

**Population: Facts and Methods of Demography, by Nathan Keyfitz and Wilhelm Flieger (San Francisco, W. H. Freeman and Co., 1971), x, 612 pages, US \$13.50.**

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It is unfortunate that such a vague title was selected for this book; to me, and I suspect to many other demographers, the working reference is simply "Keyfitz and Flieger II," indicating the clear line of descent from the authors' 1968 compendium of data, *World Population*, as well as from Keyfitz's 1968 *Introduction to the Mathematics of Population*. The book is strictly demographic in its topics, and does not explicitly deal with the socioeconomic determinants and consequences of birth, death, and migration which are generally included in the term "population."

The book has four distinct phases, which as a group accomplish very effectively the authors' main objective, "the linking of data and theory." The first phase (into which I collect Parts I and V) sets up many of the fundamental challenges of demography. Patterns of birth and death rates by age, and the way that these have changed historically will generate rates of growth, population totals, and age-sex distributions. The rates themselves are obtained in practice, of course, from cross-sectional counts of births, deaths, and numbers of people. It is the demographer's function to obtain reasonably accurate input (coping with selective underreporting and misclassification, for example) and then to use this input to project forward or backward in time under plausible assumptions, to develop syntheses which have comparative and analytic uses, and otherwise to exploit the raw data. This part of the book introduces the raw data and some of the fascinating uses to which it can be put.

The second phase is oriented around actual techniques for data synthesis or reduction, al-

though the emphasis is on mathematical development, without any of the step-by-step description of a manual. Calculus elevates the level of abstraction, but it simplifies notation vastly, and the reader who can follow these discussions is assured of a better understanding of such ideas as "person-years," the expectation of life," "the intrinsic growth rate," "the stable population," "standardized birth and death rates," and many other such concepts.

Thirdly, Keyfitz and Flieger present Fortran computer programs for all the methods described. These programs are well within the capacities of most computers, including several in the Philippines, and their use does not require any knowledge of Fortran. Like other statisticians, demographers no longer need be drudges; they should understand the formal justifications for their life tables and projections, for example, but the numerical work can (and for the sake of speed and accuracy, should) be performed by computer.

The fourth phase of the book, and half of its length, is devoted to photo-offset reproductions of computer output such as life tables, short-term projections, and several kinds of vital rates for most countries of the world. Dry reading, yes; but invaluable as a reference for persons who know what these numbers mean and who want to make international comparisons or policy recommendations.

To sum up, although the book is remarkably self-contained and unified, anyone who selects it as his first demography book will probably find the methods too difficult and the tables too abundant.