POPULATION
in Its Human Aspects



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POPULATION

in Its Human Aspects

By

HAROLD A. PHELPS AND DAVID HENDERSON

UNIVERSITY OF PITTSBURGH



New York

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PREFACE

LIKE ALL continuous scientific investigations, studies about the people of the world differ in about as many ways as individual human beings. Today few students would agree with the importance that Cousin gives to the geography of population. As a rule, they regard population as a prime factor in social analysis. Their objective, however, is plural: to relate population to other prime factors and to fathom the numerous types of changing relations within a human population. In brief, population varies under the pressure of external conditions and it also changes under pressures within its own composition.

This point of view can be traced back in time to many observers who have suggested the interrelations between quantity and quality of people. Then as now, gloomy predictions and urgent demands have stressed nearly every cause of social disorder that is contrary to the welfare of the human species, and there is a long history of explanations or solutions. All these observations, panaceas, or moral judgments are now correlated in the bio-social study called *demography*.

The human aspect of population is one of the many possible approaches to the study of people, and that is the viewpoint adopted in this book. Its limits are human correlates, in addition to the arithmetic of population, and interpretations thereof. There is no pretense that most of the generalizations about population are anything more than the consensus of competent authorities—agreements, however, that have an extensive background in research. Because all studies about the facts of life contain many fictions, mysteries, paradoxes, and questions that cannot be answered, this volume has been prepared in the spirit of the Biblical recommendation that introduces the last chapter: "Get wisdom but also try to get understanding."

The *Table of Contents* partly indicates our point of view and system. In the classification of sections—Growth, Distribution, Composition, Balance, Quality, and Perspectives—each series of chapters is limited and is used to introduce the next section. The several introductions attempt to describe and clarify this interpretation and to suggest the needs and prospects of future studies.

No handicaps in the interpretation of the social studies are more frequent or exasperating than changing statistics in population reports and the impatience of the reader for the latest census or registration. Therefore, it is important to point out that exactness in statistics is seldom of absolute importance. Instead of the never-ceasing demand for the latest figures, the really significant need is for homogeneity in both census and registration figures. Up to the present, at least, these figures have been "seriously non-homogeneous," (meaning not comparable) and as a result analysis and in-

terpretation are subject to constant revision. Thus, the critical need is for a series of well-supported trends or generalizations that are not voided by temporary variations in census counts or a new vocabulary.

In a comment upon developments in the social sciences the epigraph on page 413 adds that: "there are three types of people doing research in the social sciences: the measurers, the producers or collectors of data, and the analyzers . . . most social scientists characteristically perform one or the other but not all of these functions."

The title of this book indicates that its aim is to study population from the combined insights derived from many disciplines. In this plan its chief goal is to combine an understanding of measurements and other numerical contributions with an interpretation of people and societies in their demographic relationships.

HAROLD A. PHELPS

University of Pittsburgh

DAVID HENDERSON

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Part I

GROWTH

In brief, demography, or the science of population, is the keystone of societal analysis.
JOYCE O. HERTZLER*

A CONSTANT SEARCH for information about the size and resources of human societies is an accepted responsibility of the social studies. Accordingly, there is a long history of record-keeping that represents the interests of people in the numbers of people. Such records, as they improve in accuracy and coverage, are the sources of the basic demographic facts—those concerning births, marriages, deaths, and migrations. They show how a society grows, and supply the numbers that can be expressed as rates and trends. In these numerical aspects, demography is the arithmetic and statistics of people.

Some of the oldest and most popular questions about human society concern the man-land ratio. How many people can the finite limits of world land area support? What are the possible ranges of growth? How will continuous growth affect the well-being of individuals or societies? Chapter 1 is an introduction to the global aspects of growth; Chapter 2, to the surveys of growth in the United States as a whole; and Chapter 3, to growth in the states and regions of this country.

This choice of emphasis and topics is made for two reasons: in beginning with the whole world there is opportunity to show how population develops and modifies, and in turn in modified by, (1) world society, and (2) the smaller, more variable social foundations of national or regional groups.

The aim of this section is to establish the backgrounds and conditions of vigorous, wholesome growth in the quantity of population, this being one of a network of factors basic to healthy well-organized societies in contrast with unstable or demoralized societies.

* *Society in Action* (New York. Dryden, 1954), p. 108.

Yes, gentlemen, give me the map of a country, its configuration, its climate, its waters, its winds, and all its physical geography; give me its natural productions, its flora, its zoology, and I pledge myself to tell you, a priori, what the man of that country will be, and what part that country will play in history, not by accident, but of necessity; not at one epoch, but in all epochs; and, moreover, the idea which it is destined to represent![°]

VICTOR COUSIN

[°] Quoted by Lucien Febre, in *A Geographical Introduction to History* (New York. A. A. Knopf, Inc., 1925), p. 10, *Introduction à l'Histoire de la Philosophie* (Brussels. Houman, 1840–1841).

CHAPTER I

World Prospects

World Government cannot be stable until every important country has a nearly stationary population.
BERTRAND RUSSELL*

What most frequently meets our view is our teeming population; our numbers are burdensome to the world.
TERTULLIAN, a Theologian of Carthage, third century, A.D.**

MANY EDUCATORS believe that an important function of education is to define and analyze anew, for each generation, a rather constant set of basic problems. Among these problems, the following concern us here: Can the world's population be supplied with adequate means of subsistence? Is it possible to achieve a balance between world population and world resources?

Professional students of population, along with scholars from other special branches of knowledge, have been concerned with these and similar problems for many generations. The special interest of demographers is in the past, present, and probable future of the population of a defined area, be it the world or a nation, in terms of total numbers, distribution in space, birth and death trends, migration, and other measurable characteristics. However, factors of population distribution and growth are inseparable from other social factors, such as economic production, public health, national security, and international peace or war.

Unfortunately, only crude estimates of such basic information as birth rates, death rates, and migration are available concerning the past and most of the present populations of the world. Therefore, one reason for the inability of demographic studies to appreciate and assess the role of population in world affairs is the absence of accurate information. Although there is historical evidence of human groups as far back as the last ice age, and records exist of important early centers of population in Asia, the Near East, and in the city states of the Mediterranean area, no guess as to the total

* *New Hopes for a Changing World* (London. Allen and Unwin, 1951), p. 99.
** Quoted in Harrison Brown, *The Challenge of Man's Future* (New York. Viking, 1954), p. 30.

world population has much validity. But to start somewhere, notwithstanding the risk of error, there is an estimate that the probable population of the world at the beginning of the Christian era was in the range of two or three millions.

In this review of world totals, observers prefer to reduce their approximations to verbal rather than numerical accounts and to trends rather than to guesses of numbers. From this perspective they conclude that the population of the world has experienced two long-time or secular trends.

The first trend is one of slow growth, which continues at a scarcely perceptible rate to the middle of the seventeenth century. However, there is enough evidence about ancient people for historians to believe that only the secular trend was smooth. At periods in the life cycle of many civilizations, certain tribes or nations flourished with evidence of considerable vigor. There are similar evidences of their downfall, due to natural or man-made calamities. And in both instances the factors in growth—meaning increasing or decreasing numbers—appear in lands occupied, in wars, in economic resources, in trade, in the founding or capture of rich cities and in their destruction. The first trend could be shown graphically by projecting a curve from 1650 back as many years as may be considered worthwhile.

TABLE 1–1. World Growth in Numbers and Rates, 1650–1950

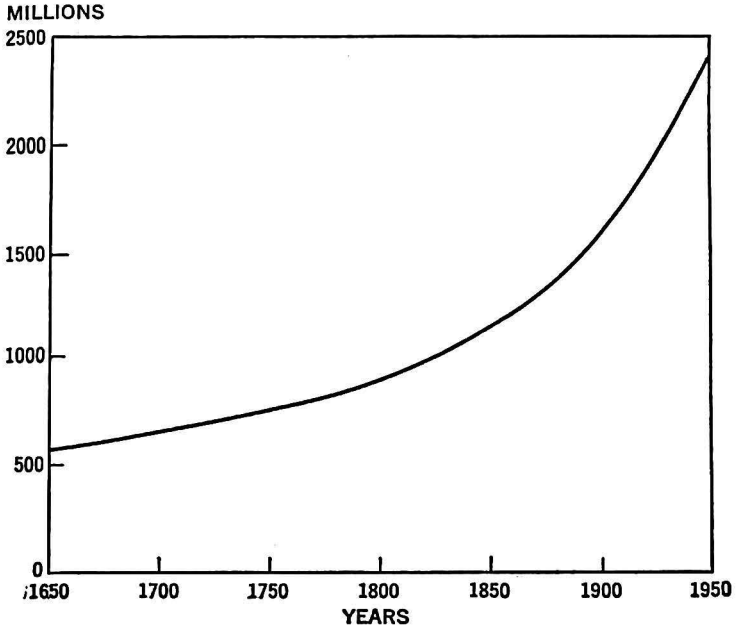
Years	*Total Population*	*Average Annual Per Cent Growth During the Preceding Period*
1650	545	—
1700	623	—
1750	728	0.29
1800	906	0.44
1850	1,230	0.51
1900	1,608	0.63
1950	2,400	0.81

SOURCE: W. S. and E. S. Woytinsky, *World Population and Production* (New York. The Twentieth Century Fund, 1953), pp. 34, 260. The percentages are from "World Rate of Growth," *Population Bulletin*, Vol. 8 (June, 1952), p. 11.

The second trend (*see* Figure 1–1 *and* Table 1–1) may be regarded as a second world cycle beginning about 1650 and continuing to the present. This trend shows a century of slow growth—a continuation of the same low rate that characterized the first trend—until about 1750, when world population growth accelerated and was reflected in an increased rate. This phase of the second long-time trend continued until the early decades of the nineteenth century when the rate of growth declined again and became growth at a decreasing rate of increase.

In the graphical representation of these variable rates this curve of growth is called the S-curve (sigmoid) or the ogive curve. In the United States this curve is also called the Pearl-Reed law of the growth of popula-

FIGURE 1–1. World Population Growth, 1650–1950



SOURCE: See Table 1–1.

tion.[1] When Pearl introduced this curve or law, it was widely acknowledged as being precise in its biological and statistical applications as well as in its uses in mathematics and chemistry. However, with the upturn in growth after 1940, the experts no longer support this or any other "law" of social change. They are not sure whether the curve is inadequate as a measure, whether the recent upward growth at increasing rates may become a repetition of the law on a larger population base, or whether recent increases are simply temporary departures from a general trend.

[1] Raymond Pearl, *The Biology of Population Growth* (New York. Knopf, 1925), p. 22; *The Natural History of Population* (New York. Oxford University Press, 1939), p. 257. As a law or a method of predicting future growth, this curve is discussed and compared with other methods of projection in Chapters 5, 19, and 20 below. The formula of the curve is credited to a Belgian mathematician, but this received no attention, and it was rediscovered by Pearl independently. The formula, based on logarithms, shows how different increments of increase or decrease occur when space is limited and other conditions, too, vary, as for example, available food in the case of plants or animals. Pearl specifically made two reservations in using or interpreting the law as adequate to explain growth or as valid for prediction—one, the size of the population must be known at the beginning of the period to be predicted; two, the amount of resources that will be available for future growth also must be known. Pearl, therefore, would claim the law to be valid when, as in American experience, there is a rapid and large increase in national production. (*See also* Figure 2–1, page 28).

Both Table 1–1 and Figure 1–1 supply the evidence of another set of facts in studying growth. Changes in population numbers—birth and death rates—obviously respond (often with unexpected rapidity) to numerous social and economic changes. The balance or net rate of growth may also reflect certain unknowns in such cultural modifications as literacy or health, governmental or national policies, and personal choice, to all of which demographers must devote more attention.

For many years statisticians have willingly admitted their inability to explain two mathematical aspects of the trend already noted in the discussion of the S-curve. Both are related to birth rates. First, why or by what combination of events do birth rates begin to increase rapidly as observed in the upturn in 1750? Second, why and by what combination of events do they begin to decline? This second transition is less readily observed in a smoothed curve of world growth. A trend toward increasing growth at a decreasing rate began, during the nineteenth century, at different periods in different regions or countries. Such a trend is most readily indicated by decreasing family size or decreasing birth rates per 1,000 married women in the reproductive age group, and in cohort fertility (the birth rates of a group of women married the same year and observed throughout their reproductive life).

No better evidence of the existence of unknowns can be cited than the nearly world-wide reversal of the birth rate trend during the decade 1940–1950. The fact that some areas fail to respond typically, and become regions of stationary or decreasing population, is an additional indication of unknown influences,

TABLE 1–2. Population of the World by Continents, 1700–1950
(Population estimated in millions)

Continent	*1700*	*1800*	*1900*	*1950*
North America	1	6	81	166
South and Central America	12	19	63	162
Europe	110	187	401	559
Asia	400	602	937	1302
Africa	98	90	120	198
Oceania	2	2	6	13
Total	623	906	1608	2400
	Percentage Distribution			
Continent	*1700*	*1800*	*1900*	*1950*
North America	0.2	0.7	5.1	6.9
South and Central America	2.0	2.1	3.9	6.7
Europe	17.7	20.7	24.9	23.3
Asia	64.2	66.4	58.3	54.3
Africa	15.7	9.9	7.4	8.3
Oceania	0.3	0.2	0.4	0.5
Total	100.0±	100.0	100.0	100.0

SOURCE: Woytinsky. See Table 1–1. Original estimates and projections are given in this reference.

WORLD TRENDS

Throughout most of the history of man, a history of at least a half-million years, man increased in numbers to the extent that a limited food supply and his way of life allowed. In other words, the so-called law of stationary population applied when numbers exceeded a limited food supply and death canceled the potential of growth through high birth rates. Without doubt the early history of man is marked by considerable fluctuations in his rate of growth. Numbers expanded when conditions for life were favorable, and conversely, numbers declined when disease or famine struck. Nevertheless, it is the consensus of demographers that, despite periodic fluctuation, the general trend in world population growth was gradual but steady until the middle of the seventeenth century, when a total of about 545 million persons was reached.

During the ensuing 300 years the total population of the world increased in such a spectacular way as to be called the most significant biological event in the history of the world. From 1650 to 1950 man's numbers increased from 545 million to 22,400 million. Since 1950 the increase has been estimated at numbers exceeding 88,000 a day, a figure which means a percent increase of 1.2 to 1.5 per year.[2]

When explanations for this tremendous increase in world population are sought, the conclusion is evident that no single factor is alone responsible. Among the many factors contributing to the rapid growth of population in the seventeenth century were a rising standard of living, a new technology, a changing social structure, a change in agriculture, and a great period of discovery.

It was in Europe that modern industrial civilization had its origin and it was in Europe that the upsurge of world population began. The industrial revolution and the agricultural revolution which preceded and accompanied it increased the resources necessary to population growth, created a new economic system capable of supporting an increased population, and provided the intellectual and manpower resources for the development of medicine and the public health professions. These factors, together with consequent changes in value systems (such as the value of individual life) and rising standards of living, had their effect on the balance between births and deaths. Prior to the industrial revolution both birth and death rates were high. An early consequence of the revolution was a decline in death rates. When birth rates were maintained at a high level and when control of the death rate became possible the consequence is obvious. European mortality declined because of an improved level of living and because of the control of the ravages of disease affected by developments in sanitation and medicine.

[2] Political and Economic Planning, *World Population and Resources* P. E. P. 16 (London. September, 1955), p. 3.

A second and subsequent effect of social changes was a decline in the birth rate. As the standard of living rose, as goods and services multiplied, and as corresponding social and psychological changes occurred, not only did conditions affecting the death rate come under control but also powerful motives were developed for the control of births. Therefore, in highly industrialized societies of western Europe, the later stages of industrialization were accompanied by a widespread voluntary reduction in births.

Despite control of the birth rate, numbers continue to rise in Western societies. In the United States, the population is expected to reach 200,000,000 by 1980 and this expected increase has again raised the issues as to whether or not we are reaching the limits of our land and whether we may be hard pressed to maintain an increased population on a customary high level of living. When the world is viewed as a whole, projections are made of 3,295 million to 3,990 million people in 1980, which imply that world population will continue to increase over the next generation at about the present annual rate. However, the rate of increase is not uniform throughout the world. Of special concern is the fact that nearly two-thirds of the world's population lives in the underdeveloped areas of the world where annual increases of 2 to 3 per cent already exist or threaten to occur. Such peoples have been described as being in the cycle of population characterized by high birth rates and high death rates, or the cycle in which birth rates remain high and death rates are falling. Implicit in this concern is the belief that the underdeveloped countries are likely to go through the same population cycles as the peoples of the Western world. Such an assumption is not without its dangers. Cottrell points out that the population of the underdeveloped areas is so great that in order to reach the level of industrialization at which fertility could be expected to decline, different conditions would be required than those that characterized western Europe at the beginning of its stage of fertility decline.[3] There is nothing inevitable about so-called "stages of population balance"—relation between birth and death rates—as stages may be combined or skipped entirely in the demographic trends of a people.

Optimism and pessimism

The debate continues as to whether or not increases in population will inevitably mean the destruction of industrial civilization. In all probability this debate will persist, since assumptions basic to interpretation of fact and inferences drawn from fact have been, for the most part, incapable of verification. Optimists indicate that by using wisely the current resources at our disposal and by applying our intelligence to the development of new resources, we will be able to feed the people of the future. The cultivated area of the world may be increased by about one-fourth and the

[3] Fred Cottrell, *Energy and Society* (New York. McGraw-Hill, 1955), pp. 166–170.

yield per acre can be increased by extending presently known methods of agriculture. For example, under pressure of war, American farmers were able to boost by one-third the output of crops per acre. The scientific hybridizing of corn has increased the average yield by at least 25 per cent, and the principle of hybridization is being extended to other crops and to the animal world. Not only are present resources capable of development but the optimists point to a future, which in some degree is already the present, when algae grown in artificial cultures, and systematic "farming" of the sea, will provide an expanding source of food. No limits are seen in the application of man's intelligence which it is believed will some day unlock the secret of photosynthesis and make man the master of the sun.

Just as the optimist is positive in his feeling about the ability of man to feed the future population of the world, so is he hopeful concerning the use of nuclear energy to fill the gap left by the eventual depletion of fossil fuels. While eventual depletion of fossil fuels is forecast, present estimates indicate that other ores essential to industry—those containing iron and aluminum, for instance—are present in large quantities and should last for hundreds of years. It has been suggested that, for the United States, absolute shortages of mineral resources is not the basic threat to industrial development. The actual threat is one of rising costs in procuring these resources.

Optimism is challenged by the pessimism of those who see man as his own worst enemy. Fairfield Osborn indicates that the prime problem of man is one of conserving the resources remaining to us and that in this respect we are not doing all that could be done.[4]

If an intake of 2200 calories be regarded as a daily minimum standard for a healthy and active life, it can be shown that undernourished peoples are concentrated in certain regions of the world. The great majority of the underfed peoples of the world are living in Asia, Africa, and Latin America. In these areas, illiteracy, technical incompetency, outmoded social organization, and economic and social values different from the work ethic of western culture have raised doubts as to the possibility of meeting the challenge before it is too late. In fact, there is some concern that the race may be in some measure already lost as world production of food calories lags behind the population increase. How this increase in production is to be met in the face of depleted resources is a major conservation issue. In the United States alone about 500,000 acres of once-productive soil is lost as a resource because of erosion. What takes nature centuries to build is destroyed in short spans of time.

In all shades of opinion, one thing seems clear: the future of man lies with man himself. Will he be wise enough to recognize that he must cooperate with "nature"? Will man be able to overcome the handicaps of

[4] Fairfield Osborn, *Our Plundered Planet* (Boston. Little, Brown, 1948), pp. 196 ff.

hundreds of years of poverty and ignorance, to establish techniques of transition to the utilization of new energy resources, and to effectively educate those peoples of the world most in need? While it may be true that where the need is greatest, achievement has been least, nevertheless, since 1945, the Food and Agriculture Organization of the United Nations has provided specific examples to show that man may be equal to the challenge.

REGIONAL AND NATIONAL TRENDS

Inherent in the discussion of this point is the conception that, in order to define them, the problems of resources and population must be restated in terms of specific times and specific places. National and regional variations make for different conditions with respect to numbers of people, levels of living, potential resource use, and humanistic attitudes concerning the place of man in the world of nature.

The character and transition of world growth are most apparent in the comparison of continents and regions. In Table 1–2 both the volume and the per cent distribution are given by continental areas. As the United Nations reports on world trends point out, there are six obvious conclusions: (1) All areas of the world have a growing population and this trend will probably continue. (2) Growth in Eastern Europe has been slower than the world average because of war losses and political expulsions. (3) Growth in the United States, Canada, and in some of the Latin American countries (especially those in the temperate zone), and in Australia is at a high rate and above the world average. (4) Latin America is the most rapidly growing major area. (5) The increasing volume of population of Asia, previously overpopulated, makes this the most unstable area. Serious consequences will occur here unless there is a reduction in the current rates of growth. (6) Europe continues to grow on a basis of low rates (it has the lowest birth rate of any continental area), but since it has been handicapped by excess population for more than a century, its present growth is burdensome and its economic production is far from sufficient.

DISTRIBUTION OF WORLD POPULATION

57 per cent of the total land area has 4.5 per cent of the population
81 per cent of the total land area has 18.3 per cent of the population
5 per cent of the total land area has 52.5 per cent of the population

DENSITY OF WORLD POPULATION

81 per cent of the total land area has a density of 9 persons per square mile
13 per cent of the total land area has a density of 86 persons per square mile
5 per cent of the total land area has a density of 394 persons per square mile

The world situation in brief can be summarized by the phrases: too many people, too little land, too few resources, and too inaccurate or de-

ficient information about the relation of demography and social and economic conditions. In the omission of comments concerning Africa and Oceania, the absence of adequate information in these areas as to growth or other complementary developments in the economic or social basis of society is clearly shown.

National trends: distribution and composition

Comparisons between nations are usually made statistically. Hence, countries may be grouped or categorized on the basis of growth and per cents of population increase when they would be more justly compared by means of other statistical or non-statistical evidence. Crude birth and death rates, rates of natural increase, and occasionally infant and maternal mortality rates are the most popular comparisons because they are also used as indexes of economic and social conditions. At many periods in the development of different national populations, there are deceptive similarities only to be understood when the population in terms of size or some other specific demographic factor is interpreted through such variables as density, land and other resources, productive techniques, or in other words the status of the particular country on the curve of growth.

Valid demographic comparisons, however, are limited by no means to an exclusive reliance on statistics. Frequently comparisons by "word pictures" or by a composite scale of "cultural values" can be effective, useful, and objective.

In supplying preliminary guides, international comparisons make significant contributions to an understanding of ordinary trends and exceptional variations from trend. The main purpose of this section is to point out a few spectacular exceptions. In addition, some of the adjusting characteristics in distribution and composition will be introduced, what is meant by stable or balanced populations will be partly distinguished, and the evidence that classifies a people among the danger zones will be readily detected.

Among the most favored nations, the United States is given as an example of high growth rates. This growth, however, is supported by its economy where levels of living have continued to improve. At present there is no risk of congestion or of the overwhelming resource problem and liabilities that will be regarded as more or less normal in other large areas. As mentioned previously, other most favored countries (though their particular combination of favorable elements may be somewhat different) are Canada and several countries or areas in Latin America (Argentina, Uruguay, Paraguay, parts of Brazil, Mexico, Chile, Peru, Venezuela, and Costa Rica where improvements in health, standards of living, economy, and urbanization give them either the character of, or the prospect of becoming more like, the United States. New Zealand, sometimes Australia, and a few European countries are occasionally admitted to this category.

Exceptionally unstable conditions are widely prevalent in most Latin American countries,[5] and especially in those areas that have a large and increasing population with no plans for its support or regulation. Current rates in most of these countries will soon double their populations, but few have the prospect of avoiding the ills of overpopulation either by migration, industrialization, or improvements in agriculture. On the whole these nations illustrate the population limits of an agricultural economy. In many respects they are in a more critical position than Asiatic countries because their natural resources are not sufficient for an industrial development. Consequently, there is a persistent repetition in the reports of inadequate land, low carrying capacity, low production, low income, low standards of living, and equally poor indexes of social accomplishments. Vogt has described most of these populations as the "ecologically dispossessed."

Puerto Rico and El Salvador are generally elected as the most notorious examples of all these disadvantages, with Haiti and Guatemala as close rivals. Costa Rica is an example of the opposite conditions with a low density of population, a sufficient economy, and an efficient conservation program.

In most of Europe there was a brief period of increasing rates of growth during or immediately following World War II. This situation applied to England, Scotland, Wales, Austria, Germany, and Italy, all of which have long been the victims of overpopulation. Other European countries frequently cited for their demographic trends are Ireland, France, and the Scandinavian group. The Scandinavian countries are illustrative of stable, balanced peoples. On the contrary France, with a record of more than a century of underpopulation and in spite of recent upswings in the birth rate, gives no prospect of permanent recovery to supply its need for agricultural and industrial labor. Ireland's history is like that of France. For more than a century its population has declined. It too has had recent increases but there is no surety that they are going to be permanent. When a European country has fostered the ills of either overpopulation or underpopulation, none has been particularly successful in adopting a social policy to halt or reverse the trend. Neither Great Britain, Germany, nor Italy were able to relieve adequately the pressure of overpopulation during their critical periods by industrialization, colonization, or voluntary migration.

Most regions or nations in southern Europe are generally classed with Italy as danger zones economically and politically as well as in unstable population.

Asia is also a danger zone. It has not only the largest share of the world's population but its persisting high birth rates do not forecast relief from

[5] The sources of these national examples are given in the bibliographical notes at the end of this chapter.

current excessive additions to this total. As a rule, influences of the Western world in Asia have been more successful in cutting down mortality rates than in reducing the birth rates. Here, on a continental basis, probable future increases of population will intensify and extend already serious problems.

Demographic and other sources of these disorders describe the following pattern of population as sensitive to calamity: (1) a rate of growth as high as 1.2 per cent per year and a high density of population; (2) an agricultural people with few cities; (3) uneven distribution, varying with the suitability of the land for farming; (4) mostly hand labor; (5) low production; (6) small agricultural holdings and poor farming practices (overgrazing, erosion, destruction of forests); (7) subsistence levels of living; (8) little or no industry; (9) government that is unable to cope with these obstacles partly because of religious and other cultural cleavages among the people.

Africa has a demographic status that is peculiar to its own limited role in world affairs. It is underpopulated. It is handicapped by poor and unproductive soils and by a range of climatic variations that are not favorable to agriculture. In terms of its capacity to support an increasing population, therefore, Africa is in the same category as Asia. Most of its people are exposed to all the ills of overpopulated lands, indicating that such conditions as famine, poverty, and disease are not the special correlates of overpopulation and that population pressure can occur in areas of low density. Of all the world's areas of unstable population, none are more exact instances of population problems at their worst than the North Africa regions of Tunis, Algeria, Morocco, and Egypt.

Israel during its brief period as a nation is unique as an experiment in demography. In many respects its development is like that of a new country and it has been compared to the United States as the nearest example of rapid growth. In recent years the birth rate has been close to the theoretical maximum for humans, and the death rate has been as low as that achieved by any of the advanced countries. Accordingly, the structure of the population is outstanding for its high proportion of young people (which is increased by a heavy immigration), for its high proportion of males, for an urban development that includes more than three-fourths of the total population, and for rapid strides in industrial growth. Since no country has been able to maintain an increase at the recent rate in Israel, there will necessarily have to be changes in its birth rate and immigration. It is also most likely that Israel will be faced with a number of other inevitable consequences of the demographic trend when its economy is put on a self-sustaining basis.

Russia, in our survey, is also unique, largely because we have little information about its recent experiences. Historically it has always been considered a land of low carrying capacity and generally overpopulated in

comparison with European or American standards of production and living.

MIGRATION

This brief comparison of national trends indicates that patterns of population are dependent upon changes in size of population due to varying birth and death rates and to changes resulting from migration of people from one land area to another.

A summary review of the movements of man illustrates how the species spread over the entire globe, producing racial differentiation while retaining its unity as a species. From pre-history to the present the movements of man have been associated with extreme examples of mans' recognition of his common humanity. Writing from the perspective of post-World War II with its associated millions of refugees, it would be bold speculation to indicate a major historical trend toward mutual aid or to a crass survival of the strong.

Beginning with the appearance of Homo Sapiens, probably in northern Africa at the end of the Ice Age, man spread into Europe and Western Asia. Although attention will be directed toward major migratory movements of modern times, it should be noted that early movements of people were primarily group movements in response to changing climate and diminishing resources. In these early movements it would seem that the factors that made for the survival of man were the development of intelligence and his adaptability to the environment. Later movements are told in the history of invasions. The invasion of the Goths into Roman Europe is one of the best examples of a mass movement and illustrates the nature of such movements. Starting from the area of the Baltic and pressured by overpopulation and possibly some natural calamity, the Goths moved south, picking up local groups as they went. The movement from its origin to the conquest of Rome, in the year 410 B.C., extended over a period of more than 200 years. The invaders continued to live in Italy for about another 150 years, after which they disappeared as a distinct people. Movements of the Tartars into European Russia, the Lombards into northern Italy, and the Norsemen into France and then into England tell the story of invasion and conquest, colonization, slavery, and forced migrations which have been effective forces in the dispersal of man over the face of the earth.

The great exodus from Europe, beginning in the sixteenth century, has been the most important migration of modern times. From a slow beginning associated with exploratory thrusts and small settlements, the migration grew in intensity until it swelled to annual numbers estimated at a million to a million-and-a-half persons per year. Between 1820 and 1950, close to 40 million persons came to the United States alone. So great was

the migration that European peoples and European cultures dominated many continents of the world.

Different parts of Europe contributed to the movement in differing degrees and at different times. The very earliest explorations and colonizing ventures were initiated by those countries facing the sea and having a maritime tradition. When the population movement began to swell, it first came from northwestern Europe, then from the center, the south, and finally from the east. In the first three-quarters of the nineteenth century over half of the immigrants from Europe came from England. By the middle of the century Germany was sending out about one-fourth of the emigrants from Europe and at the beginning of the twentieth century, Italy, Austria, Hungary, and Russia were the home lands of the majority of migrants from Europe. The United States received the largest proportion of European migrants, followed by other American countries, particularly Canada and Brazil. Of the countries outside of the American continent, Australia and New Zealand were the recipients of large numbers of European migrants.

While the population movement from Europe is the most significant migration of modern times, there have been other migrations which have been of particular significance to the receiving countries. Compared to the United States, Malaya has received a much greater number of aliens, due primarily to the Chinese migrations into the country. In Malaya the Chinese and Indians comprise over half of the total population. Another major migration has been that of the Chinese into Manchuria where, in the early decades of the twentieth century, Chinese migrants numbered a million or more per year. Such movements are significant in the fact that they plant large ethnic groups in the receiving countries.

The forced migrations of modern times is told in the story of the refugees.[6] Totalitarian attempts to build empires were accompanied by control of the movements of people. Germany and Russia moved people like pawns in a great international chess game. Territories were conquered and people driven out so that others could be moved in, "undesirable" people were forced to flee their homelands, and millions were gathered up and transported to slave labor. From the clearing of the Poles out of western Poland by the Nazis to the mass escape from Hungary as a result of popular uprising, millions of persons have been uprooted and forced to roam the earth.

The extent of forced migration can be glimpsed in the ten to twelve million forced to migrate between the Indian Union and Pakistan following their establishment as independent nations; in the thirty million people involved in the movements attendant to the German and Russian occupa-

[6] Jacques Vernant, *The Refugee in the Post-War World* (London. Allen and Unwin, 1953). Eugene M. Kulischer, *Europe on the Move* (New York. Columbia University Press, 1948).

tions of Europe; and in the 150,000 Hungarians who fled Hungary upon the armed intervention of Russia in the uprisings of 1956.

