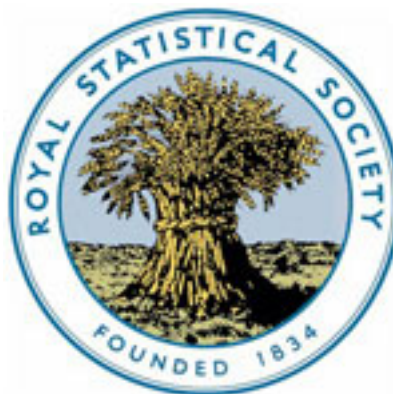


WILEY



Vital Statistics Explained by Joseph Burn

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Journal of the Royal Statistical Society, Vol. 78, No. 2 (Mar., 1915), pp. 305-306

Published by: [Wiley](#) for the [Royal Statistical Society](#)

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secular trend corresponding to a given year. Such a method would in fact offer some advantages over the periodogram.

The suggestion made at the end of the last paragraph brings us to another point. Professor Moore, dealing with data for 1870-1911 for crops and pig-iron, takes the "secular trend" as given in each case by the regression line on time, and terms the graph of the deviations the "cycles of yield of crops" and the "cycles of production of pig-iron" (Fig. 23). The method of fitting a straight line in this way has been used of recent years by several writers for giving the "average annual change" over a short period and so on, but is it legitimate in the present case? What right have we, in the first place, to assume that over so long an interval as forty years the secular trend is linear, and that the deviation may be regarded as a periodic movement? Surely this is a considerable assumption to make? Would it not be better to assume, as would be more natural, that the secular trend may be more closely represented by a curve? If this were done it might be necessary to confine the study of the periodic movements to those of short period (eight years, or anywhere between seven and eleven years, to take the figures of various writers); but, after all, when most people write of the "trade cycle" they are not thinking of any such period as thirty-three years, which does not strike the eye on a graph, but of those short period waves which form so conspicuous a feature of the curves of foreign trade, the marriage rate, prices, unemployment and so forth.

This review has already extended to an undue length, or some space might be given to Professor Moore's quarrel with other economists on the question of the uniformity of the law of demand. To say that the regression curves of price on production over a series of years cannot be regarded as demand curves in the sense used, *e.g.*, by Professor Marshall, does not lessen their interest or value, but does imply that they have no bearing on Professor Marshall's statement as to the uniformity of the law which he quotes. Professor Moore seems to have some objection to "the method of *caeteris paribus*" implied in the definition of the demand curve: but does he object to the method of partial correlation which is only an attempt to get near the condition *caeteris paribus*?

Faced with a dedication to "a critic who never disheartens," the reviewer fears he is inevitably exposed to an unfavourable comparison, but the suggestions and criticisms he has made are sufficient to show that he has found the volume an interesting and stimulating study in an attractive subject.

G.U.Y.

3.—*Vital Statistics Explained*. By Joseph Burn, F.I.A., F.S.I. Chadwick Library. x+140 pp., 8vo. London: Constable and Co., 1914. Price 4s. net.

In an introduction to this book by Sir William Collins the reader is informed that the object of the book, or more strictly of a course of lectures given by the author, is to invest figures relative to vital

statistics with attractiveness and popular appeal, and even to awaken enthusiasm for what is largely held to be a dry and uninteresting subject. Viewed from such a standpoint the work is excellent; it is very readable, and the subject matter is such as to appeal to many who would find little of interest or attractiveness in a typical official report on census or registration facts. The book is in strong contrast to such a report. It contains comparatively few statistical facts, while it contains many hypotheses and opinions, some of which no doubt are correct, but others are at least open to question, while all, whether right or wrong, are such as to throw interest into the subject, and such as to stimulate thought. The official report, on the other hand, endeavours to record the statistical facts fully, and in it opinions and hypotheses are out of place. Needless to say the opinionative unofficial book provides much more interesting and stimulating reading than the unimaginative official volume. Mr. Burn's book makes no attempt at completeness or at being a textbook; it deals with selected statistical subjects and selected statistical methods only, and leaves much untouched.

J.C.D.

4.—*Vorlesungen ueber Soziale Medizin.* Von Dr. Ludwig Teleky. Erster Teil. *Die medizinisch-statistischen Grundlagen.* viii + 282 pp., 8vo. Jena: Fischer, 1914.

Dr. Teleky's work is intended to serve as a critical introduction to the subject of Social Medicine for the use of students, and is not a formal treatise on medical statistics. In the earlier chapters, the usual comparisons of urban and rural populations with respect to death- and birth-rates are instituted, and the influence of occupation and social status upon mortality and fertility examined. A considerable portion of the book is devoted to a careful examination of the sources of fallacy inherent in *Krankenkasse* statistics. It is pointed out that the existence of rules in accordance with which members of the *Krankenkassen* pass out of benefit after a certain period results in the mortality of chronic diseases being greatly underestimated, if conclusions are based upon the statistics of the *Krankenkasse* alone. Kaup, indeed, has expressed the view that the rate of mortality shown by the German *Krankenkasse* statistics is in defect to the extent of 60 to 70 per cent., but the author thinks that this somewhat exaggerates the error. Another serious fallacy is involved in the comparison of the morbidity rates of different occupations without taking account of variations in the extent of employment and the proportions of casual labour in the trades it is sought to compare, since such variations greatly affect the morbidity rates quite independently of any hygienic differences between the material conditions of employment.

Interesting illustrations are also given of the degree to which personal equation comes into play in connection with diagnosis; one of these is worth repeating. In 1898 the number of notified cases of mercurial poisoning in Idria rapidly rose to three times