

ANNOTATIONS

THE TREND OF DIFFERENTIAL FERTILITY IN ENGLAND

THE general decline of fertility in western civilization and the inverse association of fertility with social status, reported with monotonous consistency from many sources, have obscured more intricate cross currents and dynamic factors which afford significant clues to the unpredictable future. We are indebted to John W. Innes¹ for a painstaking search for such factors in English data. This study should be read in conjunction with the important studies by D. V. Glass, which refer to similar materials.² The results obtained by these scholars are complementary, and in the main, mutually confirmatory.

Detailed treatment of legitimate and illegitimate birth rates confirms the thesis that a marked decline in fertility began in England at about the time of the famous Bradley-Besant trial in 1876. However, there were significant differences in fertility among social classes in England in the mid-Nineteenth Century; and earlier decline in fertility is indicated for all social classes except miners. Accelerated decline in the fertility of all social classes and the widening of class differentials during the last quarter of the Nineteenth Century are clearly demonstrated by the Registrar-General's monumental study, *FERTILITY OF MARRIAGE*, based on 1911 Census data. Unfortunately there are no comparable data for recent decades. It is interesting to observe, however, that Glass's coefficients of variation for gross reproduction rates by counties at twenty-year intervals reach a peak in the period 1910-1912. The coefficient for 1930-1932 is much

¹ Innes, John W.: *CLASS FERTILITY TRENDS IN ENGLAND AND WALES, 1876-1934*. Princeton University Press, 1938, 152 pp.

² Glass, D. V.: Changes in Fertility in England and Wales, 1851 to 1931. *In*: Hogben, Lancelot, *Editor*. *POLITICAL ARITHMETIC*. London, Allen and Unwin, 1938, pp. 161-212.

—: Fertility and Economic Status in London. *The Eugenics Review*, July, 1938, xxx, No. 2, pp. 117-124.

lower than that for 1910-1912 (133 as compared with 195); but by this time the gross reproduction rate for England had fallen below unity.

For the study of recent trends in fertility in relation to economic status, both Innes and Glass turn to data for London boroughs, with reference to Heron's study of such relationships in 1851 and 1901. Both authors experiment with several indices of social status, and introduce independent refinements in handling the data. The most interesting technical problem relates to measurement of fertility. Innes uses general marital fertility rates (births per 1,000 married women aged 15-49 years) for three-year periods, with an adjustment for age based on the regression of average age of wives on fertility, by boroughs. Glass uses estimated gross reproduction rates (summation of age-specific maternity frequencies, daughters only) derived by indirect standardization, since births have not heretofore been reported by age of mother in England. Innes exhibits the logical imperfection of indirect standardization, as contrasted with direct standardization though, as it happens, Glass's application to this particular problem was not available when this statement was prepared.³ Innes's theoretical position is valid. However, Stouffer⁴ has shown through experimentation that indirect standardization yields reasonably satisfactory results if the standard population does not vary widely from the populations under observation with respect to the distribution of the variable in question. To the reviewer it seems that to eschew indirect standardization for age in studying fertility and to place dependence on adjustments by the regression of average age of wives on fertility is "to strain at a gnat and swallow a camel." In any case, the results obtained by Innes and Glass are in substantial agreement on the central issue.

These studies demonstrate that there has been no substantial change in the coefficient of correlation between fertility and social status in London during recent decades, but that the variability of areas as regard fertility decreased by about one-half during the twenty-year interval 1910-1930. The regression of fertility on social status, by boroughs, has been materially reduced. In other words, it was quite as likely for poor boroughs to show higher fertility than more prosperous boroughs in 1931 as in 1911, but the magnitude of the difference was much less at the

³ Innes, *op. cit.*, Appendix I.

⁴ Stouffer, Samuel A.: *The Methodological Considerations in Comparisons of Rates for Geographic Areas*. A paper read at meetings of the American Statistical Association, held in Atlantic City, December, 1937.

later period. Innes shows that the same trend is continued in a comparison between rates for 1931-1933 and 1934.

A further important contribution by Innes is made through isolating the trend in the poorest fifth from trends in four other classes of boroughs. This analysis shows that the high correlation between fertility and social status in London is chiefly due to the conspicuously high fertility of the very poor boroughs. The differences between the other groups have been small, and there has been some crossing of trend lines among them. Decline in fertility in the poorest boroughs has paralleled that in the others, but the relative differential had not narrowed up to 1931-1933. The data for 1934 give some suggestion of a narrowing of this differential; but the outlook is uncertain.

The broad implications of these studies, considered with reference to studies in the United States and other countries, seem to the reviewer to be somewhat as follows. Regional and social differentials are in part a phenomenon of the general transition from "natural," uncontrolled fertility to "rational," controlled fertility, which is accelerated in some groups and retarded in others. He is confident that the wide differentials between regional groups in the United States will be greatly reduced during the next few decades. Among urban populations, the poorest families show the greatest lag in family limitation. Whether and how long the economically lowest stratum will continue to be characterized by disproportionate fertility cannot be foretold. In any event, for the present and for some decades to come, high fertility is concentrated in the very areas and families where conditions unfavorable to child development are most apparent.

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STUDIES IN HUMAN FERTILITY

THE latest product of the fruitful labors of Professor Raymond Pearl¹ and his laboratory assistants is one of the most interesting and significant contributions ever made to the study of basic population ques-

⁵ Secretary, Population Association of America.

¹ Pearl, Raymond: *THE NATURAL HISTORY OF POPULATION*. New York, Oxford University Press, 1939. 416 pp. \$3.50.