When viewed through a long stretch of time, the course of migration seems to be from mass movements in response to the forces of nature, to the relatively free individualistic movements in response to economic consideration, to the mass refugee and emigree movements attendant upon political compulsions. Each particular movement must be viewed as a specific response to unique cultural or historical situations that are associated with a redistribution of peoples. When so viewed, a number of factors have been indicated as affecting the amount and direction of migration. The initiation or development of transportation has often been important in the opening of new territories for migrants, as evidenced by the fact that immigration to the United States on a grand scale began when the construction of canals and railroads opened up the interior of the country to settlement. The volume of migration has fluctuated in the past in relation to variations in economic conditions. In fact, the highly individualistic migration of the nineteenth century was due mainly to economic factors—the individual seeking improvement in his level of living and opportunity to farm new lands or to escape industrial unemployment. Other economic factors, important to the flow of migration, include the following: industrialization and urbanization as these conditions either provide hope for opportunity in new lands or provide an economic base attractive enough to retain the native population; the scarcity or abundance of harvest; and the influence of the business cycle. The influence of the business cycle has been of special interest to students as periods of prosperity attract migrants while migration falls off during periods of depression.

Although economic factors are particularly important to the volume and direction of migration, other conditions are also significant. Certainly the desire of migrants to be with relatives, friends, and neighbors has been important in clustering of nationals in particular areas. National policy concerning migration has been another major consideration as evidenced by the restrictions placed upon migrants into the United States or by the British experience in attempting to direct the flow of migrants to the British Commonwealth.

The study of any specific migration, therefore, will indicate a number of personal and social elements of importance to an understanding of the movement. Furthermore, demographic factors including the press of numbers; economic factors, particularly the cycles of business; political considerations, for example international agreements and commitments on refugees and national population policies; together with many other historical and cultural elements must be a part of the whole within which specific migrations are studied.

Migratory movements have been of special interest to the ethnologist

as he has studied the fusion of peoples and the emergence of new characteristics. Contemporary professional social work is actively involved with migrants—particularly, in the United States, in alleviating the conditions of the immigrants. Arguments abound in contemporary life as to the wisdom of specific immigrations bills, and demographers debate the effects of migration upon population increase or decrease in sending and receiving countries. Migratory movements, therefore, can be seen to have raised significant questions for analysis by specialists in many branches of knowledge. They also have meaning for social movements—that is, they may hasten or retard industrialization and urbanization, the settling of countries, and, by their numbers, the assimilation of the migrants into the native culture.

STABILITY AND INSTABILITY

A classification of the different population groups throughout the world as relatively stable or unstable is useful for temporary analysis and tentative conclusions. However, there is no absolute distinction between the two. Whenever a country or a smaller group of people is called stable or unstable, the critic must assume that, "other conditions being equal," such distinction may be serviceable in assembling and labeling masses of evidence.

Stability is a rough index of balance which is used exactly in its everyday meaning. Hence, instability is off-balance. Neither a stable or balanced population nor an unstable or unbalanced population can be detected by any particular type of growth. Both are the consequences of a variety of conditions. Previous attention to particular countries has been given primarily to show what these conditions are. The aim of this book with its stress on social aspects is to suggest a list of correlates that may become significant in the recognition of the assets and liabilities of a society.

In order to begin this analysis of types of demographic balance, a number of classifications of different countries has been proposed. One classification adopts the index of density of population. In its application the nations are separated accordingly as they are essentially agricultural, industrial, or more or less both. A second classification, using as its index varying rates of growth, proposed by Warren Thompson and appears as follows in his publications: Class 1 countries are those with low birth and and death rates. Included are the nations of Western Europe, the United States, New Zealand, some other areas with similar conditions; Class II countries are those which have higher birth and death rates than Class I, but have succeeded in reducing death rates more than birth rates—Southern Europe illustrates this category; Class III countries are those with high birth and death rates. This category includes most of the Asiatic countries—hence, most of the world's people. A third type of classification suggests the divisions, developed, underdeveloped, and transitional areas as

these adjectives apply to economic and social systems. A fourth classification, mainly the outcome of criticisms of the above, will be outlined in more detail.[7]

In this fourth classification, there are three types of variables in the index that are applied to the different nations. This index is composed of changing birth rates, changing death rates, and changing rates of effective adaptation of industrial techniques. The following classification of seven types of population illustrates this system.

TYPES	DEMOGRAPHIC INDEXES	ILLUSTRATIVE COUNTRIES
1.	Low birth and death rates. High urbanization. Industrialization.	Great Britain New Zealand United States
2.	Low birth rates. Death rates higher than in Type 1. Less industry than in Type 1.	Canada France Switzerland Sweden Denmark
3.	Higher birth rates than in Type 1 but with death rates and industry similar to Type 1.	Netherlands
4.	Essentially agricultural. Medium birth and death rates. Industry undeveloped.	Ireland Portugal
5.	Birth and death rates as in Type 4 but with more industry.	Italy
6.	High birth and death rates, with a tendency toward better control over death than birth rates. Moderate industrial development.	Japan Chile Trinidad Honduras
7.	High birth and death rates. Little or no industry.	Puerto Rico Mexico India Korea Egypt

[7] Paul K. Hatt and others, "Types of Population Balance," *American Sociological Review*, Vol. 20 (1955), pp. 14–21. F. W. Notestein, "The Population of the World in the Year 2,000," *Journal of the American Statistical Association*, Vol. 45 (1950), pp. 335 ff. Warren S. Thompson, "Population," *American Journal of Sociology*, Vol. 34 (1929), pp. 959–975. Kingsley Davis, "The World Demographic Transition," *The Annals of the American Academy of Political and Social Science*, Vol. 237 (1945), pp. 1–11. Leighton Van Nort and Bertram P. Karon, "Demographic Transition Re-examined," *American Sociological Review*, Vol. 20 (1955), pp. 523–527.

Degrees of stability are also apparent in a number of areas that are not ordinarily classified in the above groups.

Tibet, for example, is a classical instance of stationary population, and there is no indication that this status will be modified in the near future. The conditions that are reported as accounting for this doubtful position (so far as a secure population is concerned) are largely associated with its physical and cultural isolation. Internal factors are high rates of infant mortality, low life expectancy (the current average being about thirty years), the religious custom that absorbs a large number of the male population into celibate monasticism and that is responsible for a surplus of women, dietaries that are insufficient, absence of sanitation, and the constant presence of numerous endemic diseases with no efforts to treat or control them.[8]

In the Middle East such countries as Jordan, Iran, Iraq, and Syria are "backward and unstable, a menace to themselves and to world peace," largely because of deficient water supplies with the subsequent deficiency of agricultural production. In addition to this poverty of nature, age-old rivalries between Arabs, and now between Arabs and the people of Israel, have succeeded in obstructing plans to increase the water supply and to provide for its distribution over the entire area. Other critical areas are identified by such inadequate food production that the people are always close to starvation and always on substandard calory diet.[9]

Danger zones

The idea of danger zones in world population was brought to public attention in the publications of W. S. Thompson, beginning especially with his *Danger Spots in World Population* published in 1929. In later revisions and in other books such as *Plenty of People* (1946), Thompson emphasized the barriers to world peace when certain areas of the world are overpopulated and other regions have few inhabitants but remain underpopulated because governments have prohibited immigration.

There are of course many different kinds of danger that menace the well-being of people throughout the world. Since any one choice of these critical areas is valuable only as a temporary illustration, the following selection is cited here as being both timely and in close agreement with the causes of instability that appear to be chronic.[10] The basis of this selection is excess population, growth, militarism, and poverty.

[8] Heinrich Harrer, *Seven Years in Tibet* (New York. Dutton, 1954), p. 197.

[9] "Food, Income and Mortality," *Population Index*, Vol. 13 (April, 1947), pp. 96–98. Compare with Philip M. Hauser, "Research Potentialities in Burma," *Population Index*, Vol. 19 (October, 1953), pp. 260–271.

[10] There are periodical summaries of these "trouble-spots," in most of the weekly reports on the news of the world, for example: *U.S. News and World Report*, October 14, 1955, p. 53.

CURRENTLY CRITICAL AREAS

1. Ceylon
2. Formosa
3. Java
4. India
5. Japan
6. Afghanistan
7. Philippines
8. Micronesian Islands
9. Egypt
10. Indonesia
11. Puerto Rico
12. Latin America, as a whole

SOCIAL AND ECONOMIC CORRELATES OF POPULATION TRENDS

Because the major emphasis of this volume is concerned with the social and economic correlates of population trends, it is sufficient here to introduce briefly some of the correlates which will be detailed in the chapters that follow. For example, the fact that reductions in infant mortality are particularly sensitive to changes in social and economic conditions is mentioned as a correlate of population trends and is then discussed in Chapter 11.

Population trends, as noted above, are compounded by changes in component elements of fertility, mortality, and migration. Each of these elements is functionally interrelated and social and economic factors affecting any one element affect the others. Furthermore, social and economic factors are linked in a complex whole and a change in any one will inevitably have an effect upon the whole of which it is a part. Therefore, while no simple, definitive, statement of universal relationships is satisfactory to explain changes in population, nevertheless a number of social and economic conditions have been consistently found to be present with change in fertility, mortality, and migration of people.

Before the onset of the industrial revolution, Europe and the present underdeveloped areas of the world had high death rates. All authorities are in agreement that low standard of living levels, periodic famine and plague, insufficient or inadequate diet, lack of educational, medical and health services, and the ravages of communicable disease account for a large part of the deaths. Agreement exists also in the belief that the first reduction in death rates was due primarily to a rising standard of living. Increased efficiency of agriculture and progress in industry were of primary importance to the declining death rate in the Western world. However, there is no doubt that medical progress in the control of disease, and the adoption of legislation which improved working conditions and alleviated other social circumstances associated with disease and accident have played a large part in the reduction of the death rate. Infant mortality rates are often used as an index of social welfare because they are particularly sensitive to levels of literacy and levels of living. The fact that infant mortality rates vary inversely with economic levels is a further clue to the close relationship existing between mortality rates and social and economic circumstances.

High fertility is usually associated with high infant mortality. Social customs and personal attitudes regarding marriage and the family are primary considerations in any analysis of changing birth rates. Attitudes regarding the function of marriage and the procreation of children are affected by increased urbanization, rising standards of living, the changing status of women, and accelerated social mobility. Differential fertility, that is, the varied fertility of different social groups and categories, seems to be a function of social status, occupation, the amount of education, and the religious preference of the adult members of the family. There is general agreement among students of population that the reduction of family size exhibited by families in the Western world was brought about primarily through changing attitudes reflected in increased use of birth control methods.

Differences of fertility are often a function of different age and sex distributions of populations. These age and sex distributions are shaped by trends of fertility, mortality, and migration, and, as a result, there are continuous changes in age-structure that influence the future trend of population. Different age and sex structures mean differing proportions of the population in dependency groups and in the groups available for employment and defense. And because so many social circumstances are defined or associated with age prescriptions, the age and sex distribution of a population is of primary significance to the analysis of most social problems.

The distribution of the world's population has been determined by a variety of circumstances among which the location of arable lands and minerals and other sources of energy have been particularly important. Redistribution of population has been influenced by developing industrialization and the mechanization of the world's economy, with attendant freedom from dependence on land and an increased mobility of labor. Of particular significance in recent years has been the role of government in the control of migration, and the kind of social system into which the population is organized. Presumably, as population is evaluated as a national resource, future patterns of distribution will be more dependent upon these factors of social organization and government control.

SUMMARY AND PROSPECTS

This review of world population and of outstanding national trends serves two useful purposes in the studies of demography. It points out the wide range of tasks that are becoming the recognized scope of its researches. Taking its name from the Greek word *demos*, meaning "populace"—all of the people—the new expanding demography includes all people and combines most of the biological and social sciences in its studies and policies.

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Like all fields of research that are new and that often are concerned with timely, controversial, and critical issues, demographers are confronted with questions that cannot be answered, or are asked to explain carelessly worded statements. Occasionally, the abbreviated newspaper headline is the source of this difficulty when a phrase or sentence is taken out of its context. Examples are "the world's population is increasing by 100,000 per day," "two-thirds of the world's children are underfed," "300 million people each year are victims of malaria," "most of the human race cannot read or write," "there are now as many Russians in the world as there are Americans, twice as many Indians, and three times as many Chinese."

The four main challenges to demographic study, however, are those mentioned above as worldwide in scope but not in intensity; namely, "too many people, too little land, too few resources, and too inaccurate or deficient information."

High points

The following outline is a compilation of major developments in the trends of world population and of demographic study.

1. The concurrence, in many national societies, of "high rates of growth" and a social and economic base that is sufficient to support this "unique event in world history."
2. The new technology by which an age of surplus production is made possible.
3. Migrations, particularly those from Europe after 1800 and described as unprecedented, comparatively peaceful, and on a scale of rapid readjustment hitherto unknown.
4. Urbanization, as a demographic unit, process, or adjustment.
5. Assimilation, namely, a consideration of conditions favoring or blocking national cultural unity.
6. Increasing average length of life.
7. Widening range of social opportunities, afforded by the open-class system and mobility.
8. Improvement in the average educational level and in the skills of the public as a whole or of occupational groups in particular.
9. The trend toward "distributive justice" or as it is called in a more limited reference, "industrial democracy."
10. Voluntary regulation of family size.
11. Plans or policies to regulate population.
12. Increasing recognition of, and efforts to improve, the quality of population.
13. Contributions of the specialists in bio-statistics and in actuarial mathematics.
14. The substitution of methods of peaceful settlement for militarism in international disputes.

Unanswered questions

In addition to such recurrent and undiagnosed situations as those that cause the birth rate to increase or decrease or that result in gross surplus populations, or underpopulation, or stationary populations, or the disappearance of a people and its culture, there are a number of other questions that have not been answered. Some questions persist in this category because no records are available; others, because they have frustrated current methods of research; and a few because they continue to remain in the status of judgments, opinions, or morals.

1. What are the reasons for changes in human fertility?
2. How can human sterility be explained, cured, prevented?
3. Is fecundity a biological constant for the human species? Why is there an apparently wide range of individual and categorical differences in fecundity?
4. Do declining death rates automatically cause the birth rate to decline?
5. Why do sex ratios at birth vary?
6. Why in contemporary culture and under presumably civilized standards does sex continue to be regarded as sinful?
7. Does the industrialization of a people automatically result in lower birth rates?
8. What is the upper limit of the earth's capacity to support population?
9. What is the maximum rate of growth of population?
10. Does increasing life expectancy mean that the span of life also is increasing?
11. Do high levels of education, income, or standard of living separately or collectively cause reductions in the birth rate?
12. Is population pressure a certain cause of aggression and war?

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These volumes deal with various subjects not specifically included in these bibliographical notes, such as the inaccuracies of predicting into the future or the past, and the validity of different tools, tests, measures, and laws of population. *They also show that among the least essential requirements is the need for the latest report or estimate.*

Current bibliographies of the *Population Index* are useful in connection with all the topics so far discussed and all in the following chapters.

CHAPTER 2

Population of the United States

—the greatest investment any society can make is in its human resources, their conservation and development.
RUPERT B. VANCE*

FEW SCHOLARS would deny that there are distinctively different patterns of population or argue that any one variable is always dominant in all patterns. A review of historical population trends indicates that many fundamentals combine to make a population—fundamentals involving location, migration, geography, climate, the historical or cultural period, and social institutions. Depending upon the combination of such factors, population—and societies—flourish or deteriorate. Similarly, within themselves, each population reflects affective conditions which are, however, of minor significance in the longtime view.

In the comparison of continents, the recurring and variant combinations and cycles of population-making conditions are particularly apparent. Here on a large scale they are brought into sharp focus. The observer is able to detect more specifically the significance of abundant land, favorable climate, a productive economy, or the reasons for continuous migrations. Although intercontinental comparisons do not explain such differences as the overpopulation of Asia, the underpopulation of Africa, or the more rapid settlement of the Northern than the Southern hemisphere, they do yield suggestive clues for further study.

National comparisons also reveal likely explanations for the growth and well-being of a people. All nations have shared just about the same external demographic determiners and they have reacted in their demographic behavior in an almost mechanical exactness. Hence, all have experienced slow and rapid periods of growth, high and low birth rates, high rates of net increase, and in many societies low as well as high death rates. These rates are either the internal demographic factors that support a healthy or failing society or they call attention to those more individual or personal variables that become internal demographic factors when the above rates are explained.

The American population, consequently, shares numerous similarities

* *All These People* (Chapel Hill. University of North Carolina Press, 1945), p. 9.

with the natives who originally inhabited both continents and with the demographic history of the major European people who colonized and settled here. All American nations had abundant land to spread out in and they have had a rapid growth. Each country has had birth rates as high as any society elsewhere or at any time, and the same is true of death rates. They vary most in the societal factors that have contributed to differing population balance and cycles of growth. An example in broad outline is the contrast between essentially agricultural nations of the torrid zone or adjacent regions and a highly industrial nation such as the United States. Another example is Canada in its close resemblance to this country with the one exception of slower industrialization. A more radical comparison would be that of the American Indian population and the European colonists.

The United States is selected to provide more specific details of the population complex for all the reasons suggested so far. Its growth and other rates, the material basis of the society, and the social values and personal interests of its many different groups can be stated in ways generally comparable to other American nations and to many nations elsewhere. Moreover, the evidence is more available and more exact than in most of the other developed countries. This search for exactness is a constant challenge. Generally its aim is to supply special information in answer to specific questions such as the direction of growth trends, the rate of change in some particular aspect of demography—the family, urbanization, or the labor force—and changes and trends in other components that are symbols of social well-being, such as standards of living, health, and child welfare.

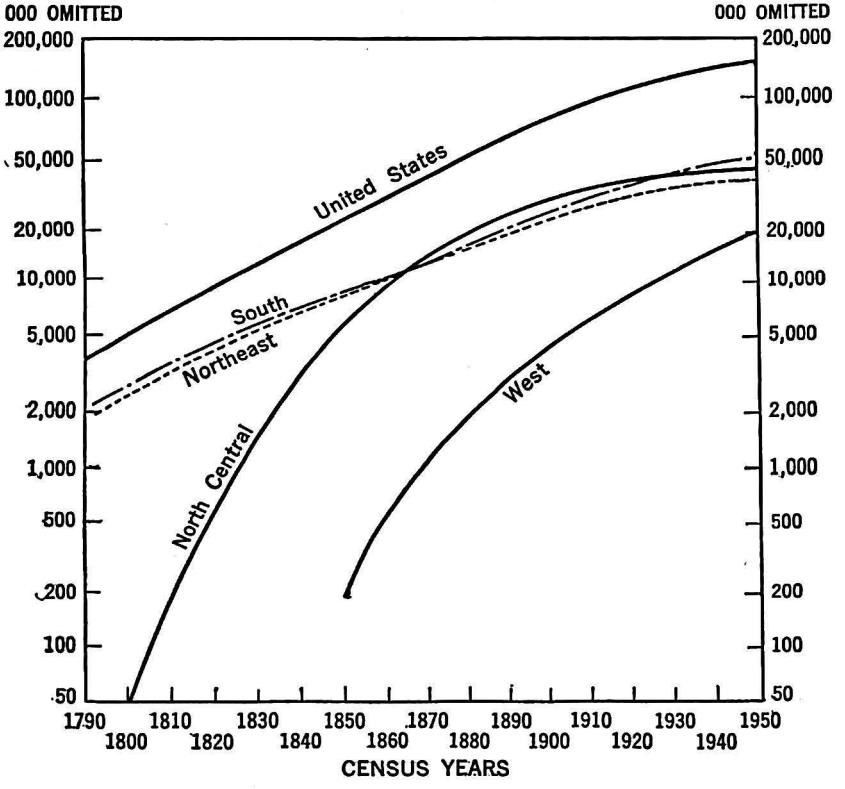
Also in this chapter, the topical outline of the book will be applied, in capsule, to American demography. We will discuss the growth of population in this country, and then review important contributions of regions or states which vary in rates of growth or in social composition. With this background, the American population complex will then be detailed in terms of distribution or where the people live; of composition or who they are; of balance or stability—the factors apparently responsible for the peoples' demographic vigor; of quality, which is generally a study of a people's health and genetic make-up; and finally of plans and policies that lead to population programs.

The importance and necessity of this progressive quest for more facts are amply shown in Figure 2–1, where regional and national growth are given. Few countries of the world would display more radically different population-making conditions (such as those referred to in the previous paragraphs) than these regional situations.

MAIN TRENDS IN GROWTH

From the period of first settlement by European colonists, the volume and rate of growth of the United States population resemble the graphical representation of world growth as stated in Figure 1–1, page 5. In Figure

FIGURE 2–1. Total and Regional Growth of the United States 1790–1950



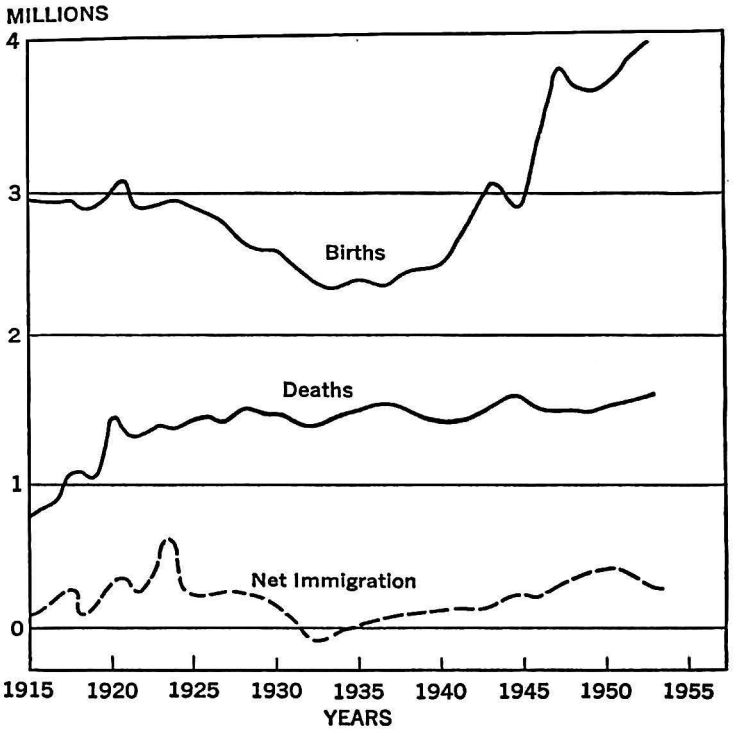
SOURCE: U.S. Census, Vol. I. *Number of Inhabitants* (Washington, 1952), Figure 7, p. XX.

2–1 the trends in growth substantially follow the Pearl-Reed law of growth. This law indicates three primary types of change: the first is a period of comparatively slow growth, the second is a period of rapid growth at an increasing rate, the third is a period of slower growth at a decreasing rate of increase.

In his review of these trends, Thompson has emphasized their basic social significance by referring to them as "revolutions."[1] In this reference, revolution means any relatively sudden change in the rate or volume of growth that might contribute to either a healthy and vigorous or an unstable society. Specifically, Thompson uses the term "revolution" to indicate drastic changes in birth or death rates, separately or at the same time, and

[1] Warren S. Thompson, "The Demographic Revolution in the United States," *The Annals of the American Academy of Political and Social Science*, Vol. 262 (March, 1949), pp. 62–69.

FIGURE 2–2. Volume of Births, Deaths, and Net Immigration, United States, 1915–1955



SOURCE: See Table 2–3.

consequently to indicate the balance between the two or the rate of change.

This point of view calls attention to changes in population that are not understood very well even by the experts. It is this uncertainty as to why birth and death rates sometimes vary radically and chaotically that accounts for the many absurd prophecies as to the future size of population for the world or any specific continent or other region. Likewise it is the source of the many emotional labels, such as "mass fertility," "population explosion," "population upsurge," "prodigal or runaway birth rates," "teeming millions," or "baby boom." Or if the particular expert suspects a possibility of a decreasing population or a trend toward poorer quality, other phrases are coined, such as "race suicide," "biological erosion," "mass degeneration," "moronization or mongrelization of a people."

A paradox or dilemma of population growth results when these situations arise:—when birth rates increase or decrease with unexpected rapidity,

when the total volume of population increases or decreases because of unknown conditions in the combination of birth and death rates, or when there is a suspected threat to the biological vigor of a people because of genetic variations or "differential" birth rates.

The demographic revolutions

There have been two revolutions in the population of the United States during the last three centuries. The first represented decreasing death rates (1650–1800), and the second decreasing birth rates (1800–1940). Many demographers believe that since World War II a third revolution has begun. This change is due to the new technology that is providing an abundance far beyond current consumer needs. It indicates the probability of an expanding population that will void the prophecies of the most optimistic "demographic" speculators.

Thompson, however, does not accept the idea of a third revolution. From his own studies he has concluded that recent increases (since 1940) do not represent a valid reversal of trend but are temporary and will return to the long-time trend established by the average rates of growth during the first four decades of this century.

The first revolution in the American population began immediately after the early settlement by Europeans and continued for about 150 years or up to the nineteenth century. Its two main features were rapidly decreasing death rates and a slight increase in birth rates (as judged by European standards). Five requisites for rapid growth can be distinguished in explaining this revolution: abundant land, an improved standard of living, few outbreaks of the common infectious diseases, a low man-land ratio (resulting in less congestion than in Europe), and a high proportion of young people. This network of demographic factors was distinguished by a rate of growth "seldom equalled by any large population, especially for so long a period"—a rate that continued up to 1860.

This revolution completed its cycle of growth when birth rates began to decrease. The decrease was first observed in some regions as early as 1800. It introduced a different trend in growth, namely, growth at a decreasing rate. This type of growth has continued to be characteristic of American experience, unless the reversal of trend since 1940 actually becomes the onset of a third revolution.

By 1825 the second revolution, first apparent in New England, had extended to other parts of the country. Its chief characteristic was a more rapid decline in the birth rate than in the death rate. This change acquired a reputation of being dramatic, spectacular, and possibly dangerous for the following reasons. First of all, it occurred suddenly, at least in comparison with the slower decreases in the death rate which appeared to have reached an irreducible low point. In the second place, since decreases in the birth rate were the result of voluntary control, they were unequal in different

social classes and regions. Consequently these social differences and their "differential" rates suggested the possibility of numerous ill-effects in the components or composition of future generations.

Other obvious accompaniments of the second revolution were a rapidly aging population (meaning a decreasing proportion of children in comparison with adults in the productive age group) and an increase in the number and proportion of the foreign born. A reduction in the sex ratio (the number of males to females) was also observed. As this pattern matured during the later years of the nineteenth century, changing economic conditions (especially the cycles of unemployment), reduced rates of marriage, high rates of reproduction in rural areas and among the foreign born and the economically poorer classes, and a noticeable or suspected increase in childless couples and in families with only one or two children, became primary reasons for a positive approach to a population policy, for eugenic programs, and for more continuous and extensive research.

CURRENT PROSPECTS IN THE AMERICAN RECORD

1. Annual gains and rate of growth exceeding all previous trends.
2. The number of babies, averaging nearly four million each year, has reversed the trend toward an aging or mature nation.
3. Large numbers in the working-age groups are assured for several decades.
4. A considerable proportion of the baby crop is from social classes that had low rates of fertility prior to 1940.
5. Economic production and gross national product are sufficient to maintain this growth and actually are increasing more rapidly than population.
6. The average size of families or households continues to decline but their number is increasing.
7. The number of childless marriages continues to be high but for reasons that are not fully understood.
8. As immigration declines, internal migration is exceeding it in volume, thus meeting regional demands for labor.
9. Life expectancy continues to improve.
10. A new technology suggests the possibility that income and standard of living will reach levels far beyond the most optimistic of present-day anticipations.

GROWTH BY VOLUME AND RATES

Table 2–1 is a supplement to the growth curve in Figure 2–1. In addition to the totals of growth for each decade since 1790, it states the urban-rural distribution, and the decennial rate or per cent of increase.

According to Thompson the population of the United States was about 52,000 in 1650. The growth to nearly four million by 1790 is an increase of more than seventy-five fold and the rate of increase is unique in demographic history, a rate somewhat greater than three per cent per year. In order to sustain this type of growth a crude birth rate of about 55 per 1,000

TABLE 2–1. Population of the United States, 1790–1955

Census Year	Total in Millions	Urban Per Cent	Rural Per Cent	Decennial Increase Per Cent
1790	3.9	5.1	94.9	—
1800	5.3	6.1	93.9	35.1
1810	7.2	7.3	92.7	36.4
1820	9.6	7.2	92.8	33.1
1830	12.8	8.8	91.2	33.5
1840	17.0	10.8	89.2	32.7
1850	23.1	15.3	84.7	35.9
1860	31.4	19.8	80.2	35.6
1870	38.5	25.7	74.3	22.6
1880	50.1	28.2	71.8	30.1
1890	62.9	35.1	64.9	25.5
1900	75.9	39.7	60.3	20.7
1910	91.9	45.7	54.3	21.0
1920	105.7	51.2	48.8	14.9
1930	122.7	56.2	43.8	16.1
1940	131.6	56.5	43.5	7.2
1950	151.1	59.0	41.0	14.5
1955	166.7			

SOURCE: United States Census. The definition of urban and rural for 1950 is the old definition. For a reference to the new definition, see Chapter 4 below, p. 82.

population per year is necessary, with a crude or general death rate not more than 25 per 1,000 population per year. At this rate of increase a population will double in size every twenty-three years.

As Table 2–1 shows, this high rate of increase continued for most of the nineteenth century. The population increased eightfold during the seven decades, 1790–1860, doubling every twenty-three years, when the changing birth-death ratio became noticeable both in volume and per cent of growth. Actual birth and death rates that made this growth and that may have started a new cycle of growth are given in Table 2–2 and are stated by volume in Figure 2–2 which also adds net immigration to annual totals.

An adequate interpretation of Table 2–2 depends upon an appreciation of the degree of accuracy of census reports and of the completeness of birth and death registrations.[2] Since variations in the analysis of population often occur because special reports or specific rates are employed, these materials will be introduced and discussed when they appear in connection with particular topics. Table 2–2 and previous discussions point out that a birth rate of 15 to 18 per 1,000 population is relatively low, and that rates of more than 30 per 1,000 population are relatively high.

[2] For a discussion of the meaning of rate, the uses and limits of crude and specific rates, and the establishment and extension of the birth and death registration areas, consult: T. Lynn Smith, *Population Analysis* (New York. McGraw-Hill, 1948), Chapters 13, 14, 15. For a table of international comparisons of crude birth and death rates, consult: Warren S. Thompson, *Population Problems* (New York. McGraw-Hill, 1953), pp. 162 and 236.

Low and high crude death rates range as a rule from about 10 per 1,000 population to 30 per 1,000 population. In general, when observers point out unusual "differential" rates, they are calling attention to low or high rates for particular groups in comparison with the ordinarily prevailing average rates for a specific time, place, or culture. The case of the Hutterites, to be discussed in Chapter 11, is a local American example in a rural situation. Most groups that are isolated physically or socially have a similar history of "differential" rates. Other types of "different" and specific rates and their applications will be given in later descriptions of trends in the development of particular classes of people. As already stated in the preceding chapter, radically high and low rates are characteristic of some nationally or regional groups, such as the populations of Ireland, Chile, Israel, Puerto Rico, and Burma. Each of these countries provides abundant opportunities for the study of patterns of population as they differ in time, place, economic basis, or some other cultural or comparatively unknown agency.

CHARACTERISTICS OF POPULATION

The social composition of a population is generally disclosed through numerical descriptions of its chief characteristics, by cross-classifications,

TABLE 2–2. Crude or General Birth and Death Rates—United States, 1800–1955

Year	*Birth Rate*[a] *per 1,000 Population*	*Death Rate*[b] *per 1,000 Population*
1800	55.0	30.0 (1805)
1810	54.3	25.0
1820	52.8	21.0
1830	51.4	28.0
1840	48.3	27.0
1850	43.3	22.0
1860	41.4	21.0
1870	38.3	19.0
1880	35.2	20.0
1890	31.5	19.0
1900	30.1	17.2
1910	28.2	13.9
1920	27.7	13.0
1930	21.3	11.3
1940	19.4	10.8
1950	24.1	9.6
1954	25.2	9.2
1955	24.9	9.3

[a] All birth rates prior to 1915 are estimates.
[b] All death rates prior to 1900 are estimates.

