

In Chapters III and IV, Dr. Lopez considers the case in which fertility and mortality rates change with time and shows that in this case, also, the resulting age distribution is dependent on the rates and pattern of their change, but is independent of the initial age distribution. In interrelating the mathematical work that has been done in this field and in developing additional theorems the author has made a valuable contribution to the mathematical theory of demography.

The usefulness of the book, however, is not limited to its mathematical side. In many places throughout the book and particularly in Chapter V, Dr. Lopez has pointed up the demographic meaning of features of the theory and has demonstrated the usefulness of stable population concepts in treating demographic problems. Chapter V could well be on a required reading list for workers in the field of population dynamics, for it considers with some breadth the meaning of an index in this field and clearly explains the misconceptions with regard to an index which have led some workers to overlook useful descriptions of the current situation by expecting them to be predictors. An actual application fortifies the exposition, which is of high quality throughout.

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POPULATION CONTROL

THE eradication of poverty is one of the greatest challenges that man must meet today. A central focus of this challenge is the population problem: the hard fact that in many of the less industrial countries the number of people is rising more rapidly than the quantity of food, housing, manufactured goods and services needed to provide them with higher levels of living. Much has been done and is being done to raise production in these countries, with visible and dramatic results. But, with a few exceptions, little has been done to lower rates of population growth. On the contrary, the introduction of relatively simple and inexpensive public health meas-

ures since the end of World War II has reduced death rates and accelerated population growth. No one could seriously dispute the opinion that the reduction of mortality represents a net gain in terms of human values. But it has made the reduction of high birth rates a more urgent need than ever before.

This is the unifying theme of *Population Control*, a collection of 14 articles originally published in *Law and Contemporary Problems*, by the Duke University School of Law.* Three of the authors (Robert C. Cook, A. J. Jaffe, and L. Dudley Stamp) deal with the relationship between population growth and economic development on a worldwide basis.

In the first article, Robert Cook describes population growth in the major subdivisions of the world in historical perspective. He emphasizes the rapidity of population growth currently and in the next fifty years in the "have-not" countries, where the maintenance of high fertility is associated with customs that are deeply rooted in the past and difficult to change. After describing some of the studies and proposals to reduce birth rates in these countries, Cook criticizes them as follows:

Current efforts along this line, centering around 'village studies' and other minor forms of sociological and anthropological inquiry are wholly out of scale in terms of the magnitude and urgency of the crisis. Time is short; the growth of peoples is accelerating; and if these trends continue for even another generation, the end result is certain, and it is not pleasant to contemplate. (pp. 11-12)

Obviously, the element of time is crucial, a fact that is specifically recognized in A. J. Jaffe's article, "Population Trends and Controls in Underdeveloped Countries," which discusses the various social and economic factors that will affect population growth in the less industrial countries in the next two or three decades. On the basis of his careful analysis, the author concludes that "under the best of circumstances, it will still take at least one generation, counting from the end of World War II, before there may be a decided slackening in

* POPULATION CONTROL: THE IMMINENT WORLD CRISIS, Melvin G. Shimm, Ed., (New York: Oceana Publications, Inc., 1961), 253 pp.

the rate of population growth and a very significant improvement in the levels of living." (p. 158)

L. Dudley Stamp's article, "World Resources and Technology," discusses the pressure of the population on land resources in various parts of the world, and the innovations that will probably raise agricultural productivity. One of his chief concerns is what will happen as more efficient methods of producing food displace people previously engaged in agriculture.

Although the central theme of this book is that rapid population growth hinders economic improvement, three of the papers (by Osborn, van Loon, and Miller) point out additional harmful effects. Frederick Osborn's paper deals with the quality of population. Population growth affects quality in three important ways: (1) By retarding economic progress, rapid population growth also retards the development of educational and cultural facilities that could improve quality. (2) Rapid population growth is often accompanied by the maintenance of high birth rates by the people least able to provide their children with an adequate environment for personal development and education, while birth rates decline among people best able to do so. (3) The differences in the birth rates between social and economic groups may depress the genetic quality of the population. Osborn reviews carefully the evidence for these assertions.

