

but "how much it is difficult to say, as observations conflict." Dr. Robinson also makes interesting reference to the winds of the coast, and describes the west winds of summer as greatly intensified by the (diurnal) heat of the interior valley, so that the sea-breeze is unusually strong over the passes that break down the elevation of the Coast range.

It is greatly to be wished that further detail should be presented of facts so interesting in themselves and so valuable in the physical description of our country. The suggestion made above concerning the cyclonic and local control of the weather elements is, it is believed, in a most profitable line for further work. Examples of similar weather-types, as indicated by recurrence of similar distribution of isobaric lines on the signal-office daily maps, should be brought together and discussed in search of their specific characteristics, instead of lost in the indiscriminate average of the monthly mean, itself of true value, but too often the end instead of the first step of the discussion. Local controls are found to prevail during anticyclonic weather, with high pressure and weak baric gradients: imported conditions appear with the approach and passage of cyclonic areas of low pressure and stronger gradients. Here is a wide field for observation and research.

W. M. D.

CONSUMPTION IN PENNSYLVANIA.

THE *New York medical journal* of Dec. 4 contains in full the exceedingly valuable contribution to the climatological study of consumption in Pennsylvania, by William Pepper, M.D., which was read at the third annual meeting of the American climatological association. In the inquiry which formed the basis of this paper, Dr. Pepper followed the plan adopted by Dr. Bowditch in investigating the same disease in Massachusetts in the years 1854-62. Dr. Bowditch, it will be remembered, found a law in the development of consumption in that state, which has for its central idea that the dampness of the soil of any township or locality is intimately connected with, and probably a cause of, the prevalence of consumption in that township or locality. Similar investigations, especially those of Dr. Buchanan in England, which were carried on in 1865, 1866, and 1867, confirm the views of Bowditch. In that country, where the subsoil was drained by sewers, and where the water-supply was improved, deaths from consumption diminished, falling 49 per cent in Salisbury, 47 in Ely, 43 in Rugby, and 41 in Banbury. With answers from physicians to twenty-eight questions propounded in a circular

by Dr. Pepper, and the statistics of the tenth census of the United States, together with the topographical map of Professor Lesley as a basis, maps have been prepared showing the prevalence of consumption in Pennsylvania counties, and the relation between such prevalence and elevation, and mean annual temperature and rainfall. One of these maps is given in the journal referred to: the others will be published in the Transactions of the association. It is noticeable that those portions of the state where phthisis is rarest are the most elevated, having a general altitude of 1,500 to 2,000 feet, from 2,000 to 3,000 feet, and that its mortality increases as the altitude becomes less. In Philadelphia the wards having the least elevation, greatest density of population, and most inferior water-supply, furnish the greatest mortality from phthisis. The answers to the inquiries received from the state at large do not seem to indicate excessive soil moisture as the main causal condition of consumption in the state. A number of individual cases are given, in most of which damp and otherwise unsanitary conditions existed in and around the houses in which repeated cases occurred. This inquiry is a most timely one, as the tendency of the times seems to be to ignore conditions such as are here described, and to account for the disease only by the introduction of the bacilli of Koch. That these are the direct cause but few doubt, though unsanitary surroundings and heredity are important predisposing causes.

THAYER'S GREEK-ENGLISH LEXICON.

THE only special dictionary in the English language hitherto available for students of the Greek New Testament has been a translation of Cremer's 'Biblisch-theologisches wörterbuch der Neutestamentlichen Gräcität.' This is not only very inconvenient in its arrangement, but is justly chargeable with a certain vagueness in its definitions. We think, therefore, that Professor Thayer has rendered an incalculable service to a numerous class of students by opening to them the treasures of German erudition to be found in Grimm's 'Clavis.' But he has done vastly more than this. Almost every page of the noble volume before us shows such signal traces of his critical scholarship, his profound learning, and his conscientious labor, as to make it only a matter of simple justice that the book should bear his name. In regard to the technical and theological aspects of the work, we have neither the desire nor the competence to pronounce an opinion; but, as a

A Greek-English lexicon of the New Testament, being Grimm's Wilke's Clavis Novi Testamenti. Tr. by JOSEPH HENRY THAYER, D.D. New York, Harper, 1887. 4°.