SOURCE: United States Department of Health, Education, and Welfare, *Summary of Natality Statistics*, Vol. 28 (June 21, 1954), No. 8, p. 144. Estimates are those reported by Henry P. Fairchild, *The Prodigal Century* (New York. Philosophical Library, 1950), pp. 73–76, and by Walter F. Willcox, *Studies in American Demography* (Ithaca, N.Y. Cornell University Press, 1940), p. 217.

TABLE 2–3. Births, Deaths, and Net Immigration, United States, 1915–1955

Year	*Births (in millions)*	*Deaths (in millions)*	*Net Immigration (in thousands)*
1915	2.9	(815 thousand)	50
1916	2.9	(924 ")	126
1917	2.9	(981 ")	217
1918	2.9	1.4	19
1919	2.7	1.0	21
1920	2.9	1.1	194
1921	3.0	1.0	552
1922	2.8	1.0	87
1923	2.9	1.1	472
1924	2.9	1.1	662
1925	2.9	1.1	232
1926	2.8	1.2	268
1927	2.8	1.2	284
1928	2.6	1.3	226
1929	2.5	1.3	226
1930	2.6	1.3	174
1931	2.5	1.3	−10[a]
1932	2.4	1.2	−112
1933	2.3	1.3	−93
1934	2.3	1.3	−13
1935	2.3	1.3	−9
1936	2.3	1.4	−2
1937	2.4	1.4	7
1938	2.4	1.3	30
1939	2.4	1.3	66
1940	2.5	1.4	43
1941	2.7	1.3	63
1942	2.9	1.3	36
1943	3.1	1.4	46
1944	2.9	1.4	59
1945	2.8	1.4	109
1946	3.4	1.3	107
1947	3.8	1.4	190
1948	3.6	1.4	198
1949	3.6	1.4	205
1950	3.6	1.4	219
1951	3.8	1.4	197
1952	3.9	1.4	272
1953	3.9	1.4	111
1954	4.0	1.4	175
1955	4.0	1.5	

[a] These totals are negative, indicating more departures than arrivals.

SOURCES: U.S. Department of Health, Education, and Welfare. U.S. Bureau of the Census, *Statistical Abstract. Economic Almanac*, 1953–1954, pp. 12–13. *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 36 (December, 1955), p. 1.

and by correlations and trends. This information is found in numerous official reports of which the national census is the primary source. Supplementary facts from other official or private organizations is provided by many specialized governmental agencies, business associations, and private research agencies. At this point the following paragraphs will be introduced to provide a brief summary of major trends and current patterns of population in the United States. Because the remaining chapters of this volume are devoted to a more detailed analysis of the data, a summary comment will introduce the topical outlines and indicate some of the highlights in American demography.

Rural-urban distribution

Where people live is one of many conditions which affect their way of life. It helps to determine family patterns, the economic opportunities available, the possibilities of extended education, and the extent of disease and cause of death.

As is indicated in Chapter 5, the definitions of rural and urban are not fixed concepts and this variability makes comparisons difficult between areas and in the same area over a span of time. Despite this difficulty in precise statistics, the long-time trend in the United States is unmistakable. Our population has increasingly lived an urban way of life, our rural people are becoming urbanized, and the dichotomy, rural-urban, is becoming increasingly less meaningful for many purposes.

Indicative of this trend is the fact that the United States population was 95 per cent rural in 1790 and 43 per cent in 1950.[3] The urban trend is indicated also in the fact that 15 per cent of the nation's total employed population was engaged in agriculture in 1950 compared to about 50 per cent in 1870. The rural farm population has declined regularly as urban conditions of employment have become favorable and technical changes in agriculture have enabled fewer persons to provide for the increasing population. Furthermore, the extent of the rural-urban migration in which about 50 million people were involved during the years 1920 to 1950 has contributed immensely to the urban trend.

Regional variations in rural-urban distribution has long been characteristic of the United States. The South has been and remains basically rural while the Northeast has been predominently urban. However, between 1940 and 1950, urban population increases took place in all states and the percentage increase was highest in Texas, New Mexico, Arizona, Nevada, and Wyoming. In the same period rural population decreased in seventeen states and increased by less than 10 per cent in another twelve states, all of which are located in the central belt of states from North Dakota to Texas.

[3] The percentages are defined by the old classification. A change was made in 1950 which had the effect of transferring about 7.5 million persons living in the urban fringe, and previously classifiable as rural, to the urban classification.

Density figures and charts indicate a heavy concentration of population in the Northeast and around the Great Lakes area. Extremely high concentrations are to be found in New York, New Jersey, Connecticut, Rhode Island, Massachusetts, and the District of Columbia.

The immigrant population

Each year sees a diminution in the proportion of foreign born in the United States and unless our immigration policy is changed radically, this trend will continue. Yet, the foreign born has contributed in many ways to the American scene, and particularly to population growth. Between 1850 and 1860, almost 23 per cent of the population gain was due to the foreign born. The peak years of immigration to the United States were the years 1907 to 1914 when an average annual volume of one million immigrants were admitted.

In the first census, in 1790, over 90 per cent of the population was from Northern and Western European stock, the majority from the British Isles. From 1800–1882, the majority of immigrants continued to be from Northern and Western Europe. The period from 1882 to 1921 is known as the period of "the new migration" and it was during this period that immigration from Russia, Italy, and Austria-Hungary reached its peak. In 1950, of the total foreign born in the United States, 29 per cent were born in Central Europe, about 23 per cent were born in Northeastern Europe, about 17 per cent in Southern Europe, and 12 per cent in Eastern Europe. However, the total number of foreign born was about half of what it was at the beginning of the century.

Negroes

The large-scale introduction of the Negro to the United States began in the 1700's as a consequence of their importance to the plantation system. By 1790 there were 757,000 Negroes in the United States and they represented 19.3 per cent of the total population. From 1800 to 1940 the number of Negroes steadily increased but their percentage of the total population declined. By 1940 there were 12,865,000 Negroes accounting for 9.8 per cent of the population. In 1950 Negroes numbered over 15 million and constituted about 10 per cent of the population. This slight increase in proportion of total population can be explained because of declining white immigration and because the Negro has been predominently a rural people having characteristic rural fertility rates.

The Negro population of the United States is concentrated in Louisiana, Mississippi, Alabama, Georgia, and North and South Carolina. Yet, there has been a great exodus from the South. Except for Missouri, the tier of states from Kansas to Virginia and from Georgia to Texas has either lost Negro population or has gained less than the national average during the period of 1940–1950. In recent years there has been a Negro migration to

northern cities and also a westward migration. The movement had its beginnings during World War I, due to the need for labor in the industrial cities. This need was stimulated again during World War II and resulted in an uneven distribution of Negro population in some northern states with extremes of urban concentration.

Estimates of the future Negro population indicate that, as it becomes more urban, the proportion of Negroes in the population will stabilize. Stability will also result if the conditions under which Negroes live become more like those of the white population. Then, too, birth and death rates will be likely to approach national averages. The same observation can be made with respect to other characteristics of the Negro population, such as the age and sex composition, infant mortality rates, and other indexes of health and welfare. Because so many of the differences in demographic characteristics between white and Negro are dependent upon differences in living conditions, it is to be expected that differentials dependent on environment will tend to equalize as living conditions become more alike for the two groups.

Sex ratio

Until recently, the heavy migration from Europe and the high death rate for women in the child-bearing ages were largely responsible for the preponderance of males in our population. In 1940 there were 100.7 males for every hundred females. The 1950 census was the first to show an excess of females over males or 98.6 males for every 100 females.

Various regions of the country have different sex ratios. In 1950, the West had 102.1 males for every 100 females, the Northeast 96.1 males for every 100 females. Differing sex ratios reflect differing economic bases, different migratory patterns, and differing mortality experience. The influence of the sex ratio on marriage and the family, on the crude birth rate, and on the many social conditions wherein the sex of persons is an important variable, is apparent.

Numerous statements have been made about the sex ratio and its variations such as, "the sex ratio increases in wartime," or, "there is a tendency for the sex ratio of live births to increase as the socio-economic status of the mother rises." McMahan,[4] in a test of a number of hypotheses, found that the sex ratio in the United States was not appreciably affected by either World War I or II, that there is a greater tendency for the first-born child to be a male than for later-born children, that the sex ratio decreases as the age of the mother increases, and that changes in the sex ratio in wartime are due to the increase in the proportion of first births.

[4] C. A. McMahan, "An Empirical Test of Three Hypotheses Concerning the Human Sex Ratio at Birth in the United States, 1915–1948," *Milbank Memorial Fund Quarterly*, Vol. 29 (July, 1951), No. 3, pp. 273–293.

Age distribution

Differences in the age distribution of one population as compared with another are important in understanding differences in birth and death rates and in understanding the bases for a variety of social conditions. Differing proportions of population as to childhood, maturity, and old age have implications for health services, conceptions of welfare, policies of education, and labor potential for economic production.

The median age of the United States population was about 19 in 1880, 23 in 1900, 29 in 1940, and 30 in 1950. Older age groups have constituted increasingly larger proportions of the population over the past half-century. For example, the proportion of the population 65 years of age and over was 4.1 per cent in 1900 and 8.1 per cent in 1950. This has had, and increasingly is likely to have, a tremendous effect on all the institutions of our society. Between 1900 and 1940, the percentage of people over age 40 increased and the relative number of children and young people decreased. In the decade 1940–1950, however, there was a large increase in the proportion of children under 10 years of age due to the increasing birth rate of the 1940's.

Regions of the country vary considerably in age distribution of their populations. In 1950 farm and rural non-farm areas made up only 36 per cent of the nation's total population but had 45 per cent of the nation's children 5 to 14 years of age. Rural areas, particularly rural farm areas, have a lower proportion of the population in the economically producing years. Certain states, particularly the New England states and the West North Central states, have large proportions of their population in the aged category.

All estimates of the future population of the United States indicate that the number of persons 65 years of age and over will grow considerably but that the proportion of population in this age group will grow only moderately to a little over 9 per cent by 1975.

An important factor in the aging of the population has been a continued drop in the death rate, particularly at younger ages. In 1880, nearly 3 out of 4 deaths occurred before age 45; in 1955 the proportion was 1 out of 5. Life expectancy has been increasing and has been particularly significant for younger age groups because of reductions in infant mortality and control of infectious diseases. Average life expectancy for males increased from 48 in 1900 to 67 in 1950; for females the increase was from 51 in 1900 to 72 in 1950. It is estimated that only one-eighth of the babies born in our country in 1950 will fail to reach their fiftieth birthday.

Educational composition

A major trend in educational composition has been an increase in the amount of formal education attained by a growing proportion of the population. Comparisons of 1940 and 1950 data on levels of education indicate an increase in college enrollments, an increase in median school grade

achieved, a marked reduction in the number of individuals with less than five years of formal schooling, and a constantly increasing proportion of adults taking part in adult education programs of all kinds. In a very real sense the age limits of formal education have been stretched so that all ages are increasingly participants in some kind of formal education program from pre-school to courses for retirement.

The changing educational composition of the population has contributed to changes in the institution of education and, because change in one social institution is likely to effect changes in others, increased education has influenced numerous economic, political, and family institutions. None has been more affected than the educational institution itself, however. Fluctuations in age groups bring problems of housing and staffing to different school administrative levels at different times. Not only are questions concerning quality and quantity of personnel and equipment at issue, but each succeeding wave of students creates conditions which are battlegrounds for educational philosophy and practice. Witness the conflict concerning the reading ability of the modern child, the furor concerning shortage of scientists and technicians, and the earnest debates as to whether colleges should serve an increasingly large number, or restrict their enrollments to a selected few.

Although, as in health correlates, the specific relationships of demographic factors and educational composition have not been determined with any great degree of precision, nevertheless, some general relationships have been accepted as valid. A widely endorsed correlate is that between levels of education and the birth rate. The families of college graduates have been smaller than those of high school graduates, and those of high school graduates have been smaller than those whose highest level of education was graduation from grade school. Despite the recent increased birth rate among persons with higher levels of education, the general correlation remains true.

Educational status is also related to income and other criteria of social and economic differences. In fact, amount of education seems to be a more important factor than age in determining income. Occupations, grouped by status levels, are closely related to educational levels and educational levels are related to income levels.

Other correlations include a general positive relationship between amount of education and age at marriage, general indexes of health and social adjustment, increased mobility, and increased specialization. The significant influence of levels of literacy and education upon demographic factors is clearly shown in comparisons of undeveloped and developed countries and in comparisons of regions within the United States. In these comparisons the correlation between standards of living, developed economies, rising standards of health, and increased levels of literacy and edu-

cation, document the significance of the educational composition of the population to demographic trends.

Health

Evidence of the relationship between indexes of health and the social and economic welfare of a people has not been defined in specific terms. While the general relationship has been recognized for a long time, it is only recently that physicians and public health workers have suggested that students of the social sciences may be able to contribute to the analysis of specific effects of social change on health and disease patterns. Also, the recent emphasis on medical sociology suggests that students of sociology have become aware of the potential value that the data from the health services have to their own field. "Medical disciplines and environmental-study disciplines (social psychology, sociology, social anthropology, economics, etc.) must combine forces to develop means and techniques for epidemiological studies in the social and economic matrix."[5] While specific relationships, for the most part, have yet to be explored, it has been recognized that the health of the people of the United States has been affected by demographic trends such as growing density of population, the increasing urbanization and industrialization of the society, and the changing composition of the population.

Declining mortality in the United States has been related to a rising level of living, the changing conditions of work experience, improvement in housing and sanitation, and to the education of the people in matters of personal and public health. An additional suggestion of the relationship between health and the social matrix is the fact that the urban-rural differentials in mortality have been narrowing. Another general relationship which may be in process of change is the correlation between ill health and economic status. A few recent studies have suggested that in the United States the association between low socio-economic levels and poor health is not as definitive as it was early in the century. Recent improvements in social and economic circumstances as well as a growing awareness of health knowledge and social welfare programs have been credited as factors in the change. Differences in average length of life between the white and nonwhite populations have long been recognized. Here again there has been change over the last fifty years and the differential has been reduced by almost 50 per cent. Other major changes in the health pattern of the United States population include a decline in communicable diseases and an emphasis on chronic illness. Declines have been noted in relative rates of acute infectious diseases, tuberculosis, and rheumatic fever, while rates of chronic

[5] Halbert L. Dunn, *Health and Demography*, United States Department of Health, Education, and Welfare, Public Health Service, National Office of Vital Statistics (October, 1956), p. 94. See also, John A. Clausen, *Sociology and the Field of Mental Health* (New York. Russell Sage Foundation), 1956.

non-infectious diseases, heart disease, diabetes, and stomach ulcer have been rising over the last fifty years.

Future progress in exploring the relationship of illness and health to the personal-social matrix in which individual and social elements meet is suggested by the following: (1) increasing attention to the disease prevalence rates of specific areas, and of segments of the population defined by social class, ethnic background, occupation, and age and sex categories; (2) changing conceptions of the units of investigation to be employed, such as an awareness of the family rather than the individual as a unit; and (3) a recognition of the need for comparable national statistics.

The working population

Between 1890 and 1950 the labor force in the United States grew from 22 million to 63½ million.[6] This growth was due primarily to the increase in population and to the changing role of women in the American economy. The bulk of the labor force is made up of men in the producing age group (22 to 55) and the proportion of men in this age group in the labor force has changed very little since the beginning of the twentieth century.

Demands made upon the working population vary as fluctuations occur in the business cycle, as war demands are felt, or as other emergencies arise. When these demands are made, increasing or decreasing proportions of the young, the old, and the female population enter and leave the labor market.

A long-term trend in the working population has been the increase in the percentage of women. In 1890, women composed 17 per cent of the labor force; in 1930, the proportion was about 22 per cent; while in 1955, it was close to 30 per cent. Thus in 1955 one out of every three persons in the labor force was a woman. More than half of the women workers were married, a fourth were single, and the remainder, widowed or divorced. Of the nearly ten million married workers living with their husbands, almost half had children under eighteen years of age.

While the proportion of women in the labor force has been increasing, the proportion of young people in the labor force (in the long-time trend) has been experiencing a reduction. However, during the war years, many young people entered the labor market and remained long after the war was over. Comparing 1954 to 1940, proportionately twice as many sixteen-year-olds were working, many of them on a part-time basis while enrolled in school.

Because of changing occupational demands and the emphasis on social security and compulsory retirement, the proportion of older men in the labor force has declined in the last half-century. During this same period, labor force rates for older women increased. Presumably this is in part a

[6] United States Department of Labor, *The American Workers' Fact Book* (1956), p. 10.

function of re-entry of women into the labor force after the responsibilities of care of children have been met. A major reason for the decline in the proportion of older men in the labor force is the transition from an agricultural to an industrial economy. Also important are the growing pension systems which have encouraged retirement at age sixty-five. Retirement poses problems of policy with reference to adjustment of older workers. Yet the potential skills must always be considered, as was indicated by the fact that during World War II, older people made up approximately three and a half million of the eight million additional workers needed to sustain the war effort.

Not only do war periods intensify labor mobility but ease of transportation and growing informational networks have resulted in an increased general mobility. It has been estimated that the number of job separations in any given year is about half as great as the number of jobs in the economy.[7]

The changing economy is reflected in changes in the distribution of the working population. We have become an industrialized nation and the largest segment of our industrial workers is engaged in the production of goods. Second to the number engaged in production is the number employed by retail and wholesale firms who distribute the goods. Also important are the nearly six million persons who were engaged in the service industries in 1955. Services formerly performed by individuals for themselves have become sources of employment for others and new services are added in a society with an expanding technology and rising standard of living.

Changes in occupational composition of the population indicate the changing importance of the occupations in the economy. Since 1900, farmers and factory laborers have represented a reduced percentage of the labor force. Large gains in percentage are to be found in the proportion of semiskilled workers, clerical and sales personnel, and smaller proportional gains in those occupations classified as professional and managerial.

Labor-force and occupational-distribution statistics provide a convenient yardstick to measure change in the economic and social structure of a population. In this framework, major trends in the labor force are seen to vary with the age composition of the population, the concentration of workers in urban areas, the family status of the population, and social and economic forces such as the relative importance of white-collar jobs, changes in industrial organization, and policies of retirement.

Population policy in the United States

From one point of view the United States has no population policy as such. If policy is defined only by national law specifically designed to alter the size, distribution, or character of the population, then there exists no

[7] Herbert Parnes, *Research on Labor Mobility: An Appraisal of Research Findings in the United States* (Social Science Research Council Bulletin 65 (New York, 1954), pp. 96–99.

United States population policy. From another point of view a national policy can be inferred. This inference is drawn from legislation intended to improve the general social welfare in that such legislation has inevitable effects upon demographic trends.

Because the family is the focus of so many demographic events, it is a most significant institution from the point of view of the student of population. While there is no system of family allowances and no maternity grants in the United States, yet the welfare of the family is of major concern to a number of federal agencies. The United States Children's Bureau of the Department of Health, Education, and Welfare, encourages the states to provide well-baby clinics, home nursing, prenatal clinics and mental health services. Federal grants-in-aid for services to crippled and dependent and neglected children were provided by the provisions of the Social Security Act of 1935. It is impossible to catalogue here all of the service or aid provided either by the Federal government or through combined State and Federal programs. However, it should be indicated that protection against the ravages of disease, attempts to secure the welfare of the aged and to provide a healthy environment in which children can mature, all affect fertility, mortality, and morbidity. In summarizing fertility control policy in the United States, Eldridge[8] indicates that policy varies among the states, and that a Federal law of 1873 intended to control contraceptive devices in interstate traffic has fallen into disuse. Some states include family planning in their public health programs and in general prohibit abortion except on medical grounds. Eldridge also shows that, as of 1952, compulsory sterility of defective persons was legal in 23 states, voluntary sterilization in 2, and that provisions for either compulsory or voluntary sterilization existed in three states.

Policy of a more definitive nature is apparent in the areas of migration and military security. A policy of selectivity was an early concern in federal control of immigration. The federal immigration act, of 1875, excluded alien convicts and prostitutes. The act of 1882 prohibited the entrance of mental defectives and others likely to become public charges. Later acts excluded populations from specific national areas and expanded the criteria by which persons could be excluded. The immigration act of 1917 represented a culmination of the selective policy when it specified a large number of grounds for exclusion, including a literacy test. This bill also barred from admission persons from specified areas of Asia.

Legislation directed at the control of numbers of immigrants began in 1921. This was the beginning of the quota system which established limits based on nationality. Immigrants from each country were limited to a quota of 3 per cent of the native-born migrants present in the United

[8] Hope T. Eldridge, *Population Policies: A Survey of Recent Developments* (Washington. The International Union for the Scientific Study of Population, American University, 1954), pp. 105–106.

States in 1910. This act favored the northern and western European nations, a favoritism intensified in the act of 1924 which changed the date of reference from 1910 to 1890. The law of 1929 based quotas on estimated national origins of population in 1920 and reduced the total immigrants per year to about 153,000. The McCarran-Walter Immigration Act of 1952 did not materially change the basic policy of restriction defined in 1929. While specifying further the grounds for exclusion, it provided also for a positive approach, in that preferences in filling quotas should be given to those possessing qualities favorably regarded. Included among these characteristics were possession of special skills, education, or abilities which were felt to contribute to the society. The immigration acts have contributed to the composition and quality of the United States population. The nature of the contribution and the kind of policy that should be followed have been and remain subjects of sharp disagreement.

National survival is a major focus of much of population policy. From this point of view, policy with reference to number and quality of the members of the armed forces has demographic consequences.

Personnel requirements of the armed services vary with the pulse of international events. In 1915, there were about 173,000 persons in the armed services. From this low, numbers jumped to 4,265,000 at a World War I peak, to 12,178,000 at the World War II peak. After the Korean war the number fluctuated around 3,500,000. Any mobilization or military manpower policy must be worked out in a complex framework. The size of the armed forces is now dependent, among other things, upon the need to provide for the event of a global war as well as a series of limited wars, and this must be done in such a manner as not to weaken the economy. Other factors requiring consideration include a balance between active forces and reserves, the use of alternate sources of manpower, the proper use of civilian personnel, the utilization of trained people in the work they are best fitted to do, and the development of deferment policy to cope with shortages and to develop skills necessary for national survival. Past experience has illustrated the contributions made by women on a full-time or part-time basis, the potential inherent in the approximately two million handicapped persons who could be trained to useful work, the skills available in the older-aged groups, and the desirability of full use of groups such as Negroes whose maximum skills are often wasted during peacetime.

While often-quoted statistics indicate that traffic fatalities exceed war deaths, nevertheless World War II American casualties in dead and wounded were over 1,064,000 and the Korean war added more than 137,000 to the killed, wounded and missing. Any future world war will mean many civilian deaths in the United States. Because large urban centers offer great vulnerability, increasing urbanization as well as the location of major cities, add to problems of defense.

Problems of urban dispersion, the definition of areas of labor shortage from the standpoint of defense production, and considerations of manpower supply in the location of defense plants illustrate that war and preparation for war have innumerable effects upon population distribution. Data on timing of births illustrate the effects of war on family size, and policies relative to rejection rates mirror conceptions of the importance of the quality of the population.

GENERAL OBSERVATIONS

The quest for analytical correlates of population and the constant pressure for more research are readily explained in the survey of any large unit of population. And studies show how few conditions are actually definite and how rare or nonexistent are the constants, or those elements that are invariable for all human groups. In spite of many valiant attempts to understand population through climate, land, race, religion, or distributive justice (which is the accepted reason for different types of government), no single-factor theory can be sustained even for the explanation of growth or over or underpopulation.

An analogy in a related field of bio-social research, often used to clarify this specific quest for demographic causes and correlates, is the changing status of disease in the history of medical studies. In place of large, poorly defined classes of sickness, such as plague, the misery, or the common cold, groups of related diseases are identified. Thus, the common cold appears under the topic, communicable diseases, and then it is recognized as a variety of illnesses. The same sequence of analysis and classification is one of the most obvious needs in any national demographic investigation.

As the foregoing introduction to population illustrates by its many different and changing correlates, population also is plural. A better interpretation is found in the use of the words, populating or peopling, in order to remind the observer that population, like disease, responds to many different stimuli. Also similar to disease, its origins are multiple and its effects are changeable.

No country is a better example of this pluralism than the United States. Here "plural" introduces varieties of growth, distribution, composition, and all the other possible modifiers already mentioned. Systems or patterns of population are fairly readily distinguished, but they are not easy to analyze or to interpret.

In the history of its growth, the American people have increased at a rate rarely equalled by other societies during a period as long as 150 years. The population of the United States is now about 6 per cent of total world population whereas a century ago it was 2 per cent. During these years the population of this country increased six times while the population of the world increased somewhat less than three times. In order to achieve this

volume, its rate for most of the century averaged nearly 2 per cent annually in contrast with a world rate of three-fourths of 1 per cent.

As a preface to the discussion of the apparent reasons for a stable or balanced population, conditions that were outstanding in the recent (1940–1950) growth in the United States may serve well to point out the most usual stimuli and obstacles in any national pattern of population.

Among the strengths, or favorable aspects, there are two conditions that are usually considered external modifiers. One, the expanding rate of economic production, is especially noteworthy in agriculture and in the supply of raw materials. An abundance of both producers' and consumers' goods has been made available to an increasing number of people by a smaller proportion of workers in agricultural or rural occupations. A second source of external motives to growth is internal mobility, or redistribution, as related to economic potential. The speed and timeliness with which people have hastened to occupy areas of greatest economic opportunity, namely, the West and the South, have served to balance regional levels of living and to act as a further stimulus to industrial development.

Also among the favorable aspects within the process of populating a region, there are five outstanding requirements which the United States has met and still meets, to an exceptional degree. The first is a balanced age structure weighted toward youth. At present our median age is 31.1 years. The second requirement is a low general death rate. The third is a high rate of survival. The importance of this requirement is apparent when it is noted that in some countries, particularly those of the Far East, a large per cent, often a majority, of children never reach the productive age group. Requirements four and five involve the social character of families: (four) growth from families with one, two, and three children; and (five) a small-family descent pattern with a history of voluntary control. The American family has been relieved of much of the misery of "pregnancy wastage," infant, child, and maternal mortality, and of the economic and social burdens of large families.

Questions for future study

Research questions in the studies of population are being given increasing attention and financial support both in this country and abroad. Only in this way can a society be sure that its population is developing according to standards that it professes to maintain. For some national populations the chief problem is often one of the following: basic overpopulation; an unbalanced economic system which is illustrated in the United States by a labor surplus in an entire occupational field such as agriculture; incompetent government; competition in international trade; or war. Each of these primary aspects of a human society has been stressed singly and in combination. No approach has been able as yet to explain a reversal in a

growth trend, and none interprets the nature of these motivating conditions in individuals or groups that lead to rapid changes in birth rates.

Up to the present, most theories and laws of population have set the limits of research either as aspects of land area (how many people can the world support?), or as aspects of economics which aim to describe (1) the needs for fixed amounts of the necessaries of life at fixed levels, or (2) the prospects of improving standards of living. These limited approaches so far have served more to suppress than to stimulate research because of the numerous and variable forms of land use, technological improvements, and instances of human ingenuity in adaptation. Nevertheless, these suggestive controls of population have prompted a series of questions that continue to interest and sometimes to frustrate the demographer, such as: What is the relation of business to population? of business cycles to population cycles? what are the effects of governmental policies? and why do some populations grow rapidly or not at all?

These questions and others to which they lead in biology or medicine and which involve most of the human institutions bring up the further task in demographic research of determining the nature of a stable or balanced population.

Indicators of a stable population

Stability or balance have the same meaning in studies of population that "an optimum population" or "a socially progressive people" once signified. Each of these descriptions suggests a nation that is growing, that has a favorable share of health, wealth, and of the economic or other skills, and that is able to sustain itself in world affairs with some degree of statesmanlike authority and prestige.

In comparison with other peoples in most of the world, societies of the Western world, or in general the Class 1 nations, are credited with a favorable record in their share of stabilizing conditions. For the United States as reported by recent surveys,[9] the main emphasis is on the abundance or scarcity of natural resources and manufactured products and on those evidences of sound business enterprise that are sufficient to support the economic and political institutions of an expanding society. Thus, the high points in these surveys are mainly technological and eco-

[9] J. Frederic Dewhurst and Associates, *America's Needs and Resources* (New York. Twentieth Century Fund, 1955). Other similar surveys are included in the bibliographical notes appended to this chapter. If the reader is interested in comparing the elements of an optimum population with current analyses, he may be interested in the discussion presented in *Principles and Laws of Sociology*, by Harold A. Phelps, (New York. John Wiley, 1936), pp. 194 ff. In this account the basic factors in population changes are listed; an attempt is made to present a conservative array of the correlates of a growing or decreasing population; and a brief review of probable future growth is given for both the world and the United States. A criticism of the term "optimum population" is suggested by T. Lynn Smith, *op. cit.*, pp. 388–389; a defense of the concept is given by William Peterson, "John M. Keynes's Theories of Population and the Concept of Optimum," *Population Studies*, Vol. 8 (March, 1955), pp. 228–246.

nomic with liberal research programs to ensure the continued material vigor of the nation.

As a rule they suggest the prerequisities of a balanced and progressive population to be:

1. New materials and products
2. New and rapidly growing industries
3. New types and sources of energy or power
4. Increased production per worker
5. Increased income, and provisions for borrowing without excessive indebtedness
6. Increasing consumption and demand for consumers' goods
7. Adequate housing
8. Minimum taxes
9. Extension of social security provisions
10. An increasing labor force and full employment

Instabilities[10] are evident largely in the negatives of these economic "goals" that are uniformly reported as requirements for economic, social, or political security. Thus, primary stress is placed on (1) deficiencies in natural resources (of which a recent and much publicized instance is the impending shortage in water); (2) misuse of land or inefficient systems of land tenure; (3) shortages in manufactured goods; (4) wastes or uneconomic practices in any social institution; (5) intergroup rivalries (economic, religious, political, racial); and (6) any evidence that a significant proportion of the current population is living below a minimum or subsistence level.

Other specific liabilities of a vital, self-maintaining, and culturally adjusted people will be noted in several later chapters, especially Chapters 16, 17, and 18. Evidence therein will show that these surveys differ in no important respect from the limited and one-sided economic theories of the eighteenth century. But these surveys do show clearly why the theories of Malthus are supported or rejected by the same authorities when they try to explain the trends of populations in different cultures, periods, and stages of the practical arts. Current research in population emphasizing "mores," personal and cultural differences, psychological values, "life satisfactions," voluntary control, and similar "subjective motives," is supported mainly in opposition to this physical or material point of view and in order to explore likely causal factors among circumstances heretofore called unknown or subjective, or that are concealed within a "miscellaneous" category.

Population projections

Forecasting the total population of the United States has been undertaken by many observers as far back as the colonial period. A brief sketch of these predictions will be presented here and will be continued in

[10] For similar and other varieties of stabilizing factors, consult: Helmut Schelsky, "Elements of Social Stability," *German Social Science Digest* (Hamburg. Classen Verlag, 1955), pp. 113–123.

Chapter 19, where trends as a whole will be reviewed for as many aspects of population as writers on this subject have considered significant. Interpreters of these predictions must remember that, at their best, forecasts can be correct only within wide margins of high and low probabilities and that many if not most of the demographers agree that there are too many variables and unknowns to permit even approximate accuracy.

The total population indicated by the logistic curve referred to earlier in this chapter suggests a figure of about 200 million people by the year 2100.[11]

Because of the recent rapid increases, and largely on the basis of trends established since 1940, forecasts now place the total population at about 170–175 million in 1960 and 190–200 million in 1970. Of all the forecasters mentioned in footnote 11, Davis is the most severe critic of the value of these glimpses into the future. The reason for his skepticism and conservatism is that in such variables as death rates, life expectancy, age groups, and birth rates, there remain possibilities of so many changes and radical upsets that predictions even within reasonable margins of error have little or no validity.

