

ferred Brongniart's *nomen nudum* *Mantellia nidi-formis* to Buckland's *Cycadeoidea megalophylla*, although the latter was thoroughly described and illustrated and also had priority, as he, himself, admits. In the example before us the last author named is, of course, responsible for referring Bennettites to Cycadeoidea, which, whether correct or not, was a legitimate change and the reasons were given in the paper referred to.

These three cases will suffice to furnish the standard by which the whole is to be judged, and it is obvious that the system of citation adopted in this work, which is simply representative of the whole class of writers referred to, and for which its author should not be held personally responsible, involves both the *suppressio veri* and the *suggestio falsi*. That this should be tolerated in any department of science, the essence of which is truth, is surely beyond the ordinary comprehension.

LESTER F. WARD.

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*A Summary Description of the Geology of Pennsylvania.* J. P. LESLEY, Harrisburg. Vols. I. and II., 1892; Vol. III. in 2 parts, 1895. pp. 2638 and 611 pl., with an index volume of pp. 98 and xxx.

These volumes, completing the series of Pennsylvania reports, are offered as a digest of about one hundred volumes, averaging not far from two hundred pages each. A review, even a synopsis, is impossible; space admits merely of a notice.

Prof. Lesley's contribution covers the column from the base to the Mauch Chunk of the Lower Carboniferous; failing health compelled cessation of work at that point, and the compilation had to be completed by others. The portion described by Prof. Lesley is found in the most complicated part of the State, and the problems with which he had to deal were numerous and perplexing. The conclusions offered by geologists in adjoining districts were often discordant, and the termination of the survey came too soon to admit of careful re-study of doubtful areas. As a result, the first two volumes of this report contain many defective spots, which the author does not at-

tempt to conceal. The Cambrian and Ordovician, studied chiefly during the early years of the survey, need thorough revision, and the relations of the Pennsylvania Silurian to that of other States are still somewhat obscure. The discussion of the Devonian is careful and as acceptable as any discussion of the Pennsylvania Devonian can be at this time. The numerous deep oil borings in southwest Pennsylvania and West Virginia will afford new material for study of the problems involved. Prof. Lesley's industry is simply appalling; he has mastered the details of the reports in such way as to make them his own, and his portion of these volumes bears his own stamp on every page, so that we have not a mere compilation but a real presentation of the geology as far as the condition of our knowledge warrants. His anxiety to escape the 'error' of the director of the First Geological Survey of the State is shown in the effort to fasten every geologist's name to his work, even, at times, to the extent of crediting to the geologist in charge of a district observations which were only confirmatory of his own made many years before. His readiness to give a hearing to both sides is evidenced not merely by the insertion of an argument, by another, of thirty pages controverting a position strenuously defended by him for more than twelve years, but also by his relegation to the doubtful column of opinions long regarded by him as proved.

The Mauch Chunk west from the Anthracite fields and the Pottsville conglomerate throughout the State are described by Mr. d'Invilliers in Vol. 3, pp. 1833-1915. The synopsis of the labors of Prof. White and others is given clearly and compactly and with a reasonable effort to assign to each author proper credit for his work.

The Anthracite fields are described by Mr. A. D. W. Smith on pp. 1916-2152; this summary appears to be in large part supplementary to the reports and work of Messrs. Ashburner and Hill.

The Bituminous coal fields are described by Mr. E. V. d'Invilliers, on pp. 2153-2588, this description forming the greater part of Vol. III., Pt. I. Mr. d'Invillier's work has been conscientious and successful, so that his

synopsis cannot fail to be useful to geologists as well as satisfactory to the citizens of Pennsylvania, the features of the beds being given in great detail. This synopsis cannot fail to be gratifying, in one sense, to Mr. d'In villier's predecessors in the bituminous fields, for he has made excellent use of their work. But an oversight, doubtless unintentional on Mr. d'In villier's part, cannot fail to detract from the pleasure with which his predecessors should read his synopsis; he has failed to give credit to them in the proper places to such an extent that those who use his work hereafter will be apt to regard him as author rather than as compiler.

The report closes with a review of the New Red, by Mr. Benjamin Smith Lyman, which is a synopsis of his own work and a valuable contribution to the literature of the subject.

The index is quite a marvel in its way. If the purpose of its maker had been to conceal the names of the geologists on whose observations the report is based it could hardly have been more successful along that line. Of the geologists in charge of districts, Dewees, W. G. Platt, Carll and Prime are not mentioned; McCreath, whose chemical work made the survey celebrated, is ignored in the same way. No notice is taken of the work of F. and W. G. Platt, Stevenson and White in the bituminous fields; even Lesley himself is alluded to but once, while the work of one of the compilers requires twenty-six references, that of another five, and that of a third none. The list of publications following the index is even more successful than the index itself, for all of the volumes appear to be anonymous except the two publications by Dr. Genth.

JOHN J. STEVENSON.

*Neudrucke von Schriften und Karten über Meteorologie und Erdmagnetismus*, herausgegeben von PROF. DR. G. HELLMANN.

No. 5. *Die Bauern-Praktik*. 1508. 4°. Pp. 83.

No. 6. *Concerning the Cause of the General Trade Winds*. By GEORGE HADLEY. London, 1735. 4°. Pp. 21.

*Facsimiledrucke, mit Einleitungen*. Berlin, A. Asher & Co. 1896.

One of the signs that meteorology is now rapidly advancing as a science is the fact that more and more attention is being directed to the ancient writings which marked the first steps in its development. As new discoveries are being made, and as the modern literature of the subject is increasing, we appreciate more fully what the early students and writers did for us, and we are glad to become familiar with their work. The return to the older authors has brought out, during the past two or three years, some interesting translations and reprints of ancient writings on meteorology. The most notable set of such publications is the series of *Neudrucke von Schriften und Karten über Meteorologie und Erdmagnetismus*, edited by Dr. Hellmann, of Berlin, a very devoted student of meteorology. These reprints are attractively gotten up in rough, white paper covers, and are facsimile reproductions of the originals. Each number contains bibliographical and historical notes prepared by Dr. Hellmann, which is equivalent to saying that they are full, accurate and interesting.

The series of *Neudrucke*, which already included four reprints of old and rare publications, has lately been enlarged by the addition of two more volumes, Nos. 5 and 6. The first, No. 5, is a reprint of *Die Bauern-Praktik*, originally published in 1508 and undoubtedly the most widely known of all meteorological books. The original went through sixty editions in Germany, and was translated into French, English, Danish, Norwegian, Swedish, etc. The weather prognostics and rules of *Die Bauern-Praktik* may be found in the manuscripts of the 10th to 15th centuries, and, in their beginnings, may be traced back much further, even to the days of the Indo-Germanic tribes and to the ancient Chinese. The principal part of the original publication deals with the forecasting of the weather for the whole year on the basis of the weather observed on Christmas and on the twelve days following it. Although, of course, of no practical use to us at the present day, this reprint is of much interest historically to antiquarians and those interested in folk-lore, as well as to meteorologists.

No. 6, of the series, is a facsimile reprint of