

to the outbreak of the epidemic. Further to lessen the danger, every separate household is to be requested immediately to carry out scrupulously the precautions and orders in reference to disinfection which are to be issued by the Government.

THE EARTH AS A GLOBE

Die Erde als Weltkörper, ihre Atmosphäre und Hydrosphäre, Astronomische Geographie, Meteorologie und Oceanographie. Von Dr. Julius Hann. Pp. 209. (Prag: F. Tempsky; Berlin: G. Freytag. 1884.)

IT sometimes happens that the leading words in the title of a book give a very inadequate impression of its contents. Such, to an English reader at least, might be the case as regards the work before us. We should have rather anticipated a discussion of the relation of our globe to the surrounding universe, or at any rate its position as a member of the great family dependent on the same central source of light and warmth. A compatriot of the writer, it is but fair to suppose, would have formed a juster anticipation of what the title-page expresses and the contents explain, that we have here a description of the earth as an isolated globe. The first section sets before us its form, dimensions, density, seasons, magnetism in its several aspects, and auroral illumination. The following one discusses the various conditions of our atmosphere with regard to temperature, pressure, humidity, rainfall, winds, cyclones, and all that English people express by the brief and usually not complimentary phrase, "the weather." The third section relates to the "hydrosphere," or fluid envelope, comprising its extent, colour, saltness, temperature, currents, waves, and tides. This programme is carried out not only with a great deal of industry, and care, and judgment, but with a clearness and facility of expression which are not always remarkable in scientific treatises. We are very favourably impressed by it as a whole, and look upon it as a very valuable addition to the branch of science which it undertakes to elucidate. At the same time there are a few respects in which improvement might be desirable. We should have preferred, for instance, some explanation of the comparative imperfection of the longitude-measures obtained from Jupiter's satellites, as well as from lunar distances; the aeronautic details might have borne expansion with advantage; and we are a little disappointed in the very scanty notice of atmospheric electricity. Of this it may indeed be said that its investigation is peculiarly difficult, and that many of its modifications hitherto defy explanation; but it would have been, we venture to think, a preferable course, especially as so much pains have been taken with magnetism, if more explicit reference had been made to an influence of so powerful, yet so occult and mysterious a nature.

We may add, though we are treading on uncertain ground, that our author's descriptions of the English climate, or rather of what he considers that it ought to be, with regard to dryness or the reverse, are not altogether in agreement with our own experience. The character of our month of February, as expressed in the very ancient and still surviving epithet, "fill-dyke" (or "fill-ditch"), or in an old rhyme of the seventeenth century—

"Foul weather is no news; hail, rain, and snow
Are now expected and esteem'd no woe,"—

does not tally well with our author's estimate of January as the most rainy of months, at least in West England; and his description of October as having a full maximum of rain in East and a secondary maximum in West England matches as little with the traditional remark of half a century ago, that eighteen fine days always occur in that month. Nor again is the April of West England, as he asserts, characterised by dryness, which used to be predicated of March, together with, in our grandsires' remembrance, a degree of heat which caused the unyoking of the weary ox during the noontide hours; so that we find in these instances the anticipation or postponement of a month. Our ground however is, as we have said, somewhat insecure; and we are obliged to admit that our old-world remembrances are often as far out of keeping with our present experience as the theoretical deductions of Dr. Hann. The October of late years has certainly not maintained its reputation for fineness, and we miss the regularity as well as the intensity of the equinoctial gales. There is an element of uncertainty and instability not only in the daily or monthly condition of the weather but in its annual recurrence, at least as far as our own climate is concerned; and it has presumably a much wider extent: a similar remark is not unknown in Switzerland, and was confirmed as to North Italy by the disappointing experience of that most accurate astronomer, Baron Dembowski, who in his latter years had, as he informed the writer of these lines, to contend with an unwonted amount of unfavourable skies. Such variations may possibly be very slowly periodical, and, if so, their recurrence might well be the subject of a careful examination. The weather-lore of modern days is undoubtedly far in advance of the imperfect forecasts of a century ago, and the pages before us have done well in aid of its further progress; but experience shows that the science of meteorology requires to be set upon a deeper and stronger foundation. The neglect of one or more imperfectly appreciated factors is probably indicated by the uncertainty or inconsistency of the results. One such factor may readily be pointed out in electrical agency, latent on every side, but awakened from time to time in manifestations equally fearful and incomprehensible. How to take due account of this all-pervading influence is a problem for future generations.

In closing our brief notice of this valuable work we would especially allude to the especial clearness—with few exceptions—of the very satisfactory as well as numerous diagrams which illustrate it. So far as we have observed, the faults of the book are very few: the greatest, as far as English students are concerned, is one that may easily be rectified, and we trust soon will be—its appearance in a foreign tongue.

PRACTICAL BOTANY

Das botanische Practicum. Von Dr. Eduard Strasburger. (Jena: Gustav Fischer, 1884.)

THE production of a series of important works in rapid succession has pointed out Prof. Strasburger as one of the most prominent figures among botanists of the present century. It will be readily