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CHAPTER 3

Regional and State Populations

It must be clear, therefore, that even in normal periods of American development a key problem was always that of the regional quality and balance of America.
HOWARD W. ODUM AND KATHARINE JOCHER (Editors) *

THE PERSPECTIVE of this chapter is a narrower one than that of the previous two, yet in the restricted limits of state, city, county, or town populations, numerous conditions can be observed to account for national trends. It is evident, however, that none of these population units can be studied as distinct "population islands." Rather, the trends exemplified are part and parcel of larger economic and ecological regions.

An appreciation of the distinction between areas in the United States has been apparent for a long time. Such distinctions, and the manner of differentiating areas, have varied with the purpose of the classifier. British geographers, as early as 1765, recognized sections characterized by differences in climate, social organization, and population.[1] Many other differences are recognized in the United States Census, and each decade Census officials are urged to include more specific items.

REGIONAL DEMOGRAPHY

The Census of 1850 included, for the first time, a discussion of sections, and despite periodical rejections of some useful features, by 1900 sectional presentation of data was fixed. The mid-century (1950) census classification divides the United States into four regions, each of which is further differentiated into geographic divisions. Most of the significant population

* *In Search of the Regional Balance of America* (Chapel Hill. University of North Carolina Press, 1945), p. 27.

[1] Fulmer Mood, "The Origin, Evolution, and Application of the Sectional Concept 1750–1900," Chapter 1, in Merrill Jensen (Editor), *Regionalism in America* (Madison. University of Wisconsin Press, 1951).

data are presented on the basis of these divisions.[2] This arrangement of states is based on the belief that the states within the divisions are fairly homogeneous in physical character, population determinants, and social and economic conditions.

Whatever system of classification is used, it is evident that there are, in the United States, distinct geographical areas, with characteristic climates, flora, and fauna. That location is a significant variable is evidenced by the importance of New York and California in the commercial life of the nation and of the world. Natural resources are not distributed evenly and the pattern of distribution has its effect upon economic life which in turn has demographic consequences. The above conditions have given rise to sectionalism and regionalism which have colored the history of the people.

The distribution of the population at any one time as compared with any other time, reflects changes in numbers and composition that result from the interplay of social and economic conditions and past demographic developments. Just as improved techniques of communication have lessened the importance of geographic distance so other social and cultural factors have diminished the significance of geography in the distribution pattern of the population of the United States. The population is highly mobile and susceptible to changing economic developments. Spurts of rapid economic growth in a particular region are likely to be accompanied by an influx of migrants. As the resource pattern changes, because of new discoveries and inventions, changes in the definition of a resource, or the depletion of resources, regional populations will also change.

Regional population growth, balance, and composition operate not only in relation to unique regional change, but also because regions are bound together and are sensitive to changes in the nation's economy and other population determinants. Thus chapter two provides a background against which the population of the region may be viewed.

Examples of regions

Sociologists have been prolific contributors to the study of regions. Odum, in his analysis,[3] divided the nation into six major societal regions: The *Northeast* includes the industrial states east of the Ohio river; the

[2] The four regions and their divisions are: *North East Region,* including the New England and the Middle Atlantic Divisions; *North Central Region,* made up of the East North Central and West North Central divisions; The *South* composed of the South Atlantic, East South Central, and West South Central divisions; The *West,* including the Mountain and Pacific divisions.

[3] Howard W. Odum, *Southern Regions of the United States* (Chapel Hill. University of North Carolina Press, 1936). Carle C. Zimmerman and Richard E. Du Wors, *Graphic Regional Sociology* (Cambridge, Mass. Phillips Book Store, 1952). Margaret Jarman Hagood, "Statistical Methods For Delineation of Regions Applied to Data on Agriculture and Population," *Social Forces,* Vol. 21 (March, 1943), pp. 287–297. Donald J. Bogue, "An Outline of the Complete System of Economic Areas," *American Journal of Sociology,* Vol. LX (September, 1954), pp. 136–139.

Middle States include the states west of the northeast region, extending to the eastern border of the Great Plains; the *Northwest* includes those states between the Middle States and the Far West; the *Far West* is composed of the Pacific Coast states and Nevada; the *Southeast* extends below the industrial states of the Northeast to the Mississippi river; and the *Southwest* includes Texas, Oklahoma, New Mexico, and Arizona.

Zimmerman and Du Wors formulated a classification of seven major regions: the South, the Appalachian-Ozark region, the Northeast Urban region, the Cornbelt, the Wheatbelt, the Arid West, and the Pacific region. Each region is shown to have distinctive major problems: that of the South is race; the Arid West, water control; the Pacific, the newness of people to their physical and social environment. The authors have also indicated that the pattern of settlement, the culture which developed, and the economic circumstances have combined to produce a way of life, a manner of community living that is regionally defined.

FIGURE 3–1. Regions and Divisions of the United States



SOURCE: Bureau of the Census.

Margaret Hagood provided a statistical method for the delineation of regions. A composite of agricultural and population characteristics was developed for the states, then, in order to group states into regions, a correlation analysis was made showing the similarity of each state to its neighbors. Hagood indicates that, "No one delineation is uniquely determined by this method," but if the number of regions is limited to six, the division that results is very like that used by Odum.

Bogue has developed an outline of Economic Regions and Economic Provinces which is a merger of the homogeneous statistical areas called state economic areas presented in the 1950 Census. This system includes five Economic Provinces, thirteen Economic Regions, 119 Economic Subregions, and the State Economic Areas. This system will be of value to the study of the population of regions just as the State Economic Areas provides useful materials in the study of state populations.

REGIONAL POPULATIONS

Since a region has been defined as, "a territory which possesses enough of the measure of sameness to distinguish it fundamentally from its neighbors," or as "an area where a pattern of life predominates," it is to be expected that regions and states will show varied patterns of population growth, composition, distribution, balance, quality, and policy. These varied patterns are the results of a combination of historic, geographic, economic and political consequences. Each of the chapter headings of this volume could profitably be applied to the study of state and regional populations. However, since the topics so designated will be examined in more detail in specific chapters, only brief statements will be made at this time.

TABLE 3–1. Males Per Hundred Females for Districts and Selected States, 1950

Area	*Males per 100 Females*	*Area*	*Males per 100 Females*
United States	98.6	South Atlantic	98.2
		Georgia	96.2
New England	95.6	East South Central	97.9
Connecticut	97.0	Mississippi	97.7
Middle Atlantic	96.2	West South Central	99.5
New York	95.4	Arkansas	99.3
East North Central	99.3	Mountain	104.4
Wisconsin	101.1	Idaho	106.2
West North Central	100.1	Pacific	101.4
North Dakota	108.8	California	100.1

SOURCE: *Statistical Abstract*, 1952.

As Table 3–1 indicates, the sex ratio varies between states and between regions. The advice made famous by Horace Greeley, "Go west, young man, go west," may well be changed to, "Go west, young woman, go west," for the further west we go, in general the more males there are in proportion to females. The sex ratio not only has marital implications but is significant also for such factors as the birth rate, the workers available, and the death rate. The ratio between the sexes represents a balance of events created and influenced by such factors as rural or urban residence, mobility,

the economic organization of the area, and the racial make-up of the population.

These events and conditions are also reflected in different age profiles—the proportion of different age groups in a population. The South has long been recognized as a seedbed of the nation and its higher proportion of children introduces a host of conditions having different social consequences from those in a region such as the Northeast. Problems of education are intensified, and, other things being equal, the dependent population is greater. A young population is likely to be more migratory, marriage and birth rates are higher where there are large numbers of youths, and different kinds of social services care required than in an aged population.

TABLE 3–2. Median Age by Region and Residence, United States, 1950

Area	*Urban*	*Rural Non-Farm*	*Rural Farm*
U. S.	31.5	27.8	26.0
Northeast	33.0	29.6	29.9
North Central	31.7	30.6	28.7
South	29.4	25.1	23.3
West	31.7	28.1	27.9

SOURCE: *Statistical Abstract*, 1952.

One of the most significant influences on a population is its place of residence and, as will be indicated in chapter five, urban or rural environment has a profound influence on the lives of a people. At this time, it is enough to indicate that the urban characteristics are intensified in the extremely urban states and regions. Among these characteristics are: a large proportion of immigrants and their descendants, a population enjoying more formal education, a fertility rate increasing to replacement needs but still lower than that of the rural population, and a large number of people compressed into limited areas with many individual variations reflecting the operation of selective and differentiating factors. Families in the metropolitan areas have larger net incomes than families in non-metropolitan areas, and this fact is reflected in the standards of living in the highly urban states and regions.

North and South have long exhibited different attitudes and behavior towards the Negro. One of the most significant conditions determining the behavior of one racial group to another is that of numbers. Nondemocratic modes of adjustment are likely to prevail where the minority group is concentrated in limited areas. The various regions and states have concentrations of different racial and ethnic groups. On the Pacific Coast nonwhites are largely Japanese, Chinese, Mexican, and Indian, while the Indian population colors the political and social life of the Southwest. Conditions have changed over the years, but it is still true that where there are high concentrations of a minority group in a region their numbers are reflected

in higher death rates (generally and for specific diseases), in higher proportions of children and women employed, in extensive employment in the least desirable jobs and in consequent lower income with all that it entails.

Regions and states vary in the proportion of foreign born and descendants of foreign born as well as in the culture areas of the world represented by the foreign born. While the problem of assimilating the first generation of immigrants is no longer acute, nevertheless the influence of national origin on customs, ideologies, and institutions still affects integration. Regions which have large numbers from Northern Europe would be expected to have a different social pattern from those with migrants from some other area of the world. Populations derived from different religious heritages will have differing attitudes towards birth control and differing reproductive patterns.

Regions have exhibited varying growth and distribution patterns. The Northeast, which has had an extremely rapid growth, has begun to slow down, while the Pacific Coast and the South have shown a more recently accelerated rate of growth.

A review of the demographic character of regions and states emphasizes their individual character, their unique history and development. It is also true that individual differences are, in many instances, tending to become less noticeable. As minority groups participate more fully in the life of the nation, they take on the demographic character of the majority. Many areas, previously rural, are becoming more urban. Regions which were settled and developed later than the East Coast are spurting ahead. The composition of the population is becoming more uniform. Every region is expected to have a sex ratio in favor of females by 1960, and every region is expected to increase in number and proportion of older persons. Many population characteristics of states and regions which were abnormal are moving towards national norms. Undoubtedly, modern means of transportation and communication, which have done so much to blend the rural and urban, have been important factors in the redistribution of population. Large numbers of Southern agrarian Negroes have become Northern city dwellers and have taken on the demographic character of an urban people. The United States has been and is likely to remain a mobile people, so that as large numbers move about seeking higher standards of living, the nonpolitical lines between regions are likely to become less and less distinguishable.

While it is convenient to deal with states in terms of defined regions, it must be remembered that specific states within separate regions are often more nearly alike than they are like the regions of which they are a geographic part. The following classification indicates that states of varying geographical location can be considered as having characteristics in common. Such a classification tends further to blur regional demarcations.

CHARACTERISTICS	STATES
Urban	New Jersey, New York, Rhode Island, Massachusetts, Ohio, Connecticut, Pennsylvania, Maryland, Delaware, Indiana, Michigan, Wisconsin, Illinois, Washington, California, Missouri, and Washington, D.C.
High per cent of foreign stock	Massachusetts, Rhode Island, Connecticut, New York, New Jersey, North Dakota, Minnesota, Wisconsin
High per cent of native stock	South Dakota, Indiana, The Carolinas, Kentucky, Mississippi, Tennessee, Oklahoma, Kansas, Arkansas
Decreasing populations	Arkansas, Montana, Mississippi, Oklahoma, Idaho, West Virginia, Vermont, Maine
Growing by migration	California, Arizona, Florida, Washington, Oregon, Nevada
Sparsely populated	Nevada, Wyoming, Montana, New Mexico, Arizona, Idaho, Utah, South Dakota, North Dakota

However, the regions of the United States are not likely soon to become so alike that they will have no identity. While approaching national norms, the regions reflect their particular economic bases, their particular historic development, and their unique traditions. In keeping with the political, economic, and social history of the United States, what would seem to be desirable is "A Regional Balance of America."

THE NORTHEAST

The Northeast is perhaps one of the most identifiable regions. With the exception of West Virginia, which is sometimes included in the Northeast and at other times in the Southeast, all attempts at defining this region are uniform in including the New England and Middle Atlantic states. This is a region characterized by everything that comes to mind in the description of a complex, urban society; an area which serves as a center for much of the life of Western society. Its people are the product of the great waves of migration to the United States. Originally settled by white Protestant North Europeans, the area has become a melting pot of the Western world.

In the decade 1940 to 1950, the Northeast had the slowest *rate* of growth of all the census regions. While the metropolitan areas, in general, are growing rapidly it is nevertheless true that those of the South and West are currently growing faster than the mature areas of the Northeast. During the past decade all of the states experienced a natural increase, that is, an excess of births over deaths, but the rate was not uniform. The

United States average was 13.7 per cent of the 1940 population, but New York had a low of 8 per cent natural increase. Not only were rates of natural increase low for the Northeast during this decade but rates for out-migration in some of the states, such as Pennsylvania and the northern New England states, were above the national rate.

The above data should not, however, distort the picture of population distribution in the Northeast region. This region still leads in the per cent of its population living in cities (80 per cent to the West's 69.8 per cent). New York, New Jersey, Massachusetts, and Rhode Island are highly urban with from 84.3 to 86.6 per cent of their populations living in cities. New York is the most populous state in the union and has been since 1890. It is interesting to note that when states are classified as urban, either by the old or by the new definition, the first five are all in the Northeast. Much is heard of the rapid industrialization of the West and South and while rates of growth are high in those areas, this should not blind us to the fact that industrial expansion is still going on in the Northeast. "It is only in terms of relative growth that the South and West Coast can claim certain honors of leadership."[4]

More than a fourth of the population of the United States lives in the Northeast region and the density figure of 241 per square mile reflects the crowded conditions under which they live. However, crowding is part of the price of the high standard of living. Compared to national averages, more children are born in hospitals in this region, more go to school longer, and a larger proportion of the population is in the ages which contribute to the economy.

Porterfield and Talbert have developed a rough measure of secularization which is an average of conditions such as: non-nativity, degree of urbanization and industrialization, and non-church membership.[5] By this measure, secularization is highest in the Northeastern and Northwestern states. The Northeast then may be described as a highly secular, urban, industrial area where people are older than the national norm, birth rates are low, and standards of consumption are high.

New York State

At midcentury one person in ten in the United States lived in New York state. The New York population numbered 14,830,192 persons, an increase of 10 per cent between 1940 and 1950. About 94 per cent of the population is white, 6.2 per cent is Negro, and the small remainder are members of other racial groups. The Negro population is a result of southern migration to northern urban areas. In 1900 less than 2 per cent of the total population

[4] John W. Alexander, "Industrial Expansion in the United States," *Economic Geography*, Vol. 28 (April, 1952), pp. 128–142.

[5] Austin Porterfield and Robert H. Talbert, *Mid-Century Crime in Our Culture* (Fort Worth, Texas. Leo Potishman Foundation, Texas Christian University, 1954).

was Negro, but by 1940 Negroes represented 4.2 per cent. The great majority of the Negroes in the state are to be found in New York City where Harlem symbolizes the urban concentration. The Negro population of New York has more women than men, due to the employment opportunities for women in the city. The highest proportion of the Negro population is in the young adult age groups, so that there are proportionately fewer persons in the dependent age groups than would be found in the southern rural areas.

New York state has more foreign born than any other state in the union and the proportion of foreign born to total population is the largest of any state. As is true in the United States as a whole, the proportion of foreign born to native born in declining. This is indicated by a decrease of 12 per cent in foreign born between 1930 and 1940. The sharp reduction in immigration since 1924 has naturally resulted in an aging of the foreign born. In 1950 when the average age of all native whites in the state was 28.9 years, that of the foreign born was 54.3 years. Most of the migrants came from Europe; from central, southern, northwestern, and eastern Europe in that order. There are more foreign born Italians in New York state than any other national group and next to the Italians, Russians are most numerous.

While one source of cultural heterogeneity is disappearing as generations of native-born children and grandchildren are being reared, another source is occurring. Between 1950 and 1954 an estimated 150,000 Puerto Ricans came to New York City, bringing the city's Puerto Rican minority to about 500,000. The bulk of this group is crowded into tenement areas, adding to the burdens of education, sanitation, and housing.

As has been indicated, the majority of the minority groups are concentrated in urban areas. Most of New York's population is urban—in fact, more than half the population of the state is in New York City. By the 1950 definition, 85.5 per cent of the total New York state population was urban and of the 14.5 per cent rural, only 3.9 per cent was farm population. The urban character of the state is important in helping to explain a number of other characteristics of the population. Females predominate. In 1950 there were 98.6 males per 100 females in the nation while New York state had 95.4 males per 100 females. As a consequence of the demographic conditions associated with the urban character of the state, the population does not reproduce itself. In 1930 New York was 20 per cent below replacement level; in 1940 reproduction rates were 12 to 15 per cent below the rates necessary for replacement; and in 1950 the crude birth rate was 20.4 compared to the United States rate of 24.0. Being a rich state with proportionately fewer children to educate, it is little wonder that the state leads the nation in average current expenses per pupil.

Beginning about 1880 migration from the farm to the city has been a major population movement. Between 1930 and 1940 a small increase in

farm residents was reported but between 1940 and 1950 the farm population decreased. Another major population movement that has contributed to growth has been the Negro migration. This was stimulated by the shutting off of immigration (formerly a factor in the growth of the state), and the consequent opening up of job opportunities for Negro migrants.

Current growth is in and around the urban counties, particularly in the suburban areas. Suburbanization began about the turn of the century and has been proceeding apace, particularly since 1920. New York city has witnessed a population movement outward into areas which have in many cases themselves become cities. Between 1940 and 1950 about three-quarters of a million people left New York City proper, while the metropolitan region outside of the city registered gains. Still New York City is the largest city in the world, twice as big as any other in the United States, and because so many people are confined within such tight physical limits, trouble spots are magnified. Congestion is a major headache, adding costs to all services involved in transportation. Taxes are high and this problem is accentuated by the unbalanced state-city population distribution.

Such tensions are not likely to disappear in the near future. New York is still growing although the rate of growth is slowing down. New York City is by far the largest port on the Atlantic Seaboard, a commercial and financial center of the East. High proportions of the working population are employed in finance, insurance, and real estate. In this respect California and New York are much alike in the proportion of distributive and service workers among the population. With a large Eastern population to service, it is unlikely that New York state will rapidly assume a new character or that the demographic nature of its population will change much in the near future.

In summary, the Northeast region, and the state of New York which has been used to illustrate the region may be described as follows: When statistics for the United States are used for comparison, their birth rates are lower, the median age of the population is older, infant death rates are lower, the sex ratio is in favor of females, the density of population is higher, levels of living are higher, and the rate of growth is smaller.

THE SOUTH

In spite of its general appearance of uniformity, the South is a highly diversified region. This diversity is exhibited in one way by the delineations of the region. The Census divides the South into three geographic divisions: The South Atlantic states, the East South Central, and the West South Central states. Odum gives particular attention to two regions of the South: the Southeast, which is similar to the Census South Atlantic and East South Central divisions; and the Southwest, composed of Texas, Oklahoma, New Mexico, and Arizona. Zimmerman and Du Wors include all of the former Dixie states except Maryland and Missouri in their divi-

sion of the South and treat the Appalachian-Ozark region separately. Other writers deal with subregions such as the Tidewater Piedmont area, the Eastern Old South, the Southern Great Plains, and the rapidly industrializing Gulf Coast Area.

The difficulties of classification should serve as a warning. There are as many demographic differences between specific areas within a region as there are between regions. Yet the loss of detail is an inevitable accompaniment of classification without which each small unit of population would be considered as discrete.

The Southeast presents a contrast to the Northeast in most respects. Where the culture of the Northeast was leavened by the great migrations from Europe, that of the Southeast has escaped most of this influence. The region was settled by people with a common historical experience, a common ethnic background, and this pattern has remained much the same over the decades. The Southeast has a higher proportion of people with English, Scotch, and Irish heritages than does the United States as a whole. The proportion of foreign born is low and has been low for a long time. For example, in 1890, when the proportion of foreign born in the United States was high, the proportion in the South Atlantic and East South Central divisions was 2.4 per cent and 1.6 per cent respectively. In contrast, the figures were 24.3 and 27.2 in New England and the Pacific divisions. If the population pattern of an area influences and is influenced by the cultural pattern, then the nationality picture described above had much to do with the tradition of the Old South in which Protestantism was a strong force, the family was of the classical tradition, and a rigid social structure prevailed.

TABLE 3–3. Per Cent Nonwhites by Geographic Division, United States, 1950

Area	*Per Cent Nonwhite*	*Area*	*Per Cent Nonwhite*
United States	*10.5*	South Atlantic	24.3
New England	1.6	East South Central	23.6
Middle Atlantic	6.4	West South Central	17.2
East North Central	6.1	Mountain	4.5
West North Central	3.5	Pacific	5.2

SOURCE: *Statistical Abstract*, 1952.

Attention has been drawn to the Negro migration to Northern urban areas, yet it must be remembered that Negroes have always been concentrated in the South. At every census before 1870, about 93 per cent of the Negroes lived in Southern states. In 1910 this proportion had diminished to 89 per cent, but by 1940 it had fallen to 77 per cent, and in 1950 it was 68 per cent. At this time, when 10.5 per cent of the population of the United States was classified as nonwhite, 24.3 per cent of the population in

the South Atlantic division was so classified. As the dispersion continues and as the Negro lives more and more under conditions like those of the whites, demographic consequences of white-nonwhite comparisons are useful as indexes of both concentration and mobility.

The South, in contrast with the Northeast, has long been an agricultural area, and while change is taking place, its culture is still essentially agrarian. Characteristic of an agrarian culture is the high proportion of children in its population. Except for the Mountain states, the South is the leading area in large families and many of these families exist on less than the national average in income. Described as the seedbed of the nation, the South has the highest birth rates of any region and experiences a heavy out-migration of its citizens to other regions. As a consequence of birth and migratory patterns, the South has a young population. When the United States median ages for Urban, Rural Nonfarm, and Rural Farm populations in 1950 were 31.5, 27.8, and 26.0 respectively, those for the South were 29.4, 25.1, and 23.3. In 1950 this region had the lowest proportion of older persons in the population but the rate of increase of this segment of the population is expected to become the highest of all regions by 1960. While the rate will be high, the proportion of older persons will still place the South in last place among the divisions in this respect.

The large proportion of young people in conjunction with a rural population and a low level of living combine to place the South at the bottom of most indices of levels of education. Since the South contributes so much to the population of other regions, the transmission of the social heritage is of concern not only to the South but also to the rest of the nation.

The physical resources of a region and the use of such resources are significantly related to the human resources of its people—their skills, and the character of their social organization. In this respect the concentration of manufacturing and of distributive and service industry in the Northeast are contrasted with the agricultural and extractive industries of the South. Farms in the Southeast are small and many are tenant operated. Although this system of social organization is on the decline, as late as 1940 over half of the farms in the South were operated by tenants. The social costs of the tenant system have been high in retarded education, low ratios of doctors and hospitals, and as otherwise evidenced by inadequate social institutions. The plane of living is another index of many of the difficulties of the South. In 1950, when the average county index of farm-operated family level of living for the United States was 122 (100 U.S. average for 1945), the South's index was 92. And when the mean per capita income, 1929–1950, for New York was $1,156, that for Mississippi was $358.

Such discrepancies are being reduced as differences between regions become narrower. Important in the South's climb to national averages in

demographic and social conditions has been its urbanization and industrialization. A substantial southward movement of industry has helped to expand employment and income. Even in the Ozarks, where isolation was a longtime barrier, urbanization and industrialization are spreading people and industry over the region. During and after World War II industry in the South expanded greatly, became more diversified, and raised per capita income. Even although half of the large cities of the United States are to be found in the Boston-Chicago-Washington triangle, nevertheless there were a number of Southern cities that reached a population of 100,000 or more in the decade 1940–1950. Among these cities are Savannah, Mobile, Montgomery, Baton Rouge, Shreveport, Little Rock, Austin, Corpus Christi, and El Paso. This is in sharp contrast to the beginning of the century when the South contained only six of the nation's fifty largest cities. T. Lynn Smith points out that urbanization in the South has progressed in much the same way as in the rest of the nation except that there has been a time lag of about fifty years.[6] The region possesses extensive and varied resources which have been idle or under-utilized. As mechanization increases and agriculture and industry become diversified, the South will assume a new relationship in the balance of regions.

Mississippi

The first migrants from Europe to Mississippi were the French who took possession of this area about 1700. They were followed by the British, who came in from Georgia and the Carolinas, and who in turn were supplemented by Spanish settlers. This region was acquired by the United States in 1798 and the state was created in 1817, at which time its non-Indian population numbered about 50,000. Between 1817 and 1830 settlements spread under the stimulus of the cotton boom and by the latter date the last of the state was open to settlers. The land boom of the 1830's, together with the expansion of railroads, saw the population grow until about 1850 by which time the period of rapid growth was complete.

From 1800 to 1930 the population of the state grew 78 per cent, in comparison with a gain of 112 per cent for adjacent states, and 145 per cent for the nation at large. Between 1940 and 1950 Mississippi was one of four states losing population; the others were North Dakota, Arkansas, and Oklahoma. In 1950, Mississippi, with a little more than two million persons, ranked twenty-sixth in size of population among the states.

Illustrative of a major issue in the South is the concentration of Negro population. Although the ratio is declining, Negroes have constituted over half of the population of Mississippi ever since statistics were first reported in 1850, and it was not until 1940 that the proportion dropped to less than half. The state is also a good example of the rurality of the South. In 1950, Mississippi was outranked only by North Dakota (using the older defini-

[6] T. Lynn Smith, *The Sociology of Urban Life* (New York. Dryden, 1951), p. 168.

tion of rural and urban) as the most rural state in the nation. Typical of a rural state the net reproduction rates are high even although declining (at least until the upswing in births after World War II). High birth rates have contributed to a high dependency ratio which is reflected in the state's low educational achievement. Another reflection of the South is Mississippi's contribution of population to other states. One person out of every eight who lived in the state in 1935 had moved and was living in another county or state in 1940. The net out-migration averaged 42,000 a year in the period April 1940 through June 1945, and 36,000 a year in the period April 1950 through June 1954. The state is losing more young productive workers and more women than are moving in, and the net loss by migration is greater for Negroes than for whites. The Delta, where there is a concentration of Negroes, is the area best adapted to the use of mechanical power in agriculture, and as mechanization continues there will probably be two major effects on population. One will be a surplus of displaced unskilled Negro farm laborers; the other, a scarcity of skilled workers to operate the machines being introduced in cotton farming. Since the pattern of concentration of labor in agriculture is greater in Mississippi than in the South generally, whatever affects agriculture—such as decline in the economic position of specific crops, erosion, poverty, and mechanization—will be particularly noticeable in their effect on Mississippi's population.

While the South perhaps may no longer be described as the disadvantaged tenth of the nation, yet it is apparent that, in so far as the population yardstick reveals its liabilities and its prospects for future development, much remains to be accomplished.

THE PACIFIC COAST

The Westward Trek has long been a characteristic movement of the population of the United States. One statistical indicator is the shifting center of population. This was located twenty-three miles east of Baltimore, Maryland in 1790 and eight miles north-northwest of Olney, Illinois in 1950. The West led the four other census regions in rate of growth during 1940–1950 and, for the first time, the numerical increase exceeded that of any other region. Most of this increase took place in the Pacific division as the increase in the Mountain division was less than one-sixth of the gain for the region. California alone gained 1,968,000 in total population from April 1950 through June 1954, a gain (due to sustained in-migration and birth rate) that was almost one-fifth of the increase of the country as a whole. Should this increase continue, California will be the most populous state in the union in the very near future. Washington and Oregon have shown comparable rates of growth, as a result of which, by 1965, almost half of the population west of the Mississippi will live on the West Coast.

These circumstances are the products of a long chain of events whose unravelling cannot be attempted in this context. However, attention may be drawn to some of the conditions which link the past with the future. The first major growth of the Pacific Northwest occurred in the period 1843 to 1885. Most of the migrants during this early period came from the Eastern Seaboard, but as time went on the major sources of migrant population shifted westward. The early mingling of New Englanders and Southerners was a powerful force moving towards cultural unity during the nineteenth-century period of isolation of the area. The railroad, which throughout the development of the nation was an important factor in transferring sectionalism into regionalism, ended the isolation. Other significant periods of change in population balance were the depression of the 1930's when farm families, fleeing the dust bowls, migrated to the coast, and the period of World War II, when a war economy increased the populations throughout these states. During the war years the inland rural states of the census region lost population to the urbanized and industrialized coast states.

The long distance of migration, together with the character of the economic circumstances which in part were responsible for the kind and duration of migration, have left their mark upon the nature of the population. Long migrations tend to be selective of males as of course does an extractive economy. Thus it is no surprise that the Pacific region has long had a sex ratio favoring males although there is a tendency in recent years toward a balanced ratio. In 1890 there were 163 men per 100 women in the state of Washington, but by 1950 there were only 106 males per 100 females. In 1950, when the United States sex ratio was 98.6, that of the Mountain states was 104.4, and in the Pacific states it was 100.1.

This is a region with a high ratio of older persons, which can in part be explained by its attraction as an area for retirement and in part by the migratory pattern of the early decades of the century. Low birth rates have prevailed during most of the Pacific coast's history, and this, too, helps to explain why the age distribution favors the elderly. The average life expectancy on the Pacific coast is high, a situation which is particularly true for women and in their case may be a reflection of the low birth rates which reduce maternal deaths.

The foreign born populations have distributed themselves unevenly over the United States. A century ago the Pacific states were outstanding in having a large foreign born population. In 1860, 38.6 per cent of the residents of California were foreign born, but this proportion has steadily decreased until, by 1950, only 10 per cent of the population was foreign born. This diminution is of course a reflection of Federal immigration policy. The migrant population from within the United States has become the significant factor of the population growth of the Pacific states.

California

In the popular mind California symbolizes the West Coast—it is a goal for adventure, a mecca for tourists, and the golden pot at the end of the rainbow. Between 1860 and 1950 nearly 80 per cent of the state's growth came from the net influx of persons born outside the state. During this period the population of the United States increased six fold, that of California sixty-four fold. The percentage of native-born population living in states other than those in which they were born has steadily increased and California reflects this movement in a spectacular way. In 1950 more than half of California's residents had been born in other parts of the United States. Migrants to California, as is characteristic of most migratory patterns, have been young adults who have strengthened the productive capacity of the state. Nonwhites represent a small minority of immigrants. Until 1940 the Negro population grew slowly, but the labor market of World War II attracted Negroes so that from 1940 to 1950 this population increased 272 per cent. Large numbers of migrants require services of all kinds and this has been a factor in the economic character of the state.

California, like New York, has had a predominance of distributive and service industries. While manufacturing has been slow to develop in general, two major manufacturing areas have emerged; one around Los Angeles, the other in the San Francisco Bay area. The dominance of Los Angeles is associated with the rapid expansion of the aircraft industry and its growth as an automobile center. The city lacks many of the physical aspects of an industrial area perhaps because of the space requirements of its industry and its recent development. Urban growth has introduced new and critical situations among which smog and water shortage have been most publicized. Hydroelectric power is basic to California's growing industry and of course agricultural interests have a stake in the use to which the water supply is put. The concentration of over 60 per cent of the state's population in two metropolitan areas cannot help but influence the power alignments. The increasing urban nature of the population is shown by the fact that in 1950 more than 80 per cent of the population lived in urban areas.

