

THE CENSUS REPORT OF 1880.

It is now the middle of 1884, — four years since the date of the last census of the United States; yet the volumes of that census are not all published by the government. Eight volumes have appeared, besides the bulletins issued during the years 1881 and 1882: viz., two of the 'Compendium,' containing 1,850 octavo pages, and published early in 1883; and six of the quarto volumes, containing from 850 to 1,300 pages each, in which are given the more extended tabulations, and the general treatises on population, agriculture, manufactures, transportation, cotton-production, etc. The number of these quarto volumes is not positively stated by the census officials, but will probably be twenty. We may consider the first six, however (of which the first four came out in 1883, and the other two in 1884), without waiting until the series is complete, which may not be until two years hence. The important volume, which is to contain the 'social statistics' of pauperism, insanity, crime, etc., is not yet in the printers' hands; and the tables and general treatises on these topics are still subject to alteration by those who are editing them. The same is true of the mortality statistics and many others; and so liable is the work of editing these tables to be delayed, that it is quite impossible now to say when the final volume will appear.

There are two ways of looking at a great statistical work of this sort, intended to show the economic and social relations of fifty millions of people, scattered over millions of square miles, in every form of civilization and every mode of living. One way is to consider what has been done to exhibit these statistics, and to be thankful for that; which must, of necessity, be an immense labor, and exposed to many minor inaccuracies. The other way is to set up a standard of performance in work of this kind, and to criticise what falls short of this standard. The latter would be the true method, if statistical science had yet advanced far enough to enable so great a census as ours was in 1880 to be taken with accuracy, and reported by persons who understand what they are to do, and how to do it in the same thorough manner in which trained investigators in some special science proceed. But there is as yet no example of census-work done in this manner, and we must not look for it in the work before us. A certain degree of accuracy has been attained, though less, we believe, in most instances, than the specialists at the head of each branch of inquiry suppose.

But the explanations and cautions and qualifications which they put forth in each of these census volumes, in regard to the tabulations that present their particular topic, will soon convince the casual reader that he must use these statistics with much circumspection, or they will lead him astray. There is hardly a point, for example, on which the more elaborate work of this tenth census does not bring out the faults and defects of the earlier ones, and show that even the last preceding census, that of 1870, which was taken under the same superintendent (President Walker of the Institute of technology), was grossly and amusingly wrong in important particulars.

It is therefore evident at once, that to compare the results in 1880 with those in 1870, 1860, etc., in order to exhibit the growth of the United States, is only possible in a few general respects, if any reasonable exactness in the comparison is insisted upon. Sometimes this comes from the nature of things, and not always from the errors of the enumerators or tabulators in previous decades. For example: the value of the dollar (by which all products, debts, revenues, property, etc., are measured) was so different in 1870 from what it had been in 1860, and again from what it became in 1880, that it is not possible to make these pecuniary comparisons without great risk of mistake. To take the premium on gold in 1870 as the measure of depreciation for our currency, though this is all we can do, is well known, by those who noted prices and values then as compared with ten years before or since, to be extremely fallacious. The rubber yardstick of the imaginary tradesman, which was sometimes four feet long and sometimes only two, is a fair type of the fluctuating and elastic currency by which we have had to measure values since the civil war.

But the fallibility of the men who make up the census schedules, who take the count of men, animals, crops, acres, houses, farms, mills, etc., is the chief source of inaccuracy in any census. It is not possible to foresee exactly what questions ought to be asked, or where to draw the line between attainable and inaccessible facts. The questioner may defeat his own purpose, not only by the form, but by the multiplicity, of his requirements. Nature quickly sets a limit to the power of answering the census inquiries accurately in case of the average citizen or his wife. To go beyond that limit is to invite error and blunder, as the expert tabulator of the answers well knows: he therefore undertakes by his tabulation to amend the defects of the return. But this, also,

is only possible to a limited extent; and the enlightened efforts of the expert may end in aggravating the blunders of the enumerator. His own opinion or prejudice may come in, and so warp the poor facts already twisted out of shape by the clumsy reporter of them, that they finally bear no likeness to the situation they ought to portray. A permanent statistical bureau, collecting its facts from year to year, and correcting the mistakes of one year by the better information of the next, is far less likely to err in this respect than an organization which works, like our national census bureau, only at intervals of ten years. Though the latter may, and of late years does, extend its labors well over the whole period from one ten-years' point to another, it still lacks the useful correction which annual returns inevitably supply.

All things considered, the eight volumes before us are excellent, and indicate that the whole series, when completed, will far surpass, not only the work of any previous decade in this country, but the published results of any similar census in the world. The plan of President Walker was an ambitious one, his selection of experts and subordinates was mainly good, and the time allowed for them to complete their tasks has been ample. Unfortunately, the cost of so great an enterprise was not well understood; and the needful appropriations of money have not been made, or have been so delayed as to impede the work. The undertaking also suffered from its own vastness, and much of that which was hoped for was found unattainable. The important subject of pauperism, for example, — the correlative to our unexampled growth in material wealth, — receives inadequate treatment in the 'Compendium,' and cannot be so exhibited in the quarto volume as to do it justice. Mr. Wines, who has charge of this topic, has given up in despair the effort to collect statistics of out-door relief, and only reports on the almshouse expenditure, and number of inmates. This is, in fact, to omit more than half the material belonging to the subject, and that portion, too, which best exhibits the growth of pauperism from year to year. In other divisions of the work a similar class of omissions may occur, in consequence of which the results will appear in some respects more defective than those of the last census. But in fact, and on the whole, they are much more complete; and the volumes now issued, with those which are to appear, will furnish material to economic and scientific students for years to come. The more they use them, the better will they appreciate

the foresight, labor, and research of the men who compiled them, although they will also perceive more clearly how defective the most perfect statistics are foreordained to be.

GEOLOGY OF THE SUSQUEHANNA RIVER REGION.

Second geological survey of Pennsylvania: report of progress G^t. The geology of the Susquehanna River region in the six counties of Wyoming, Lackawanna, Luzerne, Columbia, Montour, and Northumberland. By I. C. WHITE. With a colored geological map in two sheets, and 31 page plates in the text. Harrisburg, 1883. 30 + 464 p. 8°.

THE region to which this report relates embraces nearly two thousand square miles of the Devonian and Silurian rocks lying north and west of the great anthracite-coal basins, along the north branch of the Susquehanna River. Although there are some small outliers of the true coal-measures in this district, Professor White has referred to these only incidentally; his report beginning at the base of the Pottsville conglomerate (millstone grit) No. xii., and extending down to the oldest formation exposed, which is the Medina No. iv.

The volume begins with a long prefatory letter by Professor Lesley, director of the survey. This is essentially a somewhat critical summary of the more interesting features of Professor White's report, which embraces two distinct portions; the first third of the volume being a comprehensive account of the geology of the entire district, and comprising nearly every thing of general interest, while the remainder of the work is devoted to a detailed report by townships on each of the six counties.

A brief account of the drainage and topography is followed by a description of the interesting glacial phenomena. The great terminal moraine crosses Carbon, Luzerne, and Columbia counties in a general north-westerly direction, dividing the region into a north-east glaciated portion and a south-west unglaciated portion. Back of the moraine is the mantle of unmodified drift, derived entirely from the local rocks. In front of the moraine, or to the south and west, the whole country is covered, up to a height of seven hundred and fifty to eight hundred feet above tide, with a stratified deposit of modified drift. According to Professor White, this deposit was spread by the gigantic rivers resulting from the melting of the ice-sheet; but Professor Lesley finds it necessary to suppose a subsidence of the land,