Although, however, the above considerations forbid the acceptance of the Continental opinion that the study of man in the social state is identical with statistics, it must be admitted that without statistics the nature of human society could never become known. For society is an aggregate, or rather a congeries of aggregates. Not only that, but the individuals composing these aggregates are not in juxtaposition, and what is, from the sociological point of view, the same aggregate or organ of the “ body politic” is not always composed of the same individuals. Constancy of social form is maintained concurrently with the most extensive changes in the collocation and identity of the particles composing the form. A “ nation ” is really changed, so far as the individuals composing it are con­cerned, every moment of time by the operation of the laws of population. But the nation, considered sociologically, remains the same in spite of this slow change in the particles composing it, just as a human being is considered to be the same person year by year, although year by year the particles forming his or her body are constantly being destroyed and fresh particles substituted. Of course the analogy between the life of a human being and the life of a human community must not be pressed too far. Indeed, in several respects human communities more nearly resemble some of the lower forms of animal life than the more highly organized forms of animal existence. There are organisms which are fissiparous, and when cut in two form two fresh independent organisms, so diffused is the vitality of the original organism ; and the same phenomenon may be observed in regard to human communities.

Now the only means whereby the grouping of the individuals forming a social organism can be ascertained, and the changes in the groups year by year observed, is the statistical method. Accordingly the correct view seems to be that it is the function of this method to make perceptible facts regarding the constitution of society on which sociology is to base its conclusions. It is not claimed, or ought not to be claimed, that statistical inves­tigation can supply *the whole* of the facts a knowledge of which will enable sociologists to form a correct theory of the social life of man. The statistical method is essentially a mathematical procedure, attempting to give a quantitative expression to certain facts ; and the resolu­tion of differences of quality into differences of quantity has not yet been effected even in chemical science. In sociological science the importance of differences of quality is enormous, and the effect of these differences on the con­clusions to be drawn from figures is sometimes neglected, or insufficiently recognized, even by men of unquestionable ability and good faith. The majority of politicians, social “ reformers,” and amateur handlers of statistics generally are in the habit of drawing the conclusions that seem good to them from such figures as they may obtain, merely by treat­ing as homogeneous quantities which are heterogeneous, and as comparable quantities which are not comparable. Even to the conscientious and intelligent inquirer the difficulty of avoiding mistakes in using statistics prepared by other persons is very great. There are usually “ pit- falls ” even in the simplest statistical statement, the position and nature of which are known only to the persons who have actually handled what may be called the “ raw material ” of the statistics in question ; and in regard to complex statistical statements the “outsider” cannot be too careful to ascertain from those who com­piled them as far as possible what are the points requir­ing elucidation.

*The Statistical Method.—*This method is a scientific pro­cedure (1) whereby certain phenomena of aggregation not perceptible to the senses are rendered perceptible to the intellect, and (2) furnishing rules for the correct perform­

ance of the quantitative observation of these phenomena. The class of phenomena of aggregation referred to includes only such phenomena as are too large to be perceptible to the senses. It does not, *e.g.,* include such phenomena as are the subject-matter of microscopy. Things which are very large are often quite as difficult to perceive as those which are very small. A familiar example of this is the difficulty which is sometimes experienced in finding the large names, as of countries or provinces, on a map. Of course the terms “ large,” “ too large,” “ small,” and “ too small ” must be used with great caution, and with a clear comprehension on the part of the person using them of the standard of measurement implied by the terms in each particular case. A careful study of the first few pages of De Morgan’s *Differential and Integral Calculus* will mate­rially assist the student of statistics in attaining a grasp of the principles on which standards of measurement should be formed. It is not necessary that he should become acquainted with the calculus itself, or even possess any­thing more than an elementary knowledge of mathematical science, but it is essential that he should be fully conscious of the fact that “ large ” and “ small ” quantities can only be so designated with propriety by reference to a common standard.

*Sources whence Statistics are Derived.—*The term “statistics” in the concrete sense means systematic arrangements of figures representing “primary statistical quantities.” A primary statist­ical quantity is a number obtained from numbers representing phenomena, with a view to enable an observer to perceive a certain other phenomenon related to the former as whole to parts. They represent either a phenomenon of existence at a given point of time or a phenomenon of accretion during a given period. As examples may be mentioned the number of deaths in a given district during *a given time,* the number of pounds sterling received by the London and North Western Railway during a given time, and the number of “inches of rain” that fell at Greenwich during a given time. Other examples are the number of tons of pig-iron lying in a par­ticular store at *a given date,* the number of persons residing (the term "residing ” to be specially defined) in a given territory at a given date, and the number of pounds sterling representing the "private deposits ” of the Bank of England at a given date.

*Primary Statistical Quantities* are the result of labours carried on either (A) by Governments or (B) by individuals or public or private corporations.

A. *Government Statistics.—*(1) A vast mass of statistical material of more or less value comes into existence automatically in modern states in consequence of the ordinary administrative routine of departments. To this class belong the highly important statistical information published in England by the registrar-general, the returns of pauperism issued by the Local Government Board, the reports of inspectors of prisons, factories, schools, and those of sanitary inspectors, as well as the reports of the commissioners of the customs, and the annual statements of trade and navigation prepared by the same officials. There are also the various returns compiled and issued by the Board of Trade, which is the body most nearly resembling the statistical bureaus with which most foreign Governments are furnished. Most of the Government departments publish some statistics for which they are solely responsible as regards both matter and form, and they are very jealous of their right to do so, a fact which is to some extent detrimental to that uniformity as to dates and periods which should bo the ideal of a well-organized system of statistics. Finally may be mentioned the very important set of statistical quantities known as the budget, and the statistics prepared and published by the commissioners of inland revenue, by the post office, and by the national debt com­missioners. All these sets of primary statistical quantities arise out of the ordinary work of departments of the public service. Many of them have been in existence, in some form or other, ever since a settled Government existed in the country. There are records of customs receipts at London and other ports of the time of Edward III., covering a period of many years, which leave nothing to be desired in point of precision and uniformity. It may be added that many of these sets of figures are obtained in much the same form by all civilized Governments, and that it is often possible to compare the figures relating to different countries, and thus obtain evidence as to the sociological phenomena of each, but in regard to others there are differences which make comparison difficult.

(2) Besides being responsible for the issue of what may be called administration statistics, all Governments are in the habit of ordering from time to time special inquiries into special subjects