The increasing urbanization and the sex ratio have influenced the birth rates which, although currently approaching national norms, have been low during most of the history of the state. Increasing birth rates reflect the reproductive pattern of migrants who, during the early decades of the twentieth century, came from areas where cultural patterns favored high birth rates. Another factor in increasing rates is the suburban character of the urban population which has been characteristic of California.

California is a high-income state, a fact that is noted in high operating expenditures for schools, in high percentages of births in hospitals, and in other comparable indexes. However, there are limiting factors which have their effects on the society. A highly commercialized and specialized

agriculture relies on seasonal labor which has been a constant source of difficulty and the subject of numerous labor conflicts and investigations. The demand for cheap labor has led to successive waves of people with varied racial and ethnic backgrounds, resulting in a cultural heterogeneity. Immigrants from the Orient have concentrated on the West Coast, particularly the Japanese and, to a relatively small extent, the Chinese.

Prospects of growth in California are bright. The potentials in land, electric power, and other resources point to a continued population gain. There have been occasional warning notes concerning the overselling of the area as a future industrial center, the potential difficulties of distorted age profiles, and the commercial effects of a large and underpopulated hinterland of states. Nevertheless the West Coast still beckons and many will continue to be attracted by its climate, current economic opportunities, and its promise for the future.

THE ARID WEST

The Arid West is one way to describe the Census division of the Mountain States with the inclusion of western Texas. Limited water is an all-pervasive concern to an extent not equalled in any other region. Demands for water are high in Texas because of industrial expansion and its accompanying population increase. Throughout the region increasing irrigation of land requires increasing water supply. Dust bowls dramatically focus attention on the needs, and a number of proposals have been made to build reservoirs and dams. The dust bowls of 1954 included parts of Texas, New Mexico, Kansas, and Colorado. Poor lands, put into cultivation and farmed in a manner which increased the potential for catastrophe, became acres of shifting sand and forced large numbers of people to migrate. While conservation methods have played a significant part in the attack on the dust bowls, past history emphasizes that there are limits to natural resources and that water as well as soil can be "mined."

Climatic and topographical facts help to explain the relatively sparse population living mainly in the open country and in trading centers. The basic economy rests on agriculture and extractive industries which can be carried on with sparse populations. While the average United States density in 1950 was 49.8 persons per square mile, that of Arizona was 6.6, of Nevada 1.4, and of Idaho 7.1. In this area, perhaps more than in any other, factors of topography and climate are vividly seen as being instrumental in the social life of the people. The rugged character of the country and low annual rainfall directed settlement into areas where irrigation was possible and this pattern has retained its influence.

Population growth has been concentrated in a few areas of each state. The most significant recent growth has been in urban counties and in irrigated areas. Young people have moved away from the rural areas as mechanization has increased the size of farms. The sparse population

creates problems of education and raises questions as to the lower limits of a population which can support an organized social life. Many rural social organizations cannot exist in extremely underpopulated areas and problems of medical, legal, and other services become acute. An important demographic and social issue is raised. How can a rural farm population be stabilized if it is assumed that stability is a positive value? Thus far no answers to this question have been accepted as adequate.

Since the area is predominantly rural, the population exhibits typically rural characteristics—high ratios of children and older persons, relatively high birth rates, and a cityward migration of rural youth. While the region is typically rural, this does not mean that its culture is uniform or integrated in all respects. Cities and towns of diverse character spot its landscape and a heterogeneous population inhabits its farms and villages. Spanish Americans and Indians make up a significant portion of the population of New Mexico, Arizona, and Western Texas. In Utah, the cultural pattern is predominately Mormon. The long tradition of Spanish-American settlement, the migration in and out of the area, the budding urbanism, and the increased industrialization of some sections have contributed to a lack of balance so that an integrated cultural pattern in these respects has not developed.

Idaho

Effects of topography and climate on population are well illustrated in Idaho. The land was settled during the latter part of the nineteenth and the first decades of the twentieth century. The areas of the state in which large farms and ranches were common reached their peak of growth early and more densely populated counties accellerated their growth during 1940 to 1950. Between 1940 and 1950 the urban population grew by 31 per cent, that of the rural by a little more than 1 per cent.

The population of the state is almost 100 per cent white. The absence of large cities and the late development of the region have been important in determining the proportion of native white population. Foreign born in 1940 represented about 20 per cent of the population compared to the United States average of 26 per cent. The bulk of the foreign born are northern Europeans and live in rural areas.

The proportion of the state's population under five years of age has been larger than that for the United States. However, due primarily to the out-migration of young people, the proportion fifteen through forty-four years of age has been less than that of the United States. High birth rates and migratory patterns mean a high dependency ratio for the state. Typical of the region, Idaho has historically had a high sex ratio. However, as the state's economy has become more diversified, the sex ratio has consistently approached the United States average. The high sex ratio has meant a higher percentage of married females than has been the case for the United

States as a whole. Other characteristics of the population which reflect those of the region include a high divorce rate, a low percentage of widowed females, a low death rate reflecting a concentration of children, a young median age, a small proportion of foreign born, a sparse population, and a large percentage increase in population.

WEST NORTH CENTRAL STATES

Odum's dividing line between the Northwest and Middle States cuts through the center of the Census classification West North Central. The tier of states from North Dakota to Kansas is grouped in the Northwest and the tier from Minnesota to Missouri in the Middle States. The West North Central states correspond to what Zimmerman and Du Wors call the Wheat Belt and the western end of the Corn Belt. About half of the population of this region is rural. It employs one in five of all people who work on farms in the United States and the nature of the agriculture has had significant implications for population trends. A general condition has been that, since 1940, the most rural areas—those furthest removed from the larger cities—have tended to lose population, while more urban areas have tended to gain. Thus it is that the population is concentrated in the larger cities and fertile farm areas of the eastern section—Missouri, Minnesota, and Iowa having more than two-thirds of the population. The loss of population in the sparsely settled areas is associated with the increasing size of farms and the growing importance of urban life. The slowing rate of growth in recent times reflects the movement away from farms which has been accentuated by drought and the mechanization of the wheat farms of the Great Plains.

Migration into the area, so important in the early days of settlement, is less significant now. In 1860, about 45 per cent of Minnesota's population was native to other states, but by 1950 only one-fifth were born in other states. The relative maximum growth was achieved about the turn of the century and in more recent years the rate of increase has declined or in some instances become a rate of decrease. This decline is a reflection of decreased birth rates and of changing economic and social forces.

The settlement pattern has had significant social implications in terms of cultural transmissions. The southern part of the region, historically, experienced a late expansion of the slave culture. The northern part, after the Civil War, attracted Germans, Norwegians, Swedes, Danes, and Russians. The immigrant population tended to group themselves according to the country of their origin, thus complicating the development of a common culture. The region is characteristically an area of small towns. Many of the small towns are trade and service centers for farm areas and as farm population has declined the small communities have had to adjust their institutions to meet this change. As some institutions concentrated in

small towns, others, because of improvements in transportation, moved to larger communities and a new balance of town-country relationships is emerging.

North Dakota

North Dakota is the most agricultural state in the union. Therefore, whatever affects agriculture will have immediate effects upon its population. The most significant crops—wheat, oats, and barley—require large areas of land; thus, large farms are the unit of rural social organization. Coupled with these geographic, agricultural, and social factors is the technological development in agricultural production which tends to reduce manpower requirements in terms of numbers. The effects of changes in agriculture are reflected in the growth pattern of the population. Physically isolated, the state had a slow growth until the railroads came in the late nineteenth century. By 1910 the surge of growth had been largely accomplished and by 1920 the movement out of the state began to assume significance.

Perhaps the best word to describe the essential demographic condition is "movement"—movement into the state, movement out in the 1920's and 1930's, and a movement within the state which is a pattern of rural loss and urban gain. Such movements have affected segments of the population in different ways. Migrants out of the state are characteristically young adults, and the proportion of men has been higher than of women. Density patterns are related to mobility. The most densely populated areas are along the eastern border but the number of urban places is very small. Because rural-urban migration is usually to large urban areas, the absence of such areas is a limiting factor to internal migration.

The movements illustrate the usual interrelationships between population and the social institutions. Larger communities have tended to grow while the smaller have declined; in fact the areas having the greatest decline are the most rural. This means that the smaller towns have had to adjust to the changing population as noted by the extensive use of churches and schools in the small towns by the farm population. Similarly, the growth of larger places is accompanied by a centralization of institutional functions and competition between community services.

The social and cultural facts briefly referred to have had their effects on and are being affected by the demographic factors. The interplay has resulted in an ageing population, an imbalance in the sex ratio, a decline in the proportion of farmers, growth in urban population, a decline in small communities, and an imbalance of population and community service in the rural areas. In brief, the extreme dependence on agriculture magnifies the complex of demographic and social and cultural relations of a sparse population.

THE EAST NORTH CENTRAL STATES

The East North Central States are the heart of the nation's industrial economy. Regions located on the Great Lakes have had marked influences on both industrial development and on the concentration of population. There were more people and more employed persons in this area in 1950 than in any other major region. A general agreement among demographers and social scientists as a whole holds that this region, plus Minnesota, Iowa, and Missouri—included in Odum's classification as Middle States—is most typical of developments in the national economy, population, and culture. This division, like the nation, made and is making the transition from spectacular expansion to approaching balance and in so doing faces many problems of adjustment.

Growth has been uneven as metropolitan areas have increased more than less settled areas. Particularly acute has been the increase in the urban fringe with its attendant suburban problems. The number of cities and the proportion of the population in cities has been increasing while the proportion in rural areas has been decreasing. Changing land use in metropolitan areas, enlargement of farms, the mechanization of farms, the changing use of hired labor, and the migration from farms indicate a new rural-urban balance. This area is urban and rural in about the same way as the country as a whole which again illustrates its typical character.

SUMMARY: CORRELATES OF REGIONALISM

Many interesting attempts have been made to relate a population characteristic to social or cultural conditions. David Reisman[7] developed ideal types of tradition-directed, inner-directed, and other-directed people, which were then related to the phases of the S-shaped curve of population growth. Reisman's thesis is ". . . . that each of these three different phases on the population curve appear to be occupied by a society that enforces uniformity and molds social character in a definably different way."

Most attempts to show cause-and-effect relationships have been more limited than that of Reisman's. For example, studies are made to show the effects of periods of economic growth in specific areas with the growth of population in that area, or the impact of an in-migration of rural persons on the interest groups of the affected community. A review of the population studies of states and regions indicates a number of observations which are suggestive of the association between these demographic changes and social and cultural conditions.

An inescapable observation is that the populations of states and regions are not uniformly distributed. This may seem too obvious to mention but the degree of concentration has important social and cultural consequences. In Connecticut almost half of the towns contain fewer than 100

[7] David Reisman, *The Lonely Crowd: A Study of the Changing American Character* (New Haven. Yale University Press, 1950), p. 9.

persons per square mile; one-half of the population of New York state is located in New York city; New Mexico's population is concentrated in a few urban centers, in the irrigated areas, and in the dry farming areas; 49 per cent of the population of Wisconsin live in eleven of seventy-one counties, which is a result of the centralized location of the state's industrial activity. The extremes of sparse population and dense concentrations of population highlight the traditional rural-urban comparisons. Sparsity is associated with a lack of concentration of enough wealth to maintain efficient social institutions. States like Arkansas and New Mexico have areas where organizational life is at a minimum, where rural social organizations have difficulty existing, and economic organizations function under extreme difficulties. In recent years there seems to be a relation between sparse population and loss of population. Many sparse populations within the states have high fertility rates, but these areas are losing population to the more populated areas. Not only are the sparse areas prolific but they are areas characterized by low levels of living. The complex of sparsity, high fertility, and low level of living is accompanied by above average infant mortality rates and low levels of education. At the other extreme the most densely settled areas of large concentrations of population exhibit many of the same social ills. The idea of a population optimum seems less abstract than it is often regarded.

The geographical divisions fall into fairly distinct types with respect to patterns of change in rural and urban populations during the decade 1940 to 1950. Gains in urban and losses in rural areas were found in the West North Central, East South Central, and West South Central states. In the South Atlantic and Mountain states, both urban and rural areas increased but the urban gain was greater than the rural. The East North Central states witnessed both an urban and rural gain of about the same degree, while the Pacific and North East states saw the rural areas exceed the urban as a result of suburban developments.

The foreign born are distributed throughout the country and within states and regions in a nonuniform manner. There is a concentration of foreign born along the North Atlantic coast and another in Illinois, Wisconsin, Michigan, Minnesota, and North Dakota. Because of the manner in which immigration was stimulated, as for example in the flow of letters from immigrants to their friends and relatives in the home country, immigrants tended to join their countrymen. Thus Germans concentrated in New York, Illinois, Wisconsin, and Ohio; Italians in New York, New Jersey, and Pennsylvania; Swedes in the North Central States; and Portugese in Massachusetts and California. The same concentration of foreign born by country of origin is seen within many states. In some parts of Pennsylvania and New Jersey the visitor can, without too much imagination, visualize himself in the country of origin of the population. Thus in areas settled by Scots, bowling greens dot the landscape, fish-and-chip

shops still do business, meat pies are sold to appreciative customers, and when the visitor enters the stores, the broad Scotch accents complete the picture. While the impact of the foreign born on the culture and on social groups is declining, there are still many manifestations in fraternal groups, in religious affiliations, in the survival of games, songs, and legends.

Other migratory movements are indicated by a review of state and regional population studies which document the social effects of the movements in a realistic way. The impact of the New England Yankee on local government, public education, and religious traditions of Wisconsin animate the story of the westward movement. In the same state, the Swiss, German, and Norwegian founders of the dairy industry pinpoint the migration which followed the Civil War. The westward movement is also illustrated by the periods of extreme rates of state growth and the subsequent slowing down of rates. The data suggest the experience of viewing a flood as the water whirls into a depression, flowing around obstacles, and then slowly covering them. Variable growth is also characteristic of the states themselves. In Connecticut, for example, the first two decades of the twentieth century were periods of rapid growth which were followed by two decades of smaller increase, and then a decade of recurring rapid growth. Within this pattern was another of varied growth. In the period 1900 to 1950 some towns increased 1 or 2 per cent while others increased 800 to 900 per cent.

Most of the slow growth or loss of population was in the rural areas, and, as in many other states, the already populated areas were those that gained. Suburban living and the growing urbanization affect patterns of land use, create conflicts of interest, and confront social organizations with a variety of conflicting values. People who are rural by night and urban by day present complicated situations to both areas. In the suburban trend, large cities are suffering losses among those citizens who are most inclined to civic responsibility. Such cities now have the additional task of finding and training new recruits for their constructive community building agencies.

The rural-urban migration is a persistent theme in the state studies. Illinois farm population decreased by 21 per cent during 1940 to 1950, and Montana's rural farm population decreased by one-fifth during the same period. Migrants are primarily young people in the productive age groups and consequently affect dependency ratios. Large cities attract young women by their employment opportunities and the movement into cities is reflected in unbalanced sex ratios. Differences in sex ratios lead to differences in marriage rates and birth rates, and they also account in part for differences in death rates between communities. Young men have generally migrated longer distances than young women as reflected by the migration from the South. The fact that females outnumber males in Louisiana can be attributed in part to the northward migration of Negro males. Migration

patterns are but one reason for the unbalanced growth of states and regions. High reproduction rates and slow economic expansion, the exhaustion of good lands, and the disruptions of trade and industry are involved in the variable growth of Arkansas. In North Carolina variability is a function of population pressure in rural areas, the new urban growth, the military institutions of World War II, the mechanization of agriculture, and the Negro migration. Idaho indicates a population growth largely determined by the lags and spurts in agriculture, while an understanding of the effects of topography and climate is essential to an understanding of the settlement pattern of a state like New Mexico.

There is a direct relation between the wealth of a state and the health indices of the state. States like New York, New Jersey, Oregon, California, Illinois, Michigan, and Ohio stand high on such indices, while others like South Carolina, Georgia, North Carolina, Tennessee, Alabama, and Mississippi stand very low. High infant mortality, maternal mortality, and stillbirth rates indicate social conditions which takes a heavy toll on human life and sap the vitality of a people. The states in which agricultural employment is large and in which income has been low also tend to be the states where the proportion of the population in the productive age groups is relatively small. However, as with other regional differences, the differences between the states in this respect have become narrower, pointing to a possibility of balance as suggested in the opening quotation of this chapter.

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Part II

DISTRIBUTION

In the age-long panorama of human affairs, nothing is so vital, so crucial, so full of potentialities as the combination of size and quality in human population itself.
HENRY P. FAIRCHILD*

DISTRIBUTION as used in this section will be limited to "where the people live." This attention to place, locality, or residence may seem unduly restricted in view of the broad range of topics that were suggested but not fully developed in the treatment of growth of population in the preceding section. However, like growth, distribution could include all topics in population, and the materials of this section will introduce approaches and subjects that include most of the bio-social, as well as the numerical, analyses of people.

Previously noted also is the fact that population has never been evenly distributed, chiefly because of geographical differences, but also, in all historical societies, because of various political, economic, and social conditions. This uneven settlement or dispersion has many effects, some of which are noticeable in the make-up of population, and nearly all of them can be connected with the economic system, the continuity of national government, or other cultural systems that man-land balances have helped to produce.

Thus, rural, urban, and now suburban peoples illustrate varying rates of growth and distribution that constantly modify each other as well as the composition and balance of specific societies.

Often the questions that most confuse the study of rates of growth and of quality can be detected in their most answerable situations in the experience of small locality groups. Likewise, too, distribution is a constant variable in interpreting trends, in estimating the validity of population theories, or in formulating effective population policies.

* *People* (New York. Holt, 1939), p. 2.

CHAPTER 4

Rural People

Farming does not support an expanding rural population, either in the United States or Canada. As it is developing today, on poor land or rich, it is not likely to do so in the future.

EARLE HITCH*

IN SOCIAL HISTORY no adjective describing people has afforded a greater sense of security than "rural." Recently it has tempted the distracted urban inhabitant with the prospect of peace of mind at least on a subsistence level. And this ideal of country residence appears in nearly all cultures and continents.

Both in tradition and in census enumerations rural is regarded as the foil to urban. Smith observes this distinction by defining rural society or residence to mean, "a preponderance of the agricultural occupations, a low density of population, small population aggregates, a high degree of ethnic and cultural homogeneity, and great territorial, occupational, and social stability."[1] In such a dissimilar society from that of the metropolitan community and its suburban regions, Smith rightly concludes that place continues to have an important demographic significance and to contribute basic variations in the human or social components or stability of people.

There are, however, aspects of the rural-urban comparison other than place, residence, density, homogeneity, or stability. As Smith and other rural sociologists have noted (see "Primary Indicators of Trends in Rural Demography" on page 83), the changes that are taking place in rural regions in the United States and other nations are reactions not alone to urbanism as such but to radical modifications in the world's economy. In this background there are new technologies and the beginnings of a new social world. Neither agriculture, industry, nor any of the historical components or social institutions of people can be regarded as fixed, stable, or homogeneous. Instead, the variations now occurring in "residence" are more distinctively descriptive of distribution than all prior comparatively static historical entries of a census record.

* *Rebuilding Rural America* (New York. Harper, 1950), p. 5.
[1] T. Lynn Smith, *Population Analysis* (New York. McGraw-Hill, 1948), p. 27.

The sources of this revolution are so well known that they require no description. It is enough to point out that within the last two centuries the essential foundations of population or human society have been altered. Their effects in economic production, in the growth and redistribution of people throughout the world, and in the shifting of nations to new alignments in power and influence have created an entirely different world of ideals and values. Illustrations are obvious in such recent distinctions and innovations as "developed" and "underdeveloped" societies and in new types of government. Changing conditions have been accompanied by a quest for guides, prospects, or future security which has become one of the most popular vocations of contemporary philosophers, statesmen, social scientists, and novelists.[2]

The reactions of rural population to these basic and world-wide demographic changes have been going on at an increasing rate for more than a century. Within 120 years after the factory system was introduced, the predominance both of agriculture as an occupation and of rural inhabitants had given way to the city and machine industries.

For the population of the country as a whole this trend indicates a decrease from 95 per cent rural in 1790 to 42 per cent in 1950 (old definition). Nevertheless this latter percentage represents a total of 58.5 million people living in somewhat more than 100,000 unincorporated villages and towns in the open country. A more rapid rate of decline has taken place in the proportion of the working population that is engaged in agricultural occupations. As of 1950 this proportion was 15 per cent of the nation's total employed people, a decrease from slightly more than 50 per cent in 1870. (Changing definitions make all percentage comparisons between decades somewhat invalid. Hence, these totals and per cents are used to indicate primary trends. Specific differences will be noted in further analysis of the rural as rural farm and nonfarm and in the recognition by the 1950 Census of the suburban as urban. In this census report the proportions of the total population that were farm and rural nonfarm were 15 per cent and 25 per cent respectively. These per cents become about 15 and 20 per cent after the 1950 census separation of the suburban from the rural.)

RURAL DEMOGRAPHY

This introduction to American rural society points to several indexes of rural demography that are sharply distinguished from the urban. One is the slow growth in numbers as noted in the constant percentage decrease

[2] Among numerous examples of this quest are: Marston Bates, *The Prevalence of People* (New York. Scribner's, 1955); Kenneth Boulden, *The Organizational Revolution* (New York. Harper, 1953); Stuart Chase, *The Proper Study of Mankind*, 2nd. Ed. (New York. Harper, 1955); John Dos Passos, *The Prospect Before Us* (Boston. Houghton Mifflin, 1950); George Orwell, *Nineteen Eighty-Four* (New York. Harcourt Brace, 1949); Fairfield Osborn, *Our Plundered Planet*, (Boston. Little, Brown, 1948); William Vogt, *Road to Survival* (New York. William Sloane, 1949); Wendell Willkie, *One World* (New York. Simon and Schuster, 1943).

in spite of a continuous history of high birth rates. A second is a high record of economic productivity and surplus products in excess of market requirements. A third is the continuous loss of population in the migration of rural workers to cities. In view of these characteristics, rural society is unstable from several important variables—high rates of migration or mobility; birth rates in excess of the need of the rural economy, and sometimes too great for the urban economy when both are kept in a state of constant uncertainty by fluctuating domestic and foreign markets; and the necessity of maintaining educational and other needs for children and adolescents who make no return to the economy because as adults they become urban residents and workers.

Both in rate and volume of growth, the rural farm population has been sensitive to urban and industrial changes. It has declined regularly as urban conditions of employment have been favorable. And the long downward trend is explained by (1) economic changes resulting from the introduction of mechanical equipment, (2) changes in farming practices because of recent discoveries in soil chemistry and in the control of insect devastations and of plant diseases, and (3) increased production through improved breeds of plants and animals. Further explanations for this trend are noted in the excess migration of women to the city, and in other changes less readily associated with, but which are probably related to, vital statistics.

MARRIAGE AND THE FAMILY

Among the facts generally accepted as typical of rural marriage and family life, there are six that are viewed as longtime evidences of rural vitality and domestic solidarity: the tendency toward earlier marriage; higher proportions of married within the adult population; high ratios of fertility; large families; the greater durability of marriage (fewer divorces or homes broken for other reasons); and a net rate of reproduction that exceeds the need of the agricultural economy for workers by as much as 60 per cent. These characteristics identify the rural farm population. Their accuracy is supported by numerous conditions in the growth of total population and in the economic and migratory experience of rural people.

PRIMARY INDICATORS OF TRENDS IN RURAL DEMOGRAPHY

1. Birth rates in both farm and rural nonfarm areas that are considerably in excess of urban rates.
2. Death rates and life expectancy tend to be a little more favorable than urban averages.
3. Families are larger than the national average by about two persons; families or households of five or more persons continue in much greater frequency than for the nation as a whole.
4. The proportion of persons under twenty years of age is greater in the farm population than in either the rural nonfarm or urban.

NEGATIVE TRENDS FROM THE POINT OF VIEW OF A STABLE RURAL POPULATION

1. The declining number of family farms, the increase in the average size of farms, and an increase in the number of small farms (farms of less than ten acres).
2. In most states there is an increasing number of large (more than 1,000 acres) farms.
3. Reduction in the need for agricultural labor as productivity per man-hour and per acre increases.
4. Increasing numbers of migratory farm workers, now approaching an annual total of about one million.
5. A near-monopolistic control of marketable farm products by large farms—nearly three-fourths of all products sold are produced by less than twenty-five per cent of the large commercial farms.
6. There are close to one and a half million farm families whose land is submarginal and who can afford neither the labor nor machinery to compete with the large commercial producers.
7. Surplus production continues in spite of governmental efforts to restrict crops and acreage with consequent excessive wastes and high storage costs.

Each of these facts, however, is more dependent upon consensus among the students of rural social life than upon proof. Each one is part of a trend that is subject to all the historical determinants of population growth and that is apt to vary widely because of local or regional differences. Furthermore, in broad urban-rural contrasts, it is always well to remember that neither the census nor provisions for registration are sources of complete information. As these reports distinguish in more detail between rural farm, rural nonfarm, and urban, recent indications of a general rural tendency to follow urban standards may produce a rural family pattern that is practically indistinguishable from the urban. Also, recent reversals in some of the trends, in the expansion of rural nonfarm people and in urban and suburban marriage and birth rates, may result in this uniformity sooner than could be expected from current information.[3]

The greater durability of marriage and the comparatively larger family size are identified not only with the traditional rural economy but with that specific aspect of rural economic organization which is called the family-sized farm. This economic basis, although it is recognized as necessary to the permanance of the family, is also discounted, and the family farm is often regarded more as a way of life in the agricultural system than as a commercial venture.

At this point the discussion of the rural family will be limited to its size. Fertility ratios that account for this size and for the large net reproduction

[3] T. Lynn Smith, *op. cit.*, pp. 7 ff., pp. 27 ff., and Chapter 6, has devoted considerable attention to these questions of accuracy in reports, in definition of statistical terms, and in classification. Lowry Nelson, *Rural Sociology* (New York. American Book, 1952), Chapter 15. This is an outline of general trends.

rate of the rural population will be compared in Chapter 11. In comparison with the average family in the total or urban population (3.4 persons per family or household), the number of persons per rural family or household in recent years tends to be larger by one or two persons, an average that is maintained by a greater proportion of farm families of five persons or more. In this way it exceeds by a considerable margin the 2.2 children per family who are required for replacement or for a stationary population. There are, however, many distinctive variations in rural family size, changes that largely follow the nation's downward trends. The same influences that explain the downward urban movements explain similar rural movements.

An example of this trend in the rural family is shown in the following tabulation. This material is based upon a study of families in Ross Township, Allegheny County, Pennsylvania, from 1790 when the first white family established a homestead in this area to the fifth generation of families.[4] It is of course a sample or partial study since some families moved away or no records could be found of their childbearing. The five generations from 1795 to 1920 to the present include 421 families whose record of fertility was complete. They show the changes in family growth in a rural farming area that gradually became a suburb of Pittsburgh (beginning with the first provisions for mass transportation about 1900) and that was never industrial. As a matter of fact, the table shows practically none of the effects of suburban living, because the upward suburban trend did not appear noticeably until after 1920 and did not increase rapidly until after World War II.

TABLE 4–1. Number and Size of Families in Ross Township, Allegheny County, Pennsylvania, 1795–1920

Periods	*Average Number of Persons per Family*	*Average Number of Children per Family Having Children*
1795–1830	8.8	7.0
1830–1860	9.0	7.0
1860–1890	7.5	5.5
1890–1920	5.0	3.4
1920–	3.9	2.4

[4] Harold A. Phelps, "A History of Ross Township," unpublished MS., from studies carried on from 1951 to the present. The table reproduced from this study reports a trend and current family size that resemble precisely the findings of other local surveys, as will be noted in: F. S. Crum, "Decadence of Native American Stock," *American Statistical Association*, Vol. 14 (September, 1914), p. 216; Wilson Gee, "A Qualitative Study of Rural Depopulation," *American Journal of Sociology*, Vol. 39 (September, 1933), pp. 210–222; George Hill and James Tarver, "Indigenous Fertility in the Farm Population of Wisconsin, 1848–1948," *Rural Sociology*, Vol. 16 (December, 1951), pp. 359 and 361; E. A. Ross, *The Social Trend* (New York. Century, 1927), Chapter 3–Folk Depletion and Rural Decline; J. J. Spengler, "Has the Native Population of New England Been Dying Out?" *Quarterly Journal of Economics*, Vol. 44 (August, 1930), pp. 639–669.

Important trends that the table does not show are the dying out of some families in a comparatively brief period and an increasing proportion of childless marriages.

In agreement with national trends and the changes that first began in cities, rural marriage and family practices follow a similar course after a lag of one or two generations and possibly at slower rates of decline. The recognized circumstances under which these changes occur are incorporated in the following social transitions that apply specifically to declining birth rates. These decreases occur (1) as the size of the community increases, (2) as the economic status of families is raised, (3) as formal association with the church diminishes, and (4) as the educational position of the population improves. How types of voluntary control or, specifically, techniques of birth control are accepted in rural families and are used with efficiency are questions that cannot be answered at this time because of the absence of comparative studies.

ECONOMY AND LABOR FORCE

Economic trends now current in most agricultural regions throughout the world are outlined in the introduction to this chapter as they depict the current American rural economy. Without unusual care in the modification of farm policies, the plight of the farmer is real and there is no obvious solution. In turn, all other rural institutions are affected adversely, and some are completely destroyed.

Unlike industrial or urban economies that look forward to an endless cycle of increasing production leading to increasing population and to a gross national total that can be expanded annually to everyone's satisfaction, the rural economy faces an entirely different situation. Already with a large backlog of overproduction, and with overstocked markets that are being restricted by constant reductions in the foreign demand for raw materials, the rural economy must figure out how it can reduce both its production and its labor supply.

As stated in the quotation by Hitch in the introduction to this chapter, no agricultural economy can support a population that is growing at a net rate of reproduction comparable to the rates of China, India, or other countries in the "underdeveloped" category. Hence, the American rural economy must reduce farm acreage, limit production, and encourage a decreasing rate of growth for the agricultural population as a whole.

The real economic structure of the rural economy is even more complex than these requirements suggest. One cue to other obstructions in this economy is to be found in the phrase "poor land or rich." A second becomes apparent in the commercialization of agriculture. The primary fact in farming, as production under conditions of greatest advantage to both producers and consumers, shows that one-third of the producers produce 80 per cent of the product, whereas two-thirds of the producers are limited

to 20 per cent. The combined dilemma in both rural population and economy is that for a long time nearly two million farm families who have the largest proportion of children and the highest net rate of reproduction have existed on about four per cent of total agricultural product. By contrast with the urban cycle of prosperity, this is a cycle of poverty, identified by low and varying income, subsistence planes of living, abandoned farms, a trend toward the dissolution of the family type farm, forced migrations but rarely in sufficient volume or so timed as to forestall surplus farm labor, and periodical increases in tenants and share croppers. It also indicates a form of production that is wasteful and inferior as will be pointed out in the section on "Correlates," page 91.

Economists[5] who have described these trends in agriculture do not try to soft-pedal the devastating effects of the total economic system either upon the methods of farm production and marketing or upon the lives of farmers and their families. They indict both the economy and the population as unstable—in a network of mechanical, usually impersonal, actions of price, management, labor policy, inflation, competition, government restrictions, fiscal-monetary shifts, and technological innovations. Since, according to present prospects, the current increases in agricultural production will be sufficient for all increases in total population up to 1975, the recommended course for rural improvement will depend upon stabilization, meaning a reduction in the total rural population, in the proportion of workers, and in number of producing units.

Hamlet, village, and small town

Rural nonfarm people were separated from rural farm in the 1920 Census, primarily to afford more definite numerical analysis of rural groups not engaged in agriculture. At that time this class of residents amounted to about one-fifth of the total population. It has increased in each census report, exceeding the rural farm per cent in 1950 and growing at a rate more rapid than the urban.

