of formation of starch-grains. As a dictionary of botanical nomenclature and classification the work is most ample; and on this ground only the "Treasury of Botany" is one which no botanical student can afford to be without.

A. W. B.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

Simultaneous Meteorological Observations

It is doubtless familiar to most of your readers that at the Meteorological Congress at Vienna a proposal was adopted which was made by the War Department of the United States regarding the institution of a system of simultaneous daily observations all over the globe.

I have recently received the subjoined letter from the chief signal officer at Washington on the subject.

It may be of interest to your readers to know that invitations have been issued by this Office to a large number of observing meteorologists in the United Kingdom, on whose co-operation I considered I might count, and that I have received returns from sixty-one stations for the first fortnight of the year, and from sixty-four for the second, so that we may consider that the plan has met with general acceptance with the public.

I am ready to receive the names of any gentlemen who are willing to assist in the scheme, and who possess properly verified instruments, and shall be very happy to answer inquiries on the subject.

ROBERT H. SCOTT, Director

Meteorological Office, London, Feb. 17

"War Department, Washington, D.C.,

Jan. 20, 1874

"Sir,—At the recent Meteorological Congress at Vienna a proposition was adopted to the effect that it is desirable that, with a view to their exchange, at least one uniform observation of such character as to be suitable for the preparation of synoptic charts be taken and recorded daily and simultaneously at as many stations as practicable throughout the world.

"The United States has an especial interest in reports and exchanges of this character, for the uses of the particular work in which it is engaged. It is hoped that when they are sufficiently extended, satisfactory solutions of many questions from time to time presenting themselves to this Office, and which now cannot be answered, will be arrived at.

"I have the honour, therefore, to request the establishment of a regular exchange between the Meteorological Office of which you are Director, and the Office of the Chief Signal Officer at