*(Staatsmerkwürdigkeiten),* but the claim has been disputed by M. Block, who points out that the term *collegium statisticum* had been previously employed by Schmeitzel, a follower of Conring, whose lectures at Jena were no doubt attended by Achenwall.

In any case statistics, in the modern sense of the word, did not really come into existence until the publication by J. P. Süssmilch, a Prussian clergyman, of a work entitled *Hie göttliche Ordnung in den Veränderungen des Mensch­lichen Geschlechts aus dem Geburt, dem Tode, und der Fortpflanzung desselben erwiesen.* In this book a system­atic attempt was made to make use of a class of facts which up to that time had been regarded as belonging to “political arithmetic,” under which description some of the most important problems of what modern writers term “ vital statistics ” had been studied, especially in England. Süssmilch had arrived at a perception of the advantage of studying what Quetelet subsequently termed the “ laws of large numbers.” He combined the method employed by the Conring-Achenwall school of “descriptive statistics,” whose works were not unlike modern school-books of geo­graphy, with that of the “political arithmeticians,” who had confined themselves to investigations into the facts regarding mortality and a few other similar subjects, without much attempt at generalizing from them.

Political arithmetic had come into existence in England in the middle of the 17th century, or about the time when Conring was instructing the students of Helmstädt. The earliest example of this class of investigation is the work of Captain John Graunt of London, entitled *Natural and Political Annotations made upon the Bills of Mortality,* which was first published in 1666. This remarkable work, which dealt with mortality in London only, ran through many editions, and the line of inquiry it sug­gested was followed up by other writers, of whom the most distinguished was Sir William Petty, whose active mind was naturally attracted by the prospect of making use of a new scientific method in the class of speculations which occupied him. Sir William was the first writer to make use of the phrase which for nearly a century after­wards was employed to describe the use of figures in the investigation of the phenomena of human society. He called his book on the subject, which was published in 1683, *Five Essays in Political Arithmetics* Other writers, of whom Halley, the celebrated mathematician and astronomer, was one, entered on similar investigations, and during the greater part of the 18th century the num­ber of persons who devoted themselves· to “ arithmetical ” inquiries into problems of the class now known as statis­tical was steadily increasing. Much attention was given to the construction of tables of mortality, a subject which had a great attraction for mathematicians, who were eager to employ the newly-discovered calculus of probabilities on concrete problems. Besides Halley, De Moivre, Laplace, and Euler busied themselves with this branch of study. Attempts were also made to deal with figures as the basis of political and fiscal discussion by Arthur Young, Hume, and other historical writers, as well as by the two Mirabeaus.

It is now necessary to return to Süssmilch, who, as already mentioned, endeavoured to form a general theory of society, based on what were then termed “ arithmetical ” premisses, treated nearly on the lines laid down by Achen­wall. In modern language, he made use of quantitative aggregate-observation as an instrument of social inquiry. It is true he did not enter on his investigation with an “ open mind.” He desired to support a foregone conclu­sion, as the title of his work already mentioned shows. But nevertheless his work was a most valuable one, since it pointed out a road which others who had no desire to

procure evidence in favour of a particular system of thought were not slow to follow. M. Block makes the following remarks on the influence exercised on his con­temporaries by the work of Süssmilch :—“ If the author of the *Göttliche Ordnung* had been a professor his influence would have been much greater than it was. In maintain­ing that the movement of population is subject to law, that there is a regularity in the recurrence of such pheno­mena which allows of their being foreseen, he cast into the public mind a leaven which has evidently contributed to the progress of science.” Although for many years after the appearance of Süssmilch’s book there was a good deal of resistance to the introduction of “arithmetic” as the coadjutor of moral and political investigations, yet, practi­cally there was a tacit admission of the usefulness of figures, even by the chiefs of the so-called “ descriptive ” school. On the other hand Süssmilch’s success was the origin of a “ mathematical ” school of statisticians, some of whom carried their enthusiasm for figures so far that they refused to allow any place for mere “ descriptions ” at all. These two schools have now coalesced, each admitting the importance of the point of view urged by the other. They were, however, still perceptibly distinct even as late as 1850, and the ignorant hostility with which many people even among the cultivated classes still regard statistical inquiries into the nature of human society may be re­garded as a survival of the much stronger feeling which showed itself among “orthodox” professors of law and economics on the publication of Süssmilch’s treatise.

M. Block is of opinion that the descriptive school, by whom figures are regarded merely as accessories to and illustrations of the text, would have maintained its position even now but for the establishment of official statistical offices and the influence of the great Belgian Quetelet. Quetelet’s work was certainly “ epoch-making ” in a far higher degree than that of any of his predecessors. To the impulse created by him must be attributed the founda­tion in 1835 of the Statistical Society of London, a body which, though it has contributed little to the discussion of the theory of statistics, has had a considerable and very useful influence on the practical work of carrying out statistical investigations in the United Kingdom and elsewhere. Quetelet’s works were numerous and multi­farious, but his most important contribution to the growth of statistical inquiry was his investigation of the theory of pro­babilities as applied to the “ physical and social ” sciences, contained in a series of letters to the duke of Saxe-Coburg and Gotha, and published in 1846. Quetelet was above all things an exponent of the “laws of large numbers.” He was especially fascinated with the tendency to relative constancy of magnitude displayed by the figures of moral statistics, especially those of crime, which inspired him with a certain degree of pessimism. His conception of an average man (*l'homme moyen)* and his disquisition on the “curve of possibility” were most important contribu­tions to the technical development of the statistical method, though, as M. Block observes, their value may have been somewhat exaggerated by subsequent writers (Block, ch. i. p. 16, and ch. v. p. 112 *sq*.). It is not possible to enter at length into Quetelet’s work in con­nexion with statistical science. At the close of this article will be found a list including those of his works which are likely to be of use to students of statistics.

The influence exercised by Quetelet on the development of statistics is clearly seen from the fact that, though there is still considerable controversy among statisticians, the old controversy between the “ descriptive ” and arith­metical schools has disappeared, or perhaps we should say has been transformed into a discussion of another kind, the question now at issue being whether there is a science