So far there have been no major demographic revelations because of this statistical change. It is highly possible that it could become significant when more details are discovered about small rural residential units on the one hand and the open country and suburban areas on the other. Up to the present, the grouping of such socially different aggregations as those implied by hamlet, village, and small town, and especially group differences that appear in them because of size, region, or some peculiar economic or social development, have handicapped more than they have

[5] In addition to various paraphrases from Earle Hitch, *op. cit.*, pp. 14–15, 16, 18, and 24–29. See also Theodore W. Schultz, *Agriculture in an Unstable Economy*, (New York. McGraw-Hill, 1945), pp. 187–189, and Table XIX on p. 199, showing a classification of farms by type and income. Later information from this authority is given in *The Nation Looks at Its Resources* (Washington. Report of the Mid-Century Conference on Resources for the Future, 1953), pp. 21 ff., and elsewhere.

helped in social study.[6] The reasons for these handicaps become evident when this statistical classification is separated into such incomparable units as well-organized villages; crossroads accumulations of gas stations, restaurants, and motels; country club establishments; or various, often temporary, residential groups assembled for some special industry by governmental work projects, and by seasonal or recreational enterprises.

These small units of rural people survive and multiply for the same reasons that are given for suburban growth. They are primary centers of trade for the rural population. As a rule they are also the centers of all other institutional services where the church, consolidated school, library, bank, recreational opportunities, medical services, and social clubs are provided. Occasionally small industries are established, and it is the opinion of most rural sociologists that this type of rural industry will probably expand to meet the servicing needs of the mechanized farm.

There are few or no outstanding demographic traits that identify rural nonfarm groups, with the possible exception of an age distribution showing a high proportion under age 15 and over 60, and a consequent smaller proportion in the working years. Otherwise their primary characteristics vary according to their distance from cities, the size of the agricultural area that they service, migratory patterns, or the region or state in which they are located.

In comparison with the "sudden" change of the agricultural economy the rural population is considered to be comparatively stable.[7]

[6] Here is one of the many examples in which valuable insights into social growth and change can be found in the works of novelists and in biographies and autobiographies: The trilogy by Conrad Richter, *The Trees*, 1940; *The Fields*, 1946; and *The Town*, 1950 (New York. Knopf) is a history of the growth of one community from the earliest settlement to the beginnings of urbanization. In the semiautobiographical stories of Hamlin Garland, *Main-travelled Roads* (New York. Harper, 1899), and *A Son of the Middle Border* (New York. Grosset and Dunlap, 1917), numerous accounts cited of the hardships of farm life and the crippling effects of its isolation and monotony. In Louis Bromfield's books, especially, *The Farm*, 1933, and *Malabar Farm* (New York. Harper, 1948), the possibilities of scientific farming and the new technology are outlined with a not particularly optimistic outlook for the family farm in the light of current competitive economic practices. Other better known books, primarily fictional, are Sherwood Anderson's *Winesburg, Ohio* (New York. Modern Library, 1919), and Edgar W. Howe's *The Story of a Country Town* (New York. Dodd, Mead, 1927). Other references to rural demography in the sense of rural change appear in the bibliographical notes appended to this chapter.

[7] The following studies are listed as illustrations of different methodological approaches: A. H. Anderson and C. J. Miller, *The Changing Role of the Small Town in Farm Areas* (Lincoln, Neb. Agricultural Experiment Station, 1953), Bulletin 419. John C. Belcher, "Fertility of Village Residents of Oklahoma," *Social Forces*, Vol. 24 (March, 1946), pp. 328–331. Otis Dudley Duncan, "Fertility of Village Population in Pennsylvania, 1940," *Social Forces*, Vol. 28 (March, 1950), pp. 304–309. D. G. Marshall, "Hamlets and Villages in the United States," *American Sociological Review*, Vol. 11 (April, 1946), pp. 159–165. E. D. Tetreau, "The Impact of War on Some Communities in the Southwest," *American Sociological Review*, Vol. 8 (June, 1943), pp. 249–255. Vincent Whitney, "The Estimation of Population for Unincorporated Places," *American Sociological Review*, Vol. 11 (Feb., 1946), pp. 98–103.

MIGRATIONS

In the constant migrations of rural people one of the best illustrations is provided for the better understanding of the territorial or social redistribution of population. This rural-urban trend is a major aspect of internal migration. It includes the exchange of populations between states and regions, and between different rural districts, as well as the migration of farm and nonfarm groups to cities. The most populous stream is the latter—the migration either directly or by stages to village, town, small city, or metropolitan area. It has been going on from the time of earliest settlement in this country, and it occurs in all nations. Precisely in what ways these migrations affect the social composition, the biological vigor, or the social mobility of the population as a whole are major questions in both research and the ever-present debate over problems of numbers and quality.[8]

Mobility, as it is used in this paragraph, means social movements—that is, the exchange of people between the social and economic or occupational classes. Such movements may be up or down the social ladder of prestige or income and they may occur with or without changes in residence.

Types and volume

Although migrations are generally explained by fluctuating economic conditions, there are always major demographic forces that are also incentives. The chief and most obvious cause within population itself is overpopulation or population pressure. And the most apparent specific characteristics are high rates of fertility and of net reproduction, a large proportion in the younger age groups, and an oversupply of workers. Other motives or conditions are expanding industrial opportunities, typical dissatisfactions of people who consider themselves to be unnecessarily stratified, the ease and economy of transportation, and often the glamor, assumed superiority, or excitement of city life. However, during the course of rural-urban trends in the history of the United States, there is no force that is more constant, impelling, and inescapable than the decreasing need of the nation's economy for rural goods and services.

According to an estimate of the United States Bureau of Agricultural Economics, about fifty million people took part in the migration from farms to cities during the years, 1920–1950. This volume of movement probably exceeds all other types of migration, including the overseas migrations from Europe. But there always has been a steady counterflow. The net

[8] Fairly comprehensive accounts of this topic appear in T. Lynn Smith, *op. cit.*, Chapters 16 and 18, which are concerned mainly with volume and statistical records; in Lowry Nelson, *op. cit.*, pp. 129 ff., which is a survey of sociological interest; and Warren S. Thompson, *Population Problems*, 4th Ed. (New York. McGraw-Hill, 1953), pp. 294–313, which relates rural-urban movements in this country to the experiences of other countries. More specific sources are given in the bibliographical notes appended to this chapter.

rural loss of population is an unknown quantity, but it is partly indicated by the Bureau's further estimate that for every three people who leave the farm, two return either from the city or the rural nonfarm areas. An accurate estimate of net loss to the rural population or of net gains to cities is complicated by variable regional trends such as the migration from the rural South to the urban North and by the constant and numerous movements of migratory labor within and between states.

In his appraisal of the contemporary rural economy and its prospects, Schultz not only minimizes the fear of loss or of "the menace of the rural exodus" but is of the opinion that it must increase in volume if the rural population ever expects to achieve a balanced economy.[9] He says: ". . . migration out of agriculture, particularly out of the poorer farming areas, has not and will not have proceeded anywhere near far enough for the earnings of at least one-third, more likely one-half, of the people engaged in farming to reach a level comparable to the earnings of the less well-paid labor in other occupations. Many more people will have to leave agriculture . . . ."

Is migration selective?

Although demographers are interested in questions of economic balance and an effective geographical distribution, they have been aroused by two other outcomes of this mass movement. One is concerned primarily with the social and personal traits of the migrant. They want to know whether the migrants are making the rural population more or less socially competent and adjusted. The second inquiry is directed toward biological selectivity and raises the question whether the vitality, hereditary make-up, and eugenic prospects of the rural population are being threatened. Both of these questions are intimately related. They are actually the chief correlates of a differential birth rate. In the United States they are especially significant because of the high fertility rates of rural people and because the birth rates of rural migrants, after becoming urban residents, generally decline under conditions of urbanism to the usual urban small-family levels. Finally, too, these questions of bio-social distribution and composition have become important in the considerations of a national population policy and in those surveys of national welfare that seek to plan the foundations of an adequate and complete supply of resources for the future.

The composite rural migrant is now described by a few traits that are widely supported in the studies of selectivity. As a rule, youth is the most dependable identification. Young people contribute to migration in numerical proportion to increasing age. This movement reaches a peak at ages 25 to 29 years; then the number declines slowly to age 44, and thereafter

[9] Theodore W. Schultz, *Agriculture in an Unstable Economy* (New York. McGraw-Hill, 1945), p. 189.

declines rapidly. More young women migrate in rural areas than young men and they begin to migrate at earlier ages. In all other evidences of personal or social differences, the migrant is slightly superior to the nonmigrant in rates of educational achievement, intelligence, rates of marriage, occupational competence, and social adjustment. These latter characteristics are so rated in the light of average attainments for particular regional, economic, or social groups. Consequently, when they are evaluated on a national scale, the conclusions reached by most students of selectivity are repeated, namely, that random selection seems to be the rule.

Therefore, of the four estimates of the rural migrant—that he is superior, inferior, a composite of both extremes, or a chance selection—most investigators have concluded that each of these judgments can be supported when different classes of migrants are considered, such as the migration of rural Negroes to urban occupations, the movement of rural high school graduates to urban colleges, the social mobility of occupational specialists, the resettlement of old people upon retirement, or the current high-speed shifting of young adults in business. Specific conclusions of possible value to a rural or urban policy of population are few or nonexistent because of the great number of variables that have not been identified and of others that are still opinionative.

CORRELATES

In the literature of population there are many valuable studies by rural sociologists and economists that contribute to more accurate and specific knowledge of people living in rural communities. The generalizations, and in some cases the hypotheses, of these investigations are summarized at this time for two purposes. They include topics that suggest the need for further study, and they are all significant personal, group, or institutional conditions that no policy of population can avoid. Some of these tentative conclusions are called trends: others are more or less permanent conditions; and a few could be called periodic or impending changes. For lack of a more descriptive label, they are collected here under the title, correlates, signifying that more extensive observation may show them to be true or false.

One of the most frequent studies is that of rural fertility rates under such controls or limitations as are imposed by specific groups or cohorts of women whose years of fertility have been completed. Other studies deal with the same trends of fertility in different religious or nationality groups, in different economic classes, among women or families of varying education, and in regions that differ primarily because of their distance from cities and hence presumably from influences that might affect birth rates. Conclusions on these correlations that seem to be well supported suggest that fertility rates or the size of family decline regularly and consistently as income and educational status improve and as exposure to urban modes of

life affect rural living conditions. Religion or affiliation with the church is a deterring factor to declining fertility, and differences in nationality are neutral, or, so far as can be determined, they are not associated with either increases or decreases.

Specific economic correlates of declining fertility rates are those already referred to. They include economic reverses such as depressions; drastic changes in agricultural practices, such as mechanization; the changing size of farms; improved standards of living, varying demands for consumers' goods indicating a new pattern of consumption, nutrition, and spending; and opportunities to migrate or to obtain employment in industry. Each of these conditions is associated with declining fertility. On the contrary, economic policies of different governmental projects, such as social security in general, special aid to mothers, children, and the aged, other financial subsidies, and public health programs seem to have no influence on family size or fertility.

Housing is another primary economic characteristic that is useful in urban-rural contrasts. A distinction that continues to be a rural liability is "notoriously inferior housing" and excessive overcrowding.

On the brighter side for rural dwellers, the rural population is credited with a better general bill of health than the urban. This observation is based upon lower general death rates and a slightly better life expectancy. There are numerous reservations in accepting these conclusions. Many of the more serious infectious or communicable diseases have an incidence as high and sometimes higher in rural areas than in cities. The same generalization holds for some of the degenerative diseases which are hard to diagnose, particularly those such as nephritis, cancer, and disorders of the heart—diseases that do not oblige the sick person to go to physicians or hospitals except in their incurable, terminal stages.

In other comparisons of health, physical fitness, and mental status (including the population's susceptibility to mental disease, and its incidence of epilepsy and mental deficiency), the country as a rule fares less well than the city, if the physical records of draftees in World War II are used as a basis of comparison.

There have been a few efforts to measure under controlled conditions such possible urban-rural differences as "social adequacy," "social maturity," "social adjustment" or the inclination and ability to affiliate with various social groups, or the relative success of rural vs. urban scholars in higher education and in later careers. And from approximately the same points of view, there have been studies and comparisons of the social institutions in order to answer such questions as: does the rural family afford better opportunities for effective parent-child relations and other similar interpersonal adjustments? Such studies remain in the same category as those dealing with the selectivity of migration; there are too many variables and too many subjective aspects to permit well-supported conclusions.

CONCLUDING OBSERVATIONS

In the social history of rural people throughout the world, there is a consistent record of high birth rates and excess rates of replacement. What these contributions to the growth of population signify in the different nations or continents depend upon other variables such as time, standards of living, the comparative size and character of the urban world, the spread of industry and its production, and transportation and trade. For some nations these backgrounds have resulted in overpopulation with all the depressing and demoralizing consequences of a social situation that is called old-fashioned or underdeveloped.

The story of the rural portion of the people of the United States follows the precise developments of other agricultural countries. The chief difference is the factor of time. American agriculture has flourished during most of its history under favorable conditions (in addition to the abundance of land and other natural resources) of a growing demand for its products by urban people and with the indispensable complement of an expanding industry.

As a result, the rural population of this country continued to grow at rates rarely if ever equalled by other such societies in the past or present. In the course of this development, it populated the cities, supplied the labor for urban industries, created thereby directly or indirectly an excess production that went partly into export trade and partly into a rising level of domestic consumption, and introduced a complicated but essential division of labor and system of specialization. This combination of the American economic and social bases of population became the source of its stability. At the same time, each separate factor in this complex harbors within itself instabilities (sometimes called a margin of safety, or a margin of error, in other analogies) as potentially devastating as those of a population that is stricken regularly by famine, epidemics, poverty, or internal wars.

From the economic point of view these favorable and unfavorable combinations are recognized in the regular cycles of prosperity and depression in industrial countries. In that portion of the world which is permanently overpopulated, the combination is shown at its worst when two-thirds of the world's people are described as existing on subsistence or even lower planes.

Growth

For many decades the rural segment of the American populations has grown at a high but decreasing rate of increase. As a record of specific birth rates, net rate of growth or of replacement, few societies (possibly none) have been able to maintain equivalent increases. If Malthus and his contemporaries could incorporate these vital statistics into their theories of peopling, production, surplus, and social welfare, numberless arguments

based on particular aspects of the social system would be revised drastically. Two examples in this record of growth without reference to time will show its velocity and probable volume:[10]

1. Fertility rates of American women 15 to 44 years of age vary from 976 children under five years of age per 1,000 women to 479 children under five years of age per 1,000 women.
2. Net reproduction rates (rate of 100 indicates replacement of one generation by another).

Rural Farm	*Rural Nonfarm*	*Urban*
192.8	135.9	97.6

In short the record of the rural population in this country has been at least 50 per cent greater than the rate required for replacement.

Distribution

In surveys of current needs and prospects of the United States, the rural population in both farm and nonfarm areas is given high priority. This recognition immediately dispels the fears of some devotees of the rural way of life who for years have been lamenting the decline of the traditional agricultural system. Most surveys admit the need for the family farm but they also point out that the total rural population will continue to decrease and that workers in agricultural occupations will decrease more rapidly.

Composition

The net effect of a changing rural-urban distribution will be apparent in total numbers and in corresponding readjustments to this decline in every aspect of social life. From a total of about 60 million people (1950) the probable changes will be an absolute loss from a current two-fifths to more nearly one-fifth of the total population. Hence in the next few decades, while the rural nonfarm population may grow and more unincorporated settlements may be enumerated in future census reports, the farm population and the number of farms will be less. A chief variable in this shifting composition will occur in the modification of agricultural practices in the South and West and in the relocation of industries in rural nonfarm areas. For years to come, an excess rate of reproduction and a surplus of labor are anticipated.

Balance or stability

These two surpluses will continue to be the sources of rural unrest. In recent years rural production has exceeded industrial production by a wide margin. This record has not only amazed foreign statesmen but many economists and industrialists in this country have not been able to adapt their thinking to the new rural technology. To support this change in

[10] The reports upon which these statistics are based are cited in Warren S. Thompson, *op. cit.*, and in most of the books on rural sociology.

agriculture the comparison is often cited to the effect that one farmer in this country is able to produce enough for seventeen others, whereas in some other national economies their best output is no more than one producer for every two or three consumers.

TABLE 4–2. The Decreasing Farm Population, United States, 1890–1954

Year	*Farm Population in millions*	*Per Cent of Total Population*
1890	40.6	64.5
1900	45.6	60.1
1910	49.8	54.2
1920	31.3	30.1
1930	30.2	24.9
1940	30.2	23.2
1950	25.0	16.7
1954	22.0	13.8

SOURCE: United States Census.

This high level production, however, is not evenly distributed by areas, states, local communities, or families. It depends upon the accessibility of all types of mechanical equipment, new types and sources of power, and changes in farm practice described above.

Consequently, the very same "efficiency of the arts," used by the negative side in the Malthusian controversy, continues to improve with questionable effects. Low-income farm families without access to credit, equipment, markets, or the knowledge required for efficient, competitive operation are constant sources of most of the disorders that in other societies become the concern of missionaries and research foundations. All these reverses among rural people are the principal grounds that brand rural demography as paradoxical and a network of unsolved dilemmas.

Policy

During the last several decades and especially after World War I, recommendations have been made by both political and private agencies in order to relieve the burdens of the farmer. Most plans were introduced largely to meet one immediate need or a temporary crisis. As such they were wholly remedial. Recent trends in policy-making now anticipate an integrated preventive program. Conditioned in large measure by the periodical surveys of the nation's needs and resources, the current farm policy is being applied to social as well as economic requirements for a secure rural society. In this respect, too, it promises to become an important phase of a national population program.

As outlined by Gee[11] and others cited in the bibliography, the essentials of this policy include:

[11] Wilson Gee, *The Social Economics of Agriculture* (New York. Macmillan, 1954). Chapter 5.

1. Plans to ensure adequate agricultural production for the nation's domestic use and for foreign trade.
2. The integration of industry and agriculture in order to ensure steady employment, sufficient income, stable purchasing power, and a high standard of living. This suggestion involves the re-location of industries in villages and towns and the extension of rural trading operations. On the basis of this more dependable economy, further plans will then become possible in dovetailing agricultural and industrial needs for labor, in the broadening of agricultural production in the one-crop regions, and in extending various social services now primarily located in cities.
3. Conservation programs to improve the housing, health, educational, nutritional, and recreational resources of rural regions.
4. Conservation programs in land, water, forests.
5. Improvement of social security services and labor placement facilities.
6. Measures to incorporate technological improvements, to control urban monopolies, and to facilitate marketing and service operations.
7. Improvement of highways and transportation.
8. Introduction of sound Federal credit systems.
9. Extension of research.

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CHAPTER 5

Urban People

There haven't been civilizations without cities. But what about cities without civilizations?

SAUL BELLOW*

URBANISM has always been an important part of the study of a society's demographic composition. Long before the time of official census enumerations, city populations indicated the need for more social information about their numerous and sudden changes, and they offered the best resources for statistical classification and analysis. In other connections with the developing social sciences, however, urban populations have been responsible for many different evaluations, some of which have been emotional and of no great importance in the scientific approach to urbanization. In its simplest aspect, urbanism stresses the demographic factor, density or congestion. This difference from rural growth and concentration is its chief contribution as an element in demographic composition.

In a broader social audit of the city and urbanization, the city is regarded as a pattern of population with numerous assets and liabilities. These secondary interpretations compare the numerous demographic correlations of urbanism that may improve people or that may aid in their demoralization and death. In these connections, the city is viewed on the one hand as a network of human influences that can and do create the finest products of human achievement. On the other hand it is as often considered to be a leveling force that is equally disastrous to population or culture, a source of mediocrity, instability, waste, and chaos.

THE CITY AS A CHANGING CLASSIFICATION OF PEOPLE

An initial difficulty in understanding urban demography is one of definition. In the United States a city has generally been regarded as an incorporated community occupying a limited area and having a considerable concentration of population (cities in the United States may have as few

* *The Adventures of Augie March* (New York. Viking, 1953), p. 159.

as 2500 inhabitants, but are usually much more numerously populated). In other countries, size and character aspects of city definition may be entirely different. It is necessary, then, to regard the city as a symbol which must be interpreted in the light of the experience and the ways of thinking of the people using the symbol.

A second difficulty intrudes when space is included in definition. For example, it is not uncommon to find a "city limits" marker in an open field, and only after driving for some time is there evidence of any concentration of population. On the other hand, there are areas where one municipality shades directly into another, giving the impression of one big concentration of population. The Bureau of the Census has used a number of concepts to meet the difficulties involved in the definition of urban.[1] Urbanized areas were defined for the first time in the 1950 census as including one or more cities of 50,000 or more population, all nearby incorporated places of 2500 or more, as well as nearby closely settled smaller incorporated areas and unincorporated territory. Each urbanized area contains one or more central cities plus the nearby closely settled suburban territory called the urban fringe.

One hundred and fifty urbanized areas have been thus defined and 46 per cent of the 1950 United States population were concentrated in these urbanized areas, although such areas occupy less than 0.5 per cent of the land area. The definition of urbanized areas in effect includes in the urban population many persons living under urban conditions who, before 1950, would have been considered as part of the rural population. The 1950 Census had the effect of transferring 5 per cent of the total population from rural to urban classification.

The metropolis and recent census divisions

Another concept which the student will meet is that of Standard Metropolitan Areas. Each Standard Metropolitan Area contains at least one city of 50,000 or more, and may include two cities if they are within twenty miles of each other. The nucleus of the area is a county with its central city, but two or more counties may be included if they meet one of two qualifications: that of the volume of nonagricultural employment as related to population density; or, that of being socially and economically integrated with the city. There are 168 Standard Metropolitan Areas in the continental United States, and in these over one-half of the total population live. Population growth since 1940 has taken place primarily within metropolitan areas and more particularly in the outlying parts of the areas.

The size of the metropolitan areas was a factor in the growth patterns during the decade 1940–1950. The areas in the middle range of size had a

[1] *Population and Land Area of Urbanized Areas,* Bureau of the Census, Series PC–9, Number 4, April 1, 1950. *Population of Standard Metropolitan Areas,* Bureau of the Census, Series PC-9, Number 6, April 1, 1950.

greater rate of growth than did the extremely large or small areas. In this decade six metropolitan areas lost population—Altoona, Johnstown, Scranton, Wilkes-Barre—Hazelton, in Pennsylvania; Duluth, Minnesota—Superior, Wisconsin; Wheeling, West Virginia—Steubenville, Ohio—and in all of these, except Duluth—Superior, the central city also lost population.

The concept, Standard Metropolitan Area, replaced (in 1950) the previously used Metropolitan District. In the case of Standard Metropolitan Areas, county boundaries are used, while in Metropolitan Districts the boundaries were defined in terms of cities and contiguous civil divisions of a density of 150 inhabitants per square mile.

When attention is directed to the social nature of the urban environment, it becomes evident that numbers alone do not provide a satisfactory definition. As population concentrates in the city, the division of labor which links men in a system of order becomes most important and influences the distribution of the population. The range of variation of individual attributes is increased and gives rise to spatial segregation in terms of such factors as occupation, amount of education, and color. Thus, unless density is associated with these social characteristics, it can provide only a superficial basis for differentiating urban from rural communities.

The concept of a simple rural-urban division in the United States does not do justice to the facts. Historically and developmentally our centers of population have been characterized somewhat as follows: Colonial communities were small, isolated, nonliterate. Their population shared the same essential knowledge, had similar experiences, and was controlled by custom and an informal, moral code. As cities developed, an administrative elite appeared, specialization in all areas of life became imperative, impersonal relations supplanted the personal. Hetergeneity became the prime symbol and a new moral order evolved in a new dimension of human experience.

Significant as this approach may be, the merging of rural and urban conditions, together with the hypothesis of a continuum of conditions between the extremes are of particular value in relating demographic and social factors.[2]

GROWTH

Changes in the urban way of life have affected rates of population growth and population patterns—suburbs are growing faster than the central city and new relations are emerging within and between metropolitan areas. These changes are not limited to the United States. Maximum rates of urbanization in the United States occurred in the latter part

[2] Robert Redfield, *The Primitive World and Its Transformation* (Ithaca, N.Y. Cornell University Press, 1953). Stuart A. Queen and David B. Carpenter, *The American City* (New York. McGraw-Hill, 1953), Chapter 3.

of the nineteenth century. In less urbanized countries such rates have been rising in recent years. Like the agricultural and industrial revolution, so the urban movement is a part of a population movement, world-wide in scope, which will have an inevitable effect on the legal and moral order of international relations.

The origin and historical development of cities in the Western world is a subject beyond the scope of this discussion. Nevertheless, a brief review of some of the conditions associated with the growth of city life provides cues to the relationship between demographic and social factors. Specific conditions varied in the rise of one city as compared to another, or in the rise of settled life in one period of man's history as compared with its rise in another. Associated with such developmental progress, however, a number of factors seem to be consistently present.

The control and development of food production is a necessary accompaniment of any urban development. Warren Thompson asserts that an agricultural revolution is a necessary first step in an industrial revolution.[3] Technological innovations, such as the cart or the application of water power to spinning machines, influence and are influenced by urban life and growth. Changing forms of social organization—often the result of urban growth—compel men to act co-operatively and influence the direction of further growth. Transportation and communication, sometimes primitive but usually improving and expanding, are other factors consistently present at every stage in urban growth. All of these factors involve increased numbers of urban dwellers and increasing complexity in the division of labor.

While population increase cannot be looked upon as a cause of urbanism and urbanism is not always an industrial urbanism, nevertheless, in Western civilization, industrialism, urbanism, and population are closely and invariably related. Urbanism appears with economic productivity, and, if planes of living are to be maintained in industrial society, population change cannot be ignored.

The urban population of the United States has been growing more rapidly than the rural for over a hundred years. The Census of 1920, however, was the first to show a majority of urban residents. Carl Brindenbaugh points out that the roots of this growth are to be found in the earliest settlements on American soil. In the seventeenth century, trade developed along the coast, and the cities of Boston, Philadelphia, Newport, Charles Town, and New Amsterdam were centers of commercial interest which played a large part in the social life of the colonies. These early cities were also the centers of intellectual activity and played a significant role as channels for the transfer of culture from Europe to America. In 1790, only five per cent of the population lived in urban areas. The proportion of city

[3] Warren S. Thompson, *Population Problems* (New York. McGraw-Hill, 1953), p. 74.

dwellers increased to 7.2 per cent in 1820, at which time the first of the American cities (New York) attained a population of 100,000. From then until about 1850, the opening of canals and heavy rail construction stimulated urban growth so that by midcentury eighty-five cities could boast of a population of 8,000 or more. The urban population reached its highest rates of growth during the final decades of this period, indicating the importance of improved transportation in the trend of urban growth. Between 1850 and 1900 the opening of the West and the heavy migration from Europe together with a rapid expansion of manufacturing and commercial activities resulted in a population that was 40 per cent urban. Growth was not steady but rather was marked by alternating periods of rapid and retarded growth.[4]

The early decades of the twentieth century saw the coming of age of the large metropolis. Cities became great centers of population and the heart of a functioning unit, the metropolis. The decade 1930–1940 was a period of slackening urban growth—there was a growth rate of 7.9 per cent compared to 27.3 per cent for the decade of the twenties. However, in 1940–1950 there was a revival of urban growth. In 1950 about 15 per cent of the entire United States population lived in great cities of more than a million population. Between 1940 and 1950 the city dwelling population grew by fourteen and a half million which was about three-fourths of the total population increases. Despite cries for decentralization, cities that were already large continued to grow.

Urbanism in the United States is part of a world-wide movement, as is indicated by the proportion of the world's population living in cities. In 1800 only 2.4 per cent of the population of the world lived in cities of 20,000 or more, but by 1950, 20.9 per cent lived in cities of this class. By the same year there were close to 900 cities of 100,000 or more people.[5] Thus, while most of the world is rural, there is emerging as a potent world force a growing urbanism. The major development of urbanism in the Western world has occurred in northern Europe, Australia and New Zealand, and North and southern South America. The majority of the world's underdeveloped countries are either just entering a state of urbanism or aspire to do so in terms of world-power structure.

Among the major factors associated with urban growth in the United States is migration—internal migration from farm to city, and from foreign countries to American cities. However, the emphasis on migration should not lead to ignoring natural increase as a component of urban growth. Between 1940 and 1950 natural increase was the largest single

[4] Svend Riemer, *The Modern City* (Englewood Cliffs, N.J. Prentice-Hall, 1952), p. 54.

[5] Kingsley Davis, "The Origin and Growth of Urbanism in the World," *American Journal of Sociology*, Vol. 60 (March, 1955), pp. 429–437.

URBAN DEMOGRAPHIC CHARACTERISTICS

1. Growth and concentration.
2. Vital rates generally less favorable to health and life expectancy than rural rates.
3. Other vital components equally associated with urban instability, such as sex and age groups, age pyramids, sex ratio, unbalanced social classes.
4. Small-family system and voluntary family limitation.
5. Institutional complexity, a situation that signifies the frailty of urbanism as a pattern of social adjustment.
6. High cost of maintenance, as indicated by indebtedness, taxation, deficit spending, and per capita costs.
7. High rates of migration and mobility.
8. A costly burden of social dependents.

component, accounting for 38 per cent of the total increase of urban population.

URBAN PATTERNS

As a pattern of social organization, urbanization is a nucleus of geographic, economic, political, and social forces. Originally, the natural advantages of geographic location, natural resources, facilities for production and transportation, and attraction for trade were sufficient explanations of the earlier trends in urbanization. Noneconomic factors, such as military, religious, and political controls were also influential, but, as urbanization proceeded, economic factors became the principal urbanizing force. That these forces are not uniform is indicated by the world distribution of urban centers.

Different patterns of urban life are also characteristic of the United States. Twelve of the largest cities are identified with urbanized areas (each exhibiting a unique urban pattern) that include one-fourth of the population of the United States. These cities are New York, Chicago, Los Angeles, Philadelphia, Detroit, Boston, San Francisco, Pittsburgh, St. Louis, Cleveland, Washington, D. C., and Baltimore. Since the nature of urban life is largely determined by size, heterogeneity, and density of population, it is of interest to note that metropolitan areas vary with respect to these characteristics. In general, the most thickly populated areas are to be found in the highly industrialized Northeast and around the Great Lakes. The most densely settled communities in the country are the central cities of the metropolitan areas.

Metropolitan areas

Just as there is a pattern of life in the urban area so there is a pattern within the metropolitan areas. Studies that attempt to define metropolitan dominance indicate that the influence of the central city has diminished as

distance from it increased. Among the many gradients discovered are a number of demographic conditions including birth rates, ratio of children under ten to women twenty to forty-five years of age, sex ratio, and proportion of children in school.

There are important differentials in patterns of growth between and within metropolitan areas. As has been indicated, there tends to be a heavy growth among the areas along the coast and around the Great Lakes, while the newer metropolitan areas of the South and West have tended recently to grow faster than the mature areas. During and since World War II, the shift of population toward metropolitan areas was intensified and reflected the regional pattern of growth. Since metropolitan areas serve as headquarters for business and commercial agencies it is to be expected that national economic trends should influence and be influenced by the differential rates of growth of metropolitan areas. One of the major changes within metropolitan areas has been the tendency for population to increase rapidly in the fringe areas. City populations are spreading over increasingly wider areas as transportation improves. Earlier developments in railroads and street cars and more recently in automobiles, together with such technological developments as all-weather highways and rural electrification, combined with a general increase in real income, have contributed to the outward movement. However, Bogue has indicated that there are internal aspects of metropolitan growth which are related to size rather than to the region in which the metropolitan area is to be found.[6] Every census since the turn of the century has indicated that the central cities of the metropolitan areas are not growing as fast as the areas around them. The smaller the central city, the more nearly it has kept up with the growth of the satellite area.

While the small central cities have recently been growing more rapidly than the large ones, the surrounding rings of the large metropolitan areas are growing faster than those of the small metropolitan areas. Viewing the country as divided into sixty-seven regions, Bogue has shown that during the decade 1930–1940 the central cities lost heavily and the most distant satellite cities of the regions managed to grow at a rate significantly in excess of the national rate. He further indicated that population diffusion is of broader scope than ordinarily conceived, that suburbanization is a characteristic of cities of all sizes, and that the rural farm population, in the decade of his study, was a strong participant in the suburban movement. That there is a principle of limits operative in decentralization is observable in the statements and behavior of commuters. Gross has provided empirical support to this observation by indicating that metropolitan expansion has limits dependent upon a particular stage of the technology

[6] Donald J. Bogue, "Changes in Population Distribution Since 1940," *American Journal of Sociology* Vol. 56 (July, 1950), pp. 43–57. Government Affairs Foundation, New York, *Metropolitan Communities* (Chicago. Public Administration Service, 1956).

wherein reasonable daily travel is a factor in the price paid for benefits of living in fringe or suburban areas. He has shown that the largest metropolitan areas actually show a slight decline in metropolinization when density goes up.[7]

Cities also have an internal pattern and whether it be a concentric circle, a sector, or multiple-nuclei pattern, the clusters of population and social institutions follow a fairly general order in their relationships. Individual variations abound in the general pattern, but death rates, sex ratios, death from specific illnesses, dependency, employment of women and children, and concentrations of minority groups are interrelated with each other and with the economic and social character of areas within the city.

The urban pattern can be viewed from several perspectives. It can be noted that cities are not spread uniformly throughout the country, that within metropolitan regions there are patterns of distribution and growth, that within the metropolitan areas there exist other patterns, and within the city itself population and institutions are not distributed in a random fashion. Population patterns can be viewed as related to geographic conditions of topography; to socio-psychological factors of motive and prestige; to technological factors such as population response to radial lines of transportation; and to social factors such as the nature of neighborhoods and family.

Size and social character

Cities are always in transition. Some move from one size class to another; some decline as the functions by which they grew become less important or are assumed by other areas. No one knows the optimum size of a city if such a condition exists. Certainly, however, the supposed advantages of the small town or large metropolis have their special advocates.

A few studies have been made of the relationship of population growth or decline to other conditions such as business, health, public safety, and government efficiency. Two types of approach may be seen in these studies. In one, cities of different size are examined in terms of the kind of institutions they can support and in terms of the demographic indexes associated with size. In the second approach, cities that are growing are compared with those that are relatively stable or that show an actual decline in population.[8]

[7] Edward Gross, "The Role of Density as a Factor in Metropolitan Growth in the United States of America," *Population Studies*, Vol. 8, No. 2 (November, 1954), pp. 113–120. Henry S. Shryock, Jr., "Population Redistribution Within Metropolitan Areas," *Social Forces*, Vol. 35, (1956), pp. 154–159.

[8] Robert Cooley Angell, *The Moral Integration of American Cities* (Chicago. University of Chicago Press, 1951); Otis Dudley Duncan, "Optimum Size of Cities," in Paul K. Hatt and Albert J. Reiss, Jr., (Eds.) *Reader in Urban Sociology* (Glencoe, Ill. Free Press, 1951), pp. 632–645; Edward B. Olds, *How Does Your City Rate?* (St. Louis, Mo. Research Bureau, Social Planning Council of St. Louis and St. Louis County, 1952); Victor

A review of these studies suggests a number of relationships between size and social characteristics. As measured by death rates, small cities seem to be less favorable environments for adults in the productive years. The worst mortality experience for children is in cities of 2500 to 10,000, and large cities are least favorable for adults in the older age groups. The largest cities have high death rates from the degenerative diseases; the small cities have high rates for communicable diseases.

Moreover, a certain population base is needed to support health and educational institutions. While there is no simple relationship between crime or suicide and city size, as indicated by the fact that the largest cities do not have the highest rates, nevertheless, there is a general relationship in which crime and suicide tend to increase with city size. Angell, measuring moral integration by such factors as crime rates and welfare efforts, points out that once a population of 100,000 is passed, size is not inversely related to social integration. He offers as possible reasons (1) that all the evils are already present in cities of 100,000 to 250,000, or (2) that large cities are more mature and maturity may offset the negative influence of large size.[9]

A persistent problem related to size is that of the quality of municipal services. Because of the tendency of many communities to resist joining others, and the withdrawal of wealthy communities from larger political units, the issue has often been raised that some communities are too small to support efficient service. On the other hand, bigness *per se* has been condemned as leading to corruption of municipal services. Theoretically it should be possible to determine the optimum population base necessary for efficient and honest administrative services, but the problem is extremely complex.

Declining populations have been associated with such conditions as vacant houses and lowered rents, a decline in retail business, a migration of trained personnel, a reluctance to invest in the community, an excess of older persons, and a declining birth rate. Increasing populations, on the contrary, have been associated with a large population in the productive years, a higher educational level, more males, and more jobs available.

These generalizations cannot be accepted as invariable. However, since different sized cities are characterized by differences in kinds of economic institutions, and since they differ in numbers, in density, and in degree of heterogeneity, an analysis of cities of varied size helps to provide a basis for a theory of urbanization.

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[9] Angell, *op. cit.*, Chapter 3.

MOBILITY

Americans have long been a people on the move and their attitude and values regarding this mobility are essential parts of the American ethos. While the movements of population which are associated with urbanism are of major concern, it must nevertheless be indicated that such movement must be seen in a broader framework of mobility and migratory studies. Studies of migration and mobility, whether they deal with patterns such as the Westward movement, or with specific areas or population groups, suggest theories of movement which help to interpret urban mobility. Among the generalizations which are being subjected to, or have grown out of, empirical study, a few are listed to indicate their possible relevance to urban study:

Each migration produces a counter current.
Most migration is short-distance migration.
Migration is a selective phenomenon.
Selective migration is an essential feature of a highly specialized society.
Migration is a necessary consequence of varied vital rates.
Migration is essential to economic and social equilibrium.

Migration to the city has been recognized, with varying emotions, for a long time, but it is only in recent years that the interest has provoked a prescribed analysis of annual movements of population. Earlier city movement can be inferred in terms of rural movement. For example, the size of United States farm population reached a peak in 1916, declined during World War I, increased again for a short period following the war, and declined through the late 1920's. Over two million persons per year left the farms until the depression of the 1930's checked the flow in some measure. During the depression period the year 1932 is the only year in which there was a net shift away from cities. The influence of economic cycles and the demands of war, together with the effects of an advanced technology applied to agriculture, is seen in the waves of urbanward migration. After World War II the farm population increased and reached a new peak in 1947, but the longtime downward trend was resumed and continues, except for short periods, up to the present.

Annual census surveys of population from 1950 to 1955 indicate that roughly one-half of all migrants were interstate, and that among the resident classes population living in rural nonfarm areas were most mobile and population living in rural farm areas were least mobile. The population of urbanized areas of three million or more have a low proportion of movers, ranking close to the rural farm. Cities of 25,000 or more, outside of urbanized areas, tend to contain as large a proportion of movers as the rural nonfarm population.[10] In 1955 about 20 per cent of the population

[10] Census Bureau, *Mobility of the Population of the United States, April 1954 to April, 1955*, Current Population Reports, Series P–20, No. 61 (October 28, 1955).

was living in a different home from that occupied in 1954. Thus the majority of the population is fairly stable, and while rural-urban migration is an important phase of mobility, it has to some extent been replaced by inter-urban migration.

Mobility within a city is another facet of population movement. Perhaps the most publicized aspect of this movement is into the suburbs, but even within many suburbs the turnover is high, resembling other mobility areas within the central city. A recent study of Norristown, Pennsylvania, indicates that a certain segment of the population is largely responsible for high mobility rates.[11] This insight is in harmony with ecological studies which have found residence mobility to be associated with other indications of social instability. The same studies indicate that there exists in every community a stable population group which provides a basis for continuity of social function.

Daily movements within the city have wave-like rhythms. People flock by rail, bus, and automobile to work or to the stores for shopping. The pattern of movement has been studied by surveys covering origin and destination points, and by field studies, as an approach to solving the traffic problem. Automobile traffic is a major concern as the use of the automobile increases with suburbanization. In large cities one person in five has at least one destination in the central business district during each weekday. For smaller cities the ratio tends to drop.[12] Considerable effort is being made in large cities throughout the country to revitalize the heart of the city and a major consideration in these plans and accomplishments is to make the central city more accessible through improved transit and traffic facilities.

The pattern of daily movements is important to an understanding of contemporary city life. Studies of daily movements have implications for the understanding of urban gradients as distance is related to shopping and work habits. Such studies also permit insight into the composition of the population.

BIO-SOCIAL SELECTION

Births and deaths are the two great bio-social crises and it is here that personal fears and hopes and social values merge. It has long been common knowledge that the country is the producer of children, the city the con-

[11] Sidney Goldstein, "Repeated Migration as a Factor in High Mobility Rates," *American Sociological Review*, Vol. 19 (October, 1954), pp. 536–541.

[12] Donald L. Foley, "The Daily Movement of Population into Central Business Districts," *American Sociological Review*, Vol. 17 (October, 1952), pp. 538–543; Gerald William Breese, *The Daytime Population of the Central Business District of Chicago* (Chicago. University of Chicago Press, 1949); Harry P. Sharp, *The Non-Resident Population of the Central Business District of Flint, Michigan: A Study in Human Ecology* (Ann Arbor. University of Michigan, Institute for Human Adjustment, 1954); Leo F. Schnore, *The Separation of Home and Work in Flint, Michigan* (Ann Arbor. University of Michigan, Institute for Human Adjustment, 1954).

sumer. Differences in fertility become important with the growth of modern industrial cultures and it may be that, as more of the population concentrate in cities, these differences may disappear.

Since birth registration in the United States is a relatively recent achievement, historical indications of differential fertility are dependent on census data of the ratio of children to women. Other difficulties intrude, such as registration undernumeration, the differing age and sex structures of communities, the difficulty of separating the influence of urbanization from industrialization, and the effects of occupational distribution. The consensus of historical study is that differential fertility, including rural-urban, widened in the latter half of the nineteenth century. Occupational and other group differences of fertility became significant in this trend as urbanization developed group realignments. The generalization that birth rates drop as urbanization increases was accepted into the general interpretation of city life.

Fertility rates in the nation began to rise in the early 1940's and, after some fluctuation, soared into the baby boom of the post-war years. Urban fertility rates not only repeated the national pattern but, during 1940 to 1950, showed a higher percentage increase than rural fertility. However, a rural-urban differential continues, and opinion is divided as to whether it has been in the process of contracting. Woofter pointed out that between 1910 and 1940 the gap between birth rates on the farm and in the city was widening and even with the great increase in urban fertility between 1940 and 1950, Westoff indicated that the evidence on the contraction of rural-urban differentials was not conclusive.[13]

Decisions affecting fertility are made by individuals with many complex motives—motives determined by man's essential nature as well as by his social and cultural environment. Thus the psychological and social conditions of urbanism as a way of life will be reflected in urban fertility.

Urban birth rates, more than rural, have been regarded as subject to planning. Rearing a family in the city is a different kind of experience from rearing one in the country. In rural life a child is more often regarded as an economic asset than as an interference to parental ambition. Fertility rates have been shown to be related to socio-economic status, and the wide range of status is a particular quality of urban life. Long periods of formal education are important to socio-economic status in city life, and the values and the time factor needed to achieve status are regarded as significant in the rural-urban fertility differential. Also important to an understanding of this differential are: difference in the gainful employment of women; the higher levels of living; and the individuated, mobile, more secular life of the urbanite.

[13] T. J. Woofter, "Trends in Rural and Urban Fertility Rates," *Rural Sociology*, Vol. 13 (March, 1948), pp. 3–9; Charles F. Westoff, "Differential Fertility in the United States: 1900 to 1952," *American Sociological Review*, Vol. 19 (October, 1954), pp. 549–561.

Since the seventeenth century the generalization that the urban death rate is higher than the rural death rate has been almost universally accepted. However, comparative statistics are not completely satisfactory. Definitions of urban have fluctuated, diagnostic techniques have changed, non-registration has been related to rural conditions, and crude death rates are not satisfactory. Cities are likely to contain proportionately more women than men and proportionately more young people than old. Also, occupational variables indicate that parts of cities or whole cities will reflect their characteristics in different death rates. Race factors, in terms of conditions of life, also confuse the pure rural-urban contrasts since it is known that certain racial groups are increasingly becoming urban dwellers.

Despite all of this, the general statement seems to be valid that rural communities have had lower death rates than urban communities. Even with the decreasing death rate of the nation as a unit, and with the greater improvement in urban than in rural rates, the differential remains. Now, however, in the middle of the twentieth century, the gap seems to be narrowing and the differences no longer consistently favor rural areas. Urban conditions are associated with an unfavorable mortality for adults and this condition appears more striking in the large city. Death rates for infants under one year of age are highest in places of 2,500 to 10,000, but regional variables weaken the reliability of these generalizations.

Conditions in the early cities of the industrial revolution were such that mortality rates were extremely high. However, as a product of the same industrial society, medical facilities and services were more and more adequately developed in the cities. Cities have more medical practitioners and more medical facilities in terms of ratios of population. Great strides have been made in city sanitation and public health service which is reflected in low communicable disease rates. Degenerative disease rates are high in the city, however, and communicable disease rates are high in the country.

Despite improvements in health conditions, life expectancy is greater in rural areas than in urban, and while this situation is often accounted for by widespread maladaptation to urbanism, it must be remembered that there are important sex, economic, and social variables through which urbanism is connected with varying mortality rates. The higher mortality of males and of the lower economic classes in contrast to upper classes, as well as the positive increase of specific diseases with complexity in social organization, are supplementary explanations to the facts of urban mortality.

Sex and age differences

The social and economic conditions within an area of the city, and of the city itself, produce particular patterns of age and sex distribution. Thus the ratio between the sexes and the proportion of people in specific age brackets represent influences exerted by immigration, type of residence, racial make

up, and the economic base of the area. In 1955, in the United States population as a whole, there were 95 males to every 100 females; the ratio was 91.5 for the urban, and 102.9 for the rural population. When the population pyramid technique is applied to various parts of a city, distortions in age and sex composition appear. The downtown areas and zones in transition have characteristically an excess of middle-aged men and a small proportion of women and children. There are areas within the city which differ more from one another than do types of cities. Not only do parts of the city have varying population pyramids, but similar variations occur in cities of different regions.

Sex and age differences have been indicated in migratory patterns. Long-range migration is generally selective of males, short-range of females. Urban migration has been selective of females, primarily due to the occupational opportunities available to women, yet some cities, notably those with heavy industry, have had a sex ratio in favor of males. As a consequence of unbalanced sex ratios there is generally a preponderance of males in the marriagable ages in the rural areas and a surplus of females in those ages in the urban areas.

The most significant differences in rural-urban age patterns of the early twentieth century in the United States have been: An urban deficiency of children particularly in the ages five to nine, and a deficiency of old people. The rural areas have had a large proportion of children and a low proportion of persons in the working ages. The rural nonfarm population has had an excess of older persons. Bogue has drawn attention to changes occuring in the 1940–1950 decade.[14] The youth of the city is changing as elderly people make up an increasing proportion of the urban population. In this decade a decline occurred in the age group ten to nineteen years of age, but there was an increase of 75 per cent in children under five years of age.

It has long been known that there is an excess of males at birth but that the expectation of life has been higher for females. It has also been true that there has been an excess of Negro females in the city but that the Negro demographic conditions tend to approach those of the whites as the conditions under which the two races live become similar. Attention has also been directed to the obscuring of regional demographic conditions as the factors which contribute to better health spread throughout the country and result in the narrowing of variations in vital rates from one area to another.

INSTITUTIONAL CHANGES

The organization of a society is a functional product of its interests. As a society becomes more complex, its interest groups become more numer-

[14] Donald J. Bogue, "Urbanism in the United States, 1950," *American Journal of Sociology*, Vol. 60 (March, 1955), pp. 471–486.

ous and its institutions reflect the interplay of integrating and disintegrating elements. As the number, distribution, and composition of a population vary, it can be observed that change is likely to occur in associations and in services. As population increases and relationships become complex, as a society becomes specialized and heterogeneous, institutions take on similar changes in specialization and differentiated organization. Many contemporary institutions which once provided a balance between social and personal interests within a rural, agricultural society now must adapt to urban life. In this process are to be found the roots of significant, ever-recurring problems of the relation of the personal to the social. For example, the rural Protestant church as it made an adaptation to urban conditions made a number of adjustments in function and structure, including the development of downtown and suburban churches, the emphasis on charity and social uplift, and the inclusion of a number of activities designed to appeal to special-interest groups. Other institutions have had to meet similar conditions as groups multiplied and became diversified. Within this diversity some social theorists have seen the necessary elements of a liberal, democratic policy. Others see the industrialized and urbanized twentieth century as an alien condition to which traditional democratic concepts must be applied in order to preserve individuality and reasoned judgment.

Technological and economic change

Because the modern urban system has been so closely related to a developing industrialism, changes in the economic system have been reflected in changes in urban life. Developments in transportation and communication have had an effect on city location and population distribution within and between cities. The influence of deep waterways, the development of railroads and increased use of automobiles, together with, most recently, the growing use of jet-propelled aircraft, have had, and increasingly will have, basic implications for location and distribution theory. Technology, in its social impacts, has always had an influence on location and distribution. As space and time considerations take on new meanings, however, the extent of this influence must be reassessed and possible new directions of influence must be sought. Cautious judgment and sound reasoning will be essential in approaching such reassessment. Thompson questions the need for modern society to be bound by forces which were essential in the days of slow transportation and limited communication. This may indicate a probable trend toward decentralization—as may also the mounting concern over the vulnerability of our urban centers to atomic and hydrogen bombs. Reasoned judgment must be applied to this, as to all social crises.

The division of labor between country and city reflect the changing econ-

omy. A long-term trend has been the decreasing proportion of the labor force employed in agriculture. This is associated with the specialization and differentiation characteristic of a society whose economic base is no longer primarily agricultural. Local communities founded on trade and agriculture have, in many instances, given way to cities dependent on increasingly broader economic ties. Population moves toward areas of high density and the centralizing influence of the sources of power tend to concentrate economic activity. Cities have become centers of surrounding metropolitan areas and these areas exert such an influence on the culture that the descriptive label "city culture" has been superseded by that of "metropolitan culture."

Within this urban system there has been a trend toward an increasing proportion of employed women, more job specialization, and swelling of industrial, trade, and service workers. Family income in metropolitan areas is above that of the non-metropolitan areas, which fact is reflected in the increasing plane of living from country to city.

The family

Among its influences upon social groups, urbanization has been identified with changes occurring in the structure and function of the family. Large families are characteristic of rural life and one-member households and small families are characteristic of urban life. It should be indicated, however, that this difference may be narrowing. The decline in family size which was evident in the nineteenth century may now be in a process of stabilization or even reverse trend but there is no conclusive evidence to support this point of view.

Whatever the size trend may be, there is no question that urbanization has transformed the economic, educational, religious, and recreational functions of the traditional family. Urbanization has produced a new economic setting in which the differentiation of economic interests has disturbed the social solidarity of the urban family. The urban pattern of the family is considered to be the result of the combination of migration, urbanization, and mobility. Population data appearing in this pattern include: the excess migration of women to the city and resultant imbalance of the sex ratio and disturbance of marriage opportunities; complicated sex relations; the high urban divorce rate; and the high proportion of widowed females. Among the most recent indications of possible changes in demographic data which may affect family structure and function are an increase in urban marriage rates in which age at marriage is declining, an increase in the number of married women in the labor force, an increase in the number of children whose mothers are working, and increased urban home ownership.

Social institutions are by and large urban and many students of the

family believe that the family is not in danger of being destroyed by urbanism, but instead is adapting well in an urban culture.

Government

Legal and administrative functions in the United States changed and multiplied rapidly with the technological and social changes that are identified as urban. A maze of overlapping and duplicating governmental units arose in which there was little co-ordination between jurisdictional boundaries and functional boundaries. The suburban move has intensified this complex, and in addition has introduced "loss of revenue" problems which concern central city governments as well as business.

Suburbanites often find themselves in governmental units which are either too small to fulfill the services that people have come to expect, or which have not had the experience necessary to meet such demands. Differences in size, density, and composition of the population produce varying demands for service and the resulting problems are among the most acute of local government. Zoning considerations reflect changing values with respect to property and multiple governments raise questions of levels of service in relation to levels of government. Metropolitan areas particularly exemplify such crisis areas, having within them varied degrees of population density and many governmental units.

A number of solutions have been offered to the problem of multiple government. Some of these suggestions imply the consolidation of population by incorporation, the merging of several small cities, or the annexation of populated areas adjoining cities. Other suggestions deal with the reorganization of facilities—the pooling of resources, or the providing of cooperative service by the larger for the smaller areas. The establishment of new levels of government has also been proposed, as in suggestions for the creation of regional governments.

Briefly reviewed, trends toward increasing complexity are noted in the relationship between urbanism and governmental organization. As urban populations increase in size and assume different patterns of spatial location, services such as police and fire protection, water, sewage and garbage disposal systems, require increased financial costs. New governmental functions are added and older functions are abandoned or continue as cultural lags.

PLANNING

In American society a "sense of the future" conditions almost every phase of behavior. This concern is most vivid in the manner by which the world of today and its history is interpreted. Because man in some of his habits is a rational and symbol-using animal, planning is inevitable. Questions may arise and conflict result as to the who, what, when, and where of the planning, but it is apparent that planning is not a new kind of human ex-

perience. Planning of cities and plans for cities go back to the classical heritage, although specific attempts, except for a few exceptions, are of relatively recent origin in the United States. A great many persons coming from a variety of interest groups have reflected these special interests in a matrix associated with an agricultural way of life and the scientific results of a mechanical age.

Population analysis is basic to city planning. Within specified time limits certain needs can be foreseen which the technology can cope with. For example, while long-range planning is needed in the determination of school needs, it is likewise true that it does not take twenty years to build a school. Short-range planning of three to five years is a necessary part of long-range planning. Numbers alone do not provide all of the dimensions of planning. Frequently, dimensions of mobility, broader than rural-urban, and including an analysis of local employment opportunities, are essential parts of a labor policy. Other dimensions of composition and quality are also important considerations.

Since cities are always changing, information on the nature and extent of the change is essential. Such data on the informational level must be organized within frameworks of ideas, and ideas relative to change must be seen in the light of human values. The evolution of city planning from the purely aesthetic, through the special-regulation phase, to the mature conception of a co-ordinated unit, reflects the changing influence of demographic research, social theory, and social and moral values.

In Colean's review, the problems implicit in renewing our cities include population problems. The slum problem, for example, is also a problem of social selection as slums attract the impoverished and indigent. Growth of population in itself seems to be a prerequisite to the renewal process, since "We have as yet seen no examples of substantial renewal in cities (metropolitan areas included) with a static or declining population."[15] Thus population pressures are involved in every phase of planning. Solutions to traffic problems must involve the distribution of population; political problems are entangled with the demographic; and population pressures are synonymous with housing needs.

No social institution can ignore the consequences of population growth and mobility of population, as demographic considerations weigh heavily on the whole realm of policy formulation. Frequently the rising tide of numbers forces the institutions to re-examine their purpose, their methods, and their future as is illustrated currently by colleges and universities. Whatever the insights achieved or not achieved by those responsible for policy formulations, there can be no denying the significance of population factors in planning.

[15] Miles L. Colean, *Renewing Our Cities* (New York. Twentieth Century Fund, 1953), p. 63.

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CHAPTER 6

Suburban People

Let others praise famed Rhodes, or Mytilene, or Ephesus . . . for nought beyond do I solicit Heaven —blessed enough in my one Sabine farm.
HORACE—concerning his cottage in the Sabine Hills*

ANY CHANGE in the demographic organization of a society is of social significance to the student of population. If the change is rapid and of sizable proportions, no aspect of demographic interest remains outside the transition. Suburbanism, like colonization, or the great historical migrations, establishes a new laboratory for the collection, analysis, and interpretation of the biological and social data of population, and these facts gain in meaning when they are compared with urban, rural, or other units of population.

Suburbanism, as it is developing in this country, is not, however, particularly new. Its essential novelty consists in its reflection of major changes in contemporary social life that presumably will continue to accelerate. Tentatively, suburbanism can be regarded as a new form of social organization, often a new melting pot for the varied streams that make up American culture. In many ways the suburban population is a population *in the process of becoming* a distinct aspect of the culture. This particular aspect of suburban life has been emphasized by those writers who have indicated that the suburb is not so much a place as a state of mind—one that regards the suburb as a haven for the family and the city as a source of income and culture.

The definition of suburbia is further confused by the variety of living arrangements to which the term has been applied. Suburbs are of many types, including the homes of the wealthy in fashionable areas and the small box-like structures which blossomed after World War II in townships and boroughs around large cities. Other types include the mass-produced suburbs, the small rural village which is becoming the home of the commuter, the fringe areas, and the industrial suburb. Early definitions described the suburbs in terms of the degree of density of population, peripheral location, and land use. More recently other indexes have been

* Ode 6, Book I, and Ode 18, Book II.

added, including economic status, and a fertility index where families are larger than average. These newer indexes add support to the conception of the suburb as a new type of social organization which is demographically selective of population.

GROWTH

The quotations which introduce this chapter suggest the antiquity of suburbia. Even in the United States the trend to the suburb is not as recent as contemporary interest would indicate. The beginning of the present movement is generally credited to improvements in transportation, specifically the construction of railroads in the middle of the nineteenth century. Other technological changes associated with the movement include the expansion of rural electrification, the development of hard-surfaced roads, and an extended use of automobiles. A number of social factors have also been identified as significant conditions in a developing suburban life. Certainly the extended-credit facilities which were introduced to ease the housing shortage after World War II, together with a rise in income and savings, have been major contributing factors. The suspicion is growing that insight into social conditions must be accompanied by an awareness of moral commitments involved. Therefore, social and ethical values, including the desire for a favorable environment in which to rear children, a hope to escape the restrictions of city life, and a dream of an idylic freedom must be included in the forces behind the move to the suburbs. From another point of view this move has been described as an extension of city life, the outer rings of a tidal wave which is wiping out the rural hinterland and submerging all life into urban uniformity. In this view the suburbanite is trying to escape from the unescapable because he finds that what he has actually created is a new form of urban life satisfying neither to individual nor social values.

The results of this complex of factors are to be seen in an increase of population in the areas called suburbs, and in an increase in the associated social conditions accompanying the population growth. Brunner and Hallenbeck estimate the size of the 1950 suburban population as 36.2 million people if suburbia is defined as the population in the rings around the central cities in the Standard Metropolitan Areas.[1] The distinction between the population residing in central cities and those living in the surrounding rings is a useful, if crude, criterion for measuring the extent and the trends in suburban life.[2] Even in the early 1900's the rate of growth in the rings was somewhat greater than in the central cities. Decentralization, which

[1] Edmund de S. Brunner and Wilbur C. Hallenbeck, *American Society: Urban and Rural Patterns* (New York. Harper, 1955), pp. 256–257.

[2] Robert C. Schmitt, "Suburbanization: Statistical Fallacy?" *Land Economics*, Vol. 32 (February, 1956), pp. 85–87. Amos H. Hawley, "A Further Note on Suburbanization," *Land Economics*, Vol. 32 (February, 1956), pp. 87–89.

was beginning to take place between 1900 and 1910, grew in momentum in the following decade when satellite rural areas began to fill up as the first world war added a stimulus to urban development. During the depression years, when the rapid urbanization slowed down, the suburbs gained more persons than did the cities. It was during the decade of the 1930's that the outer fringe, rather than the areas close to the cities, began to fill with people. From 1940 to the present, the population outside of the central cities continued to expand faster than that of the central city. Between 1940 and 1950 this suburban population increased 83 per cent in the West, 67 per cent in the South, 40 per cent in the North Central states, and 18 per cent in the Northeast.[3] In recent years the suburban population has

TABLE 6–1. Metropolitan Districts, United States, by Region, 1920–1950

(Per cent of District Population Living Outside of Central Cities)

	U. S.	*North-east*	*North Central*	*South*	*West*
1920	27.6	34.6	18.9	21.0	25.7
1930	30.8	37.5	23.8	21.3	32.9
1940	32.7	38.4	26.4	24.8	36.6
1950	37.3	41.4	31.5	30.7	44.9

SOURCE: "Suburban Population Growth," *Statistical Bulletin*, Vol. 35 (July, 1954), p. 7.

continued to expand about seven times as fast as the population in the adjoining cities. In the ten-year period 1946 to 1956 approximately twenty million people have moved from central cities to the suburbs and the projected trend suggests that suburban areas are likely to double in the next twenty years. Census Bureau projections indicate that 80 per cent of the 63.3 million increase in population from 1955 to 1975 will find their homes in the suburbs.

When these cumulative figures are identified in particular cities, they provide a base for understanding the anguished cries of business and government. In Pittsburgh, Pennsylvania, manufacturing is more suburbanized than population. However, the older, industrial suburbs of Etna, Homestead, McKeesport, McKees Rocks, Millvale, North Braddock, and Sharpsburg lost population between 1940 and 1950. During the same period, the less-urbanized townships of Penn, Moon, Hampton, and others had a rapid period of growth, and all indications are that growth has continued in these communities since 1950. Throughout the metropolitan area, fields are giving way to acres of houses as population moves out of the city. Washington, D. C., gained 48,000 inhabitants from 1950 to 1954 but

[3] "Suburban Population Growth," *Statistical Bulletin*, Metropolitan Life Insurance Co., Vol. 35 (July, 1954), pp. 6–8.

TABLE 6–2. Pittsburgh Suburban Increases, 1940–1950

	1940	*1950*
Ross Township	10,827	15,744
Hampton Township	3,051	6,104
McCandless Township	3,494	6,488
Munroeville Boro.	4,689	7,841
Moon Township	3,733	7,096
Penn Township	15,578	25,280
West Mifflin Boro.	8,694	17,985

SOURCE: "Selected Population and Social Statistics: Minor Civil Divisions in Allegheny County, Pa." (Pittsburgh, Bureau of Social Research, Health and Welfare Foundation, November, 1954).

the surrounding suburbs in Maryland and Virginia increased by 268,000. In the same period New York City grew 2.7 per cent while the metropolitan ring increased 17.1 per cent. Cities large and small have experienced the same suburban growth and while it is difficult to predict the future of the movement, since it is dependent upon a number of associated, unpredictable conditions, there seems to be no immediate possibility of a decline in the trend.

Just as there has been a counter movement from city to country in the rural-urban migration so there is a counter movement back to the city in the suburban trend. Unfortunately we have no idea of the magnitude of this movement because of the lack of adequate statistics.

Included in this return to the city are older persons; persons whose children have married and left the home, thus negating a major force for suburban living; and others for whom the return is a result of the collapse of expectations. Commuting, for many of these, was too time-consuming. Others found suburban concentrations of children and dogs unpleasant. Some were discontented with schools, housing, lack of intellectual stimulation; some considered the community much overorganized.

TYPES OF SUBURBS

The older suburbs call to mind qualities of space, quiet, and ordered living in a gracious environment. Many of the newer suburbs, in contrast, present a picture uninspiring in uniformity of design. The older suburb is likely to retain some qualities of its original rural setting, while the newer, located usually in the rural-urban fringe, are often treeless, bleak, and depressing. Walter Firey has described the fringe as a marginal area where land use represents a center of conflicting ecological forces. Alternative and conflicting land uses produce variable and unstable patterns where part-time farms, cemeteries, unused acres, cheap eating establishments, and low-cost housing are to be found, sometimes along with beautiful estates. Firey notes that there is a tendency for residence to gravitate to the lowest class-status use and that the settlement patterns conflict with soil capability as land is removed from agricultural production. It has been

suggested that the fringe is not only marginal with respect to land use but is marginal also with respect to urban norms of fertility and the gainful employment of women.[4] The rural-urban fringe from this point of view would seem to be not merely a spilling over of the urban, but an area now marginal in character that is likely to develop its own qualities. The fringe consists of those areas relatively close to the city and also the more rural areas sometimes designated as the extended fringe. As the inner fringe fills with population it can be expected that the extended fringe will serve as a refuge for those who seek to go further out in order to pursue suburban values.