Henry B. van Loon presents a plea for the rational use of space. He argues that in the absence of planning, as the density of population grows, the "value" of land declines, in the sense that both its practical and aesthetic usefulness to people declines, even though its cost increases. He urges that research be undertaken to specify more precisely what the tangible and intangible values of particular areas are, and that such research be used to determine how best these areas may be used. Appropriately, the scope of the article is very general, not being confined to any particular group of countries, for the problem of land use is one that affects all countries, regardless of their degree of industrialization.

Another danger of rapid population growth, emphasized in an article by Arthur S. Miller, is that it hastens the reduction

of individual liberties in a democracy. Miller argues that in an industrial country, as a growing population increasingly strains the ability of the economy to produce enough goods to maintain high standards of living, there will be greater governmental regulation of economic activities. He sees this trend as inevitable, and urges that the United States, which serves as his primary illustration, adopt policies directed toward the achievement of an "optimum" population—that is, a size of population that is most consistent with the maintenance of high standards of living and with the preservation of individual liberties.

In this article, Miller deals with a limited aspect of personal liberty—that is, the extent to which government regulates economic activities. If we define personal liberty in a wider sense as the number and quality of opportunities that a given political and social environment offers to each individual to enrich his life in many ways (for example, with respect to his religious beliefs, education, health, participation in government, and so on), I think that there is no necessary correlation between size of population and the restriction of personal liberty, except, perhaps, at extremely high densities. The worst effect of rapid population growth is simply that it perpetuates poverty.

Four of the papers deal with population trends in particular countries. S. N. Agarwala reviews the progress and prospects for population control in India. This author also emphasizes the gravity of the population problem, saying that "it may not be possible, despite efforts at economic planning, to maintain the population at a rising level of living." (p. 202) But after describing the history of the family-planning movement in India and the studies that have been made of attitudes toward contraception and family planning, he concludes optimistically as follows:

All things considered, there is good reason to feel encouraged about prospects for the success of a family-planning program in India. The village folk can be won over to contraception, provided a well-thought-out educational program is launched to overcome their prejudices. This will involve hard work for a

long time, and it would be fatuous to expect that results will be forthcoming quickly. The government will also have to spend between 150,000,000 and 500,000,000 rupees per year before a significant decline in the birth rate can be anticipated. (p. 216)

Fertility control in Puerto Rico, "a model of progress possible to underdeveloped countries," (p. 182) is the subject of an article by Back, Hill, and Stycos. The authors first present a theoretical framework to clarify the relationship between what people feel they may do (i.e., the value system) and what it is possible for them to do. In countries that have had high birth and death rates the prevalence of high-fertility norms impedes the growth of values favoring family limitation, even though contraception may be available to them. A review of the progress of birth control in Puerto Rico shows how individual motivation for family limitation can overcome the opposition of an important normative institution, the Catholic Church.

Another example of the progress of fertility control in a particular country is described in "Population Control in Japan: Economic Theory and Its Application," by Bronfenbrenner and Buttrick. The authors present a theory relating population growth and national income. Although it is not possible to describe this theory in detail here, one of its important explicit assumptions is that birth rates fall as a country progresses from a primarily agricultural to a primarily industrial economy. Although this assumption may be appropriate for Japan as well as for other countries that became highly industrial during the past 100 years, I think that the authors should have added that we can no longer depend on the relationship between the birth rate and industrialization to eliminate automatically the acute and, in many ways, unique crisis of rapid population growth that the less industrialized countries face today. Surely birth rates in these countries will fall eventually. But "eventually" may not be soon enough to prevent great hardship.

W. Parker Mauldin reviews the vacillations of population policies in the communist countries. His description of policy

changes in Mainland China is particularly interesting. The author concludes that in the communist countries, as in the West, improved economic conditions result eventually in lower birth rates. This trend has not been combated vigorously. "In fact, there is increasing evidence of a rational consideration of the relationship between rates of population growth and economic development in many of the communist countries." (p. 131)

One article is devoted to methods of fertility control. Christopher Tietze describes the methods now available: abstinence (achieved by means of late marriage or celibacy), contraception, sterilization, and abortion. He discusses the extent to which various methods are used in countries having relevant data, and the effectiveness of the more commonly used methods of contraception.

The acceptability of the various means of fertility control, in terms of people's customs and values, is an important part of the population problem. Three authors concentrate on this subject (St. John-Stevas, Fagley, and Sulloway). Norman St. John-Stevas presents the Catholic point of view. Although he states the traditional arguments against artificial contraception, based on moral law, he is liberal with respect to the legal rights of non-Catholics to use whatever methods they wish. He believes that in predominantly Protestant countries, Catholics should not seek legislation to ban the sale of contraceptives. He urges that Catholics accept compromises concerning the giving of advice on contraception in tax-supported hospitals, such as that achieved in New York City in 1958. He disapproves of Catholics' attempts to exclude the Planned Parenthood Federation from united fund-raising campaigns in which a number of social agencies participate.

With respect to the population problem in the less industrial countries, St. John-Stevas advocates greater international cooperation and sharing of resources to raise living standards, and more liberal immigration policies for the wealthier countries. Unlike some Catholic writers, St. John-Stevas recognizes the need to reduce birth rates in the less industrial countries and recommends that the rhythm method be given widespread publicity to that end. This is certainly one of the most con-

structive approaches to the world population problem presented by a Catholic.

The emerging consensus of Protestant opinion about the control of fertility is represented in an article by Richard M. Fagley. The essential feature of this consensus is summarized in the phrase "responsible parenthood." There are few strictures on the means by which couples may control their fertility. As the author puts it, ". . . if the motives (for family limitation) are responsible, there is considerable latitude as to means." (p. 108) With respect to the control of fertility in the less-developed countries, the author hopes that Protestant churchmen will insist more vigorously that measures designed to reduce birth rates be included as an essential part of foreign-aid programs, "in accordance with the desires, needs, and moral convictions of the peoples aided. . . ." (p. 113)

Alvah W. Sulloway has contributed an excellent and well-documented survey of political and legal aspects of fertility control in the United States. After a review of legislation affecting abortion, sterilization, the distribution of information on contraception, and the sale and use of contraceptive devices, Sulloway discusses the controversy touched off late in 1959 by the Catholic reaction to the Draper Committee's suggestion that the United States help countries formulate plans for controlling population growth. The author believes that the initially timorous reaction of prominent and responsible people to Catholic opposition is being overcome by the recognition that society has, in birth control techniques, ". . . one of the more constructive and perhaps essential means of human survival." (p. 237) This is one of the best written and most timely articles in the book.

In compact form, *Population Control* covers the major problems relating to high fertility and rapid population growth in the modern world. The emphasis is, as it should be, on population trends and their consequences in the less-developed countries, but the United States and other industrial countries are not neglected. The articles were originally addressed to an audience interested primarily in legal aspects of social problems; hence, there are a number of references to law and the philosophy of law as they relate to population growth and its conse-

quences. This book provides a good introduction to the basic facts that constitute the population problem, and also to many of the opinions that have made it a controversial issue.

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GENERAL HISTORY OF WORLD POPULATION¹

IN recent years there has developed a lively interest in the historical study of demographic phenomena. The number of historical investigations has grown sufficiently numerous to justify a separate rubric in the bibliographical listings of the *Population Index*. At the 1961 International Population Conference a special session was devoted to research concerning 18th century populations, and on that occasion a demographic history association was founded. To this burgeoning field the volume under review, a comprehensive history of world population, makes a major contribution. In 1949 Marcel Reinhard, Professor of History at the University of Paris, published an earlier version of this work, *HISTOIRE DE LA POPULATION MONDIALE DE 1700 Á 1948*. This new edition, however, has been greatly expanded. Professor Reinhard has added a whole part which carries the analysis all the way back to prehistoric times while the co-author, Professor André Armengaud, of the University of Dijon, has revised the materials after 1800 and brought the story up to date. As in the previous edition, Professor Alfred Sauvy has contributed a foreword.

It is usually considered the better part of wisdom not to attempt any demographic analysis of prehistoric times. Yet, grounding himself upon a critical evaluation of both archaeological evidence as well as comparisons from contemporary preliterate societies, Reinhard does begin with a brief, if highly tentative, account of prehistoric demography. As the curtain of history rises, some written population figures become available. Interpreted with great caution they provide a few clues about density and population size in ancient Egypt, Mesopo-

¹ Marcel Reinhard and André Armengaud: *HISTOIRE GÉNÉRALE DE LA POPULATION MONDIALE*, (Paris: Editions Montchrestien, 1961), 597 pp.