These values include a desire to farm or garden, the pursuit of cheaper land and lower taxes, and the hope of finding a social system in which it is "good to bring up children." However, fringe living has its own problems, including water supply and sewage disposal, overcrowded schools, the sacrifice of services to which urbanites have become accustomed, and the ever-present tax, financial, and legal problems associated with the relationship between the city and the fringe.

Another type of suburb is a product of the housing shortage and the application of machine assembly techniques to housing construction. These communities, called planned or mass-produced, are to be found as distinctly new towns or as smaller appendages (real estate developments) to existing older communities. Whether or not these communities are left with a legacy of unsolved or unseen problems depends to a considerable degree on the individuals and governmental agencies responsible for planning.

The best-known perhaps, of the new planned communities are Levittown, New York; Park Forest, Illinois, and Lakewood Park, California. No absolute figures are available but the combined totals of persons living in the newer planned communities probably number several millions.[5]

The population of these new suburbs are generally young people, many of them veterans of World War II, who took advantage of veterans'-credit arrangements and moved out of the city thinking that the payments on their homes was a cheaper form of rent. They regarded the planned community as a place to get started and hopes were high that this form of suburban living was but a step to a more ideal community which would be closer to the older conception of suburbia. As a consequence of this attitude and as a result of business transfers in a highly mobile society, transiency in the planned community is high. Because there is an economic selectivity in their entrance into the planned suburbs, incomes are higher than national averages, and there are no very poor. Selectivity operates

[4] Walter Firey, "Ecological Considerations in Planning for Urban Fringes," *American Sociological Review*, Vol. 11 (August, 1946), pp. 411–423. Stuart A. Queen and David B. Carpenter, "The Sociological Significance of the Rural Urban Fringe: From the Urban Point of View," *Rural Sociology*, Vol. 18 (June, 1953), pp. 102–108.

[5] Harry Henderson, "The Mass Produced Suburb I—How People Live in America's Newest Towns," *Harper's Magazine* (November, 1953).

also in another way as minority racial groups are denied entrance in fact, if not in principle. Educationally, the population is above average and represents the white collar occupational classes. Perhaps the most outstanding population characteristic of the new suburbs is the large number of children. Not only do migrants come as family groups but they quickly expand the family so that lack of space in the home becomes an ever-present problem. Unfinished attics are converted to living quarters and rooms are added above garages. Many young couples regard the new suburb as an excellent place to rear young children, but, by the time their children reach the third or fourth grade, these same parents consider the large number of playmates a threat both to their children and to their own welfare. The force of the baby boom, particularly apparent in the planned suburb, is indicated by the fact that excess births over deaths accounted for 45 per cent of the million and a quarter people added to the New York Metropolitan area between 1950 and 1954.

Small towns and villages have not escaped the impact of a suburban population. In many respects the suburbanization of the small town and village is attended by more social dislocation than occurs in other forms of suburbanization. The way of life of the village comes into sharp contrast with that of the new arrivals, often producing wounds that take a long time to heal. The new population tend to be well-educated and demand good schools for their children. Conflicts arise over the allocation of tax moneys for the expansion of schools, and educational philosophies, always a charged subject, explode in Parent-Teachers' meetings and in women's and other community groups. Churches, adapted to a rural society, find themselves in a position much like the present city church at a former period in its history. The migrants to the village change the occupational structure of the community and in so doing provide a base for new interests and new social groups which compete with and challenge the older more-established social institutions. The city bemoans the loss of talent and leaders to the suburbs, and the village finds itself with a large number of intellectuals which it has difficulty in understanding. The farmers of the area profit as land, formerly a producing good, becomes valuable as a consumption good when it is sought for recreational and building purposes. Whetten's study of Wilton, Connecticut, is an illustrative case of the conditions described above. His studies of suburbanization in Connecticut[6] compare and contrast the suburban development of a highly developed agricultural area, an industrial part-time farming area,

[6] Nathan L. Whetten and E. C. Devereux Jr., *Studies of Suburbanization in Connecticut I—Windsor: A Highly Developed Agricultural Area,* Bulletin 212 (October, 1936), Department of Sociology, Connecticut State College, Storrs, Conn. Nathan L. Whetten and R. F. Field, *Studies of Suburbanization in Connecticut, 2—Norwich: An Industrial Part-Time Farming Area,* Bulletin 226 (May, 1938), Department of Sociology, Connecticut State College, Storrs, Conn. Nathan L. Whetten, *Studies of Suburbanization in Connecticut, 3—Wilton: A Rural Town Near Metropolitan New York,* Bulletin 230 (February, 1939), Storrs Experimental Station.

and a rural town near a large metropolitan area. These studies indicate that suburbanization is a matter of degree within and between areas. Suburbanization of Windsor, the highly developed agricultural area, was described as a movement of white collar and skilled workers which occurred during the young-child stage of family life as a reaction to urban crowdedness. As a result the community had a large concentration of children and occupied an intermediate position between country and city in the proportion of older people. Economic reasons were primary in the movement of population to Norwich, the industrial community, and a large proportion of the population was classified as skilled and unskilled workers. Crowded home conditions were relieved by the movement to Norwich and more modern conveniences were to be found in the suburban than in the urban homes. The study of Wilton's suburbanization indicates what happens to a rural community located near a large city when the rural town becomes a suburb. These studies of suburbanization in Connecticut indicate that suburbanization does not proceed in a uniform manner and that the effects of suburbanization are not the same in all communities.

A. C. Spectorsky[7] has presented a picture of the dweller of the area in and around the more remote village whom he calls the Exurbanite. Exurbia is not suburbia, but is "further from New York than the suburb on the same railway line." Here between the suburb and the open country dwell the displaced New Yorkers who represent the dream-ideal of the rest of the United States. Spectorsky identifies the exurbanite as an idea man who strives to live at home like a workman, a refugee from the rat race of the city who can never fully escape. In Fairfield, Bucks and Rockland counties, in northern Westchester and on the North Shore of Long Island, the exurbanite tries to combine the charm of a country estate with the super-conveniences of a twentieth-century technology.

Business and industrial dispersion

This is often a preceeding condition to population dispersion but frequently business and industry follow the population out of the central city. For purely economic reasons, including the supply of labor, many corporations have left the heavily industrialized regions. The decentralization of industry has resulted in a decided decline in the proportion of industry concentrated in cites of 100,000 or more. Much of this movement is from the central city to the suburban fringe and as the change continues a growing number of industrial workers can be expected to locate their homes in the fringe and in nearby suburban towns. Within the metropolitan areas industrial suburbs are employment centers attracting population from all parts of the area. Such suburbs are likely to be further out than residential suburbs within the metropolitan areas. The Chicago Plan

[7] A. C. Spectorsky, *The Exurbanite* (Philadelphia. Lippincott, 1955).

Commission reported that close to 300 industrial establishments moved from Chicago to the periphery during the decade of the 1940's. The Regional Planning Association in the New York Metropolitan Region also reports two kinds of industrial patterns in urban areas. One is the use of low, flat lands, unsuited for residential purposes; the other is a scattered cluster of plants where the employees can live and gain a living close at hand. Of the 2,657 new plants built in the region between 1946 and 1951, five out of six were built beyond the limits of the major industrial districts existing in 1945. These distribution patterns are illustrations of the importance of the outer zones of the city for industrial expansion as population expands.

TABLE 6–3. Building Permit Activity
(Metropolitan Area Proportion of 1954 Valuation, by Region)

Region	Per Cent in Metropolitan Areas	Metropolitan Areas: Per Cent in Central Cities	Metropolitan Areas: Per Cent outside Central Cities
United States	80	39	61
Northeast	90	31	69
North Central	81	36	64
South	71	56	44
West	78	34	66

SOURCE: United States Departments of Labor and Commerce. *Construction Review*, Vol. 1 (April, 1955), pp. 21–22.

Kitagawa and Bogue's study[8] is the most complete analysis to date of suburbanization of manufacturing activity. This study points out that both population and manufacturing suburbanized from 1929 to 1939, that population suburbanized from 1939 to 1947, but there was no evidence of the continuation of manufacturing suburbanization from 1939 to 1947. Furthermore, there is considerable variation of manufacturing suburbanization within individual Standard Metropolitan Areas. During the period 1939 to 1947, centralization of manufacturing activity continued in forty-four metropolitan areas. Where suburbanization of manufacturing took place it tended to be greater in the younger metropolitan areas. Manufacturing workers tended to become suburban dwellers in metropolitan areas which were younger, where the total population was suburbanizing faster than average, and where there were greater than average suburban shifts of manufacturing wage jobs. The study indicates that manufacturing does not inevitably suburbanize as population suburbanizes.

The combination of suburban living and expanding families has opened a new "do-it-yourself" market. Like the exurbanite, the suburbanite is

[8] Evelyn M. Kitagawa and Donald J. Bogue, *Suburbanization of Manufacturing Activity Within Standard Metropolitan Areas* (Published jointly by Scripps Foundation for Research in Population Problems and Population Research and Training Center, University of Chicago, 1955).

fascinated with gadgets and tools of all kinds. Power lawnmowers, worth close to $145 million in the aggregate, are owned by millions of suburbanites. Sewing machines, washing machines, and home freezers have been sold in ever-increasing numbers to the expanding "do-it-yourself" market. While some of the selling is in response to an unrealistic image of a country-squire ideal, a great part of it is probably centered in a new interest developed from economic necessity and in a renewed awareness of personal values.

Shifting populations mean shifting markets. As the suburban population has grown it has been accompanied by an increase in the number of retail outlets in the suburbs and a decrease in the number of retail stores in the city. Large shopping centers surrounded by wide parking lots promote new markets. In response to this market, many cities report that retail trade has increased seven hundred per cent faster in the suburbs than in the city. The expansion of super-centers, designed to serve regions rather than suburban areas, is an outgrowth of the success of the smaller shopping centers. Parking for thousands of cars, auditoriums, restaurants, offices for professional people, a kiddieland, bowling alleys, and air conditioned stores, all are organized into a unit designed to attract the suburban market. Fifth Avenue is forced to wind into the suburbs as branch stores are established that appeal to the desire to shop near home. In the large cities the trend is toward an increased proportion of retail selling in branch stores in the suburbs. As central business districts become more congested and suburban shopping centers provide parking space, the consumer, who prefers to drive, finds convenience in the shopping center. Raymond Cuzzort's study[9] of suburbanization of service industries shows that service industries were less suburbanized than population in 1948, but that between 1939 and 1948 these industries were suburbanizing rapidly, particularly in the rural ring of metropolitan areas. As population moves into the metropolitan rings service activities move into the rings and become suburbanized. Because the suburban population is economically selected, the very nature of the urban and suburban market is changing. The middle class family of the suburb is the backbone of the department store trade, and the downtown department store is seeking to maintain this support. Suburban families are younger, have more children, and their incomes are larger than the average family. Here is a market that is worth seeking.

SOCIAL CORRELATES

The most definitive aspect of suburban life is the commuting schedule. Transportation is essential in the very nature of the suburbs and the pat-

[9] Raymond P. Cuzzort, *Suburbanization of Service Industries Within Standard Metropolitan Areas* (Published jointly by Scripps Foundation for Research in Population Problems and Population Research and Training Center, University of Chicago, 1955).

tern of life is governed by the husband's commuting schedule. The tyranny of time is all-pervasive and the demands that it makes are not lightly borne. As a result of the absence of the male, much of the life of the community is in the hands of women, a fact which has caused some to define the suburban family as a matriarchate.

In 1934, George Lundberg, Mirra Komarovsky, and Mary Alice McInerny, noted that estimates of the value of suburban living tended to emphasize the quality of family and child life and the enjoyment of nature. More recently, in response to the question, "Is a new family form emerging in the urban fringe?" Jaco and Belknap replied in the affirmative.[10]

These studies, one concerned with the older suburb, the other with a possible new element in suburban life, emphasize the interest and significance of the family as a basic institution in the suburbs.

Jaco and Belknap suggest the possibility that the fringe family may be like the classical, or traditional, family and yet function adequately in an urban society where the typical family pattern is nontraditional. Suburban families are larger, marriage is high and is taking place earlier, and the historic functions of the family are reaffirmed.

Not only may a new family form be emerging, but also a new form of neighborhood. Harry Henderson, in writing of the mass-produced suburb, concludes that, "Nothing in these communities, to me, is more impressive than this uniform pattern of casual but warm friendliness and cooperation."[11]

Mutual aid on the "do-it-yourself" projects seem to be the rule, rather than the exception. Children have a way of bridging gaps between adults and the isolation of the women is to some extent alleviated by the coffee break and the bridge club. It would seem that in moving to the suburb there is a conscious effort to recapture the friendliness and help that ideally is a part of the rural heritage. Henderson indicates that the new towns have none of the old social problems of the old towns. They have no slums, although many feel that the suburb may be the slum of the future. Streets are adequate, and dangerous intersections are almost unknown. Having no traditional social structures, the people in the new suburbs are involved in developing their own institutions. The sense of becoming is indicated in the fact that many mixed marriages find a haven here and that the old political affiliations are likely to undergo change. Politicians are concerned with the trek to the suburbs as they pose the question, "Do voters change their party with their address?"

Such questions again indicate that the suburban movement represents a selection of population based on psychological factors. Adjustment to sub-

[10] George A. Lundberg, Mirra Komarovsky, and Mary Alice McInerny, *Leisure: A Suburban Study* (New York. Columbia University Press, 1934). Gartly E. Jaco and Ivan Belknap, "Is a New Family Form Emerging in the Urban Fringe?" *American Sociological Review*, Vol. 18 (October, 1953), pp. 551–557.

[11] Henderson, *op. cit.*, p. 32.

urban living, too, can be explained in terms of socio-psychological factors. Walter T. Martin,[12] in a study of a rural-urban fringe in western Oregon, concludes that factors associated with successful adjustment to living in the rural-urban fringe include a previous experience in a rural culture; the maintenance of a family garden; and age—the young and the old make a less satisfactory adjustment. He also finds that socio-economic status and availability of transportation and communication facilities are related to sex differentiation in this environment.

If the suburban movement is a reflection of major changes in contemporary society and if it is in effect a population in the process of becoming, crisis situations and critical shortages can be expected. That the ideal has not always been achieved seems evident. The flight of the socio-economic upper classes to the suburbs has been condemned as a condition adding to the isolation of these leadership groups from contact with the broader population. Such a condition, it is felt, furthers the threat of a bureaucratic structure in which those who make policy act and communicate with each other in one way and in a totally different way when they relate to the community. While the suburb serves as a melting pot, it is a special kind of crucible, conditioned by escapism and resentful of those who come late.

SUBURBAN DEMOGRAPHIC CHARACTERISTICS

1. Rapid growth by migration from cities
2. Higher than average birth rates
3. Young adults, white-collar class
4. Middle class predominates
5. Educational level high
6. Single-family housing units
7. Basic changes in habits of consumption and spending
8. Establishment of light industry in suburbs lessens the commuting problem
9. High rates of internal migration and mobility
10. Frequently movements to suburbs are by stages
11. Needs:
    - Housing
    - Sewer and water systems
    - Schools and libraries
    - Parks and playgrounds
    - Stores and service areas
    - Hospitals
    - Transportation
    - New tax systems
    - Governmental reorganization

[12] Walter T. Martin, "A Consideration of Differences in the Extent and Location of the Formal Associational Activities of Rural-Urban Fringe Residents." *American Sociological Review*, Vol. 17 (December, 1952), pp. 687–694.

The villages which become suburbs and the new suburbs which are dispersed among older residential areas are plagued by a variety of tension areas. Old residents wish to retain the *status quo* and resent the demands of those who come wanting change. Schools become crowded, water supplies are often inadequate, and institutional services of all kinds suffer under the increased load of population.

Transportation problems are critical in all suburban life, as is evidenced by the commuting difficulties of the railroads and the traffic jam on the highways. Road-building has lagged behind the traffic load which for the last twenty years has been growing at the rate of one million vehicles each year. Traffic casualties, which have reached a figure of a million and a half a year, underscore the reality of the "more-and-safer highways" problem. Locating and paying for these highways, however, is a vast and complex undertaking, compounded in all directions by many, often selfish, special interests.

Like Horace, the modern American seeks peace and security, but, unlike Horace, he is not averse to mingling the pastoral scene with the benefits of urban technology. The combination opens a whole new area for research in which questions arise concerning the definition of the way of life, and the impact of environment on personality, on expectations, and on social relations.

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Part III

COMPOSITION

—the bishop indicted the prevailing system, pointed to the people's abominable misery and quoted the words of the prophet, "Thou shalt create new people and the face of the earth shall be changed."

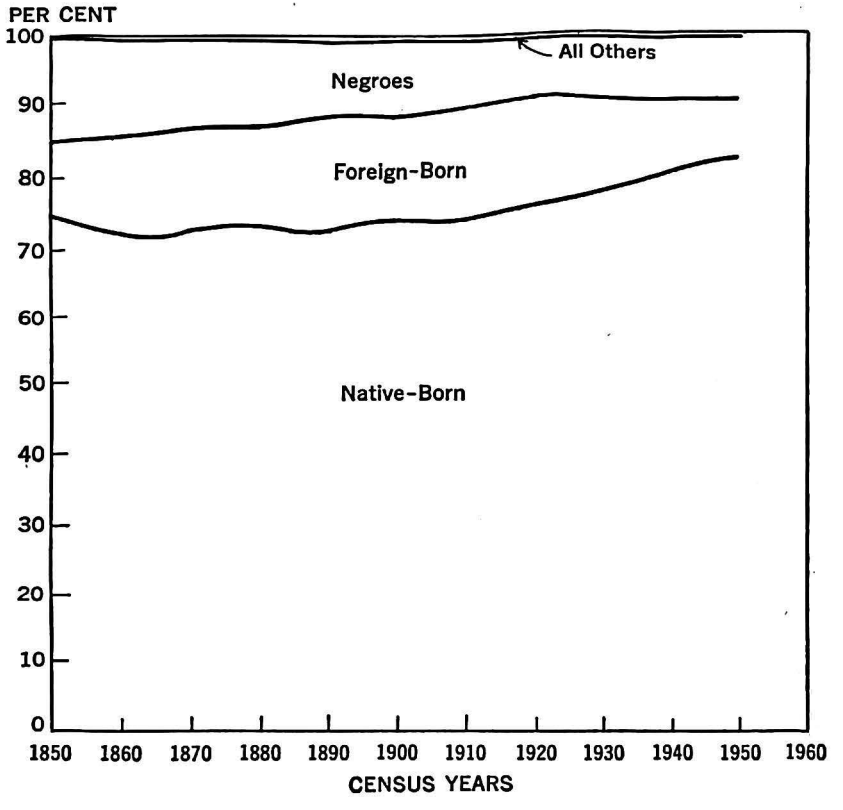
LION FEUCHTWANGER*

A THIRD APPROACH to demography deals with its component groups. Who are the people?

As the graph indicates, for the people of the United States, census reports can be computed in three classifications: native and foreign-born whites, Negroes, and all others. These groups show how significant immigration is in the make-up of population. To some extent they support the prophecy—a new people, hybrid in biological and cultural composition, is being formed.

* From a novel based on the life of Rousseau and the French Revolution, *'Tis Folly to be Wise* (New York. Messner, 1952), pp. 229–30.

Components of Population of the United States, 1850–1950



SOURCE: U.S. Census.

CHAPTER 7

People of European Background

Come and see the men who come from Heaven.°

These people have populated a continent; have conquered a wilderness; have beaten back nature by harsh labor, by endurance, by ingenuity, by inventive genius; have established a society on a foundation of institutions—

NATHANIEL PEFFER°°

AFTER THE FIRST VOYAGE of Columbus, a small but constantly increasing migration from Europe to the New World began to take place. This migration both in numbers and in its effects in Europe and the Western Hemisphere has no equal in the history of world demography. According to one commentater, it is the "central theme in the history of the Americas," and "the most important single factor in the recent history of the human race."[1]

The introduction to this section is planned to show three consequences of the great migration. First, by historical comparison, the majority of these people have been assimilated into one relatively homogeneous society in a short time. Second, a small proportion of the total population has proved difficult to absorb and remains in the dubious category of "minority groups." Third, judging by quality of composition and component elements (terms to be clarified in this discussion), of the population, a "new people" is in fact in actual process of fulfillment.[2]

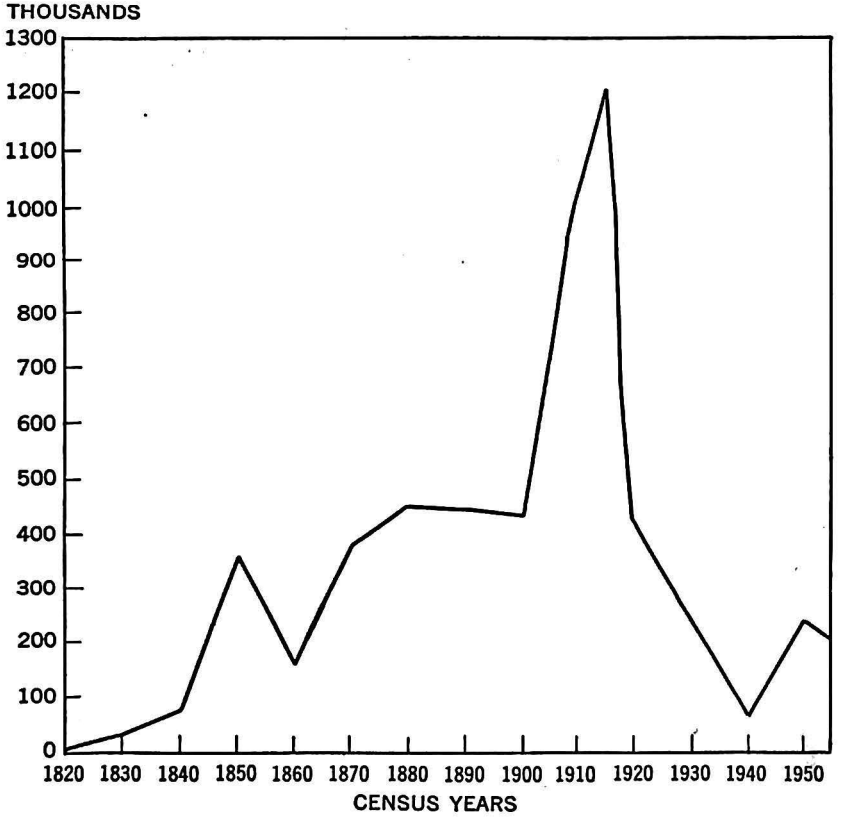
° From a letter dated August 15, 1493, describing the manner in which the natives greeted Columbus and his crew. Quoted in Samuel E. Morison, *Admiral of the Ocean Sea* (Boston. Little, Brown, 1942), p. 235.

°° *America's Place in the World* (New York. Viking, 1945), p. 72.

[1] Henry Bamford Parkes, *The American People: Their Civilization and Character* (London. Eyre and Spottiswoode, 1949), p. 3.

[2] In bio-social studies, composition is often restricted to biological, hereditary, or genetic traits of a people. A broader interpretation includes such cultural or social distinctions as nationality, language, religion, and economic class. The most inclusive definition makes composition include all identifying characteristics that can be reported by numbers. The range of this definition is illustrated by the census enumeration of "Characteristics of Population" as shown in the Appendix, p. 487. Thompson is the chief advocate of this latter position, although he admits that it is a deviation from accepted

FIGURE 7–1. Total Volume of European Migration to the United States, 1820–1954



SOURCE: See Table 7–2.

The American people, in their origin and growth, have been blessed in a number of factors important to their successful maturing. In cultural backgrounds the major groups of immigrants were not widely separated, and one culture, that of the Anglo-Saxon family of nations, proved an effective primary cultural base. Group barriers, within this relative uniformity, failed to interfere for any length of time with assimilation and the trend toward homogeneity. Old-world traditions and prejudices lost meaning in

"formal" demographic practices. This broad and inclusive point of view will be observed in the rest of the present study, Part III being limited to nativity and locality backgrounds and all other sections and chapters supplementing the general demographic conclusions that have been presented up to this point. Warren S. Thompson, *Population Problems* (New York. McGraw-Hill, 1953), Chapter 6, especially pp. 88–89; and Luke Ebersole, *American Society* (New York. McGraw-Hill, 1955), have excellent presentations of these elements in composition, as well as of most of the salient trends as presented in Chapters 2–6 inclusive.

TABLE 7–1. Direction and Volume of European Migrations

	(in millions)
To the Western Hemisphere	60
To the United States	40
To other parts of North or South America	20
To Australia and New Zealand	5
To Africa	2
To other parts of the world	3
Total	70

TABLE 7–2. Total Number of Immigrants to United States, 1820–1954

Year	*Number (000 omitted)*	*Year*	*Number (000 omitted)*
1820	8	1900	448
1830	23	1910	1,041
1840	84	1920	430
1850	369	1930	241
1860	153	1940	70
1870	387	1950	249
1880	457	1954	208
1890	455		

SOURCE: *Economic Almanac*, 1956, p. 10.

the new-world context of progress and attainable security. The developing population was spared the divisive influence of a "little Germany," a "little England," or other nationality on any but very temporary terms.

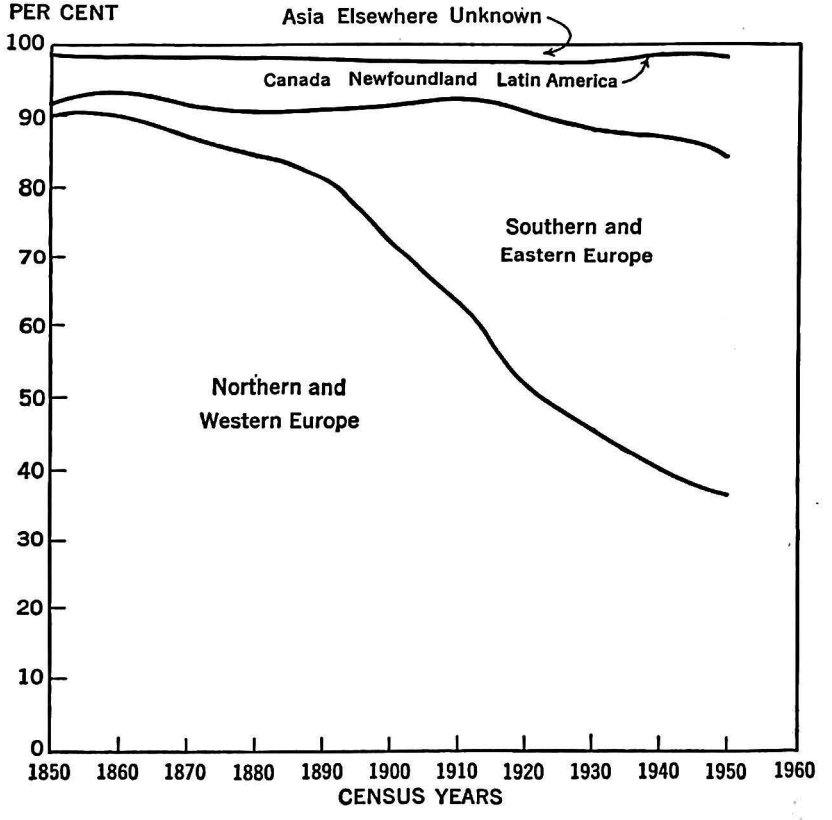
Also important to their future as a people was the character of the individual immigrant. Economic need was undoubtedly the primary selective force. Escape from tyranny, land hunger, the lure of adventure, were others. The typical immigrant was young, vocationally skilled, eager to explore or to establish a home. The leadership potential was high, as was the willingness to conform and to learn the new ways leading to profitable economic growth.

When the high tides of immigration began to recede, by the beginning of World War I and the quota acts, two important statistics in the social composition of the United States became apparent: (1) Of the total population that emerged as noted in the Figure on page 134, by 1920 51 per cent were derived from original colonial settlers and 49 per cent from immigrants after 1800. (2) And of this total volume of immigrants, approximately 70 per cent stayed as permanent citizens.

THE PEOPLING OF THE UNITED STATES

From the total movement of emigrants to all parts of the world, the United States received about two-thirds or in the neighborhood of forty million people. The chief numerical trends and peak years are shown in Figure 7–1. Record years were 1905, 1906, 1907, 1910, 1913, and 1914, when more than one million immigrants each year were admitted to

FIGURE 7–2. Composition of the Immigrant Population, United States, 1850–1960



SOURCE: U.S. Census.

this country. This annual number was about 1 per cent of the total population, a figure made more meaningful when recent immigration amounting to less than $\frac{1}{10}$ of 1 per cent of the nation's total is noted. No other country has ever received so many people in so short a period.

Figure 7–2 gives the proportions of these other people in this country's immigration, and in Tables 7–3 to 7–6 their numbers are estimated. Nearly 5 millions came indirectly from Europe via other American nations. As nearly as can be judged, 400,000 Negroes were brought to this country as slaves prior to 1808 when the transportation of slaves was officially forbidden. And the smallest fraction of all, immigrants from other parts of the world (even when the native Indian population is included) never amounted to more than one-half of one per cent at any decennial period.

In both Figures 7–1 and 7–2 there is also ample evidence of other important demographic effects. One is the secular trend toward peak entries in immigration volume in the decade 1905–1914. A second is the clear-cut response of immigration to business conditions both in Europe and the United States. A third is the even more obvious contribution to the country's total growth. A fourth is the deterring effect of war and the greater limiting power of restrictive legislation.

Two economists who reviewed these population movements in terms of their primary consequences summarized them in four general conclusions.[3] The total growth of a nation is definitely stimulated by immigration. In the United States the decade of highest growth from this source was 1850–1860 when 22.9 per cent of the population gain was from its foreign born. Since then there has been a constant decrease to 2.9 per cent in the decade, 1910–1920. Similarly immigration is an actual addition to the labor force. In this part of the population, the peak decade of increase was 1880–1890 when 30.1 per cent of all employed classes were immigrants. A third consequence, and sound economic benefit, is the rise in consumer demands that immigrants and their families produce; and this, basically, is the reason for the fourth contribution, namely, that immigration tends to make for economic stability.

MAINSTREAMS TO THE UNITED STATES

In the analysis of nationalities or regions as sources of European migrants, the demographer is interested in biological and cultural origins. For this reason attention has been given to the flow of migration in streams as it involves origin and destination. Among such streams are the Colonial; the movements after the American Revolution consisting mainly of immigrants from northern and western Europe; the later movements from southern and eastern Europe; immigrants of European origin who went first to other American nations before settling in the United States; and finally, the quota immigrants, including refugees. The demographer is also concerned about the distribution of these various streams of immigration and their essential nationality components.

The Colonial population

Throughout this period of nearly two centuries, the dominant nationalities were all northern and western European. They were essentially similar in culture and not too unlike in language or religion. As a result, by 1790, the majority of the people had become more or less Anglicized. The nationalities were well distributed—the Germans and Scotch-Irish in Pennsylvania, French (Huguenots) in New England and South Carolina,

[3] Simon Kuznets and Ernest Rubin, "Immigration and the Foreign Born" (New York. *National Bureau of Economic Research, Inc.*, 1954). Occasional Paper, No. 46, pp. VI and 1–4.

Swedes in Delaware, Irish in communities along the entire seaboard, and Dutch in New York and New Jersey. There were small and widely scattered settlements of other groups who, however, were less than one per cent of the total population.[4]

Nineteenth- and twentieth-century migrations

Three periods or streams of emigration account for the entire contribution of European immigrants from 1820 to 1950. The nationalities and their total contribution are listed in order of rank in Tables 7–3 to 7–5 in this section.

During the first period, when migrations were almost wholly from northern and western Europe, the Irish were most numerous. They held this rank until 1850. At that time Germans took the first place and held it for forty years.

TABLE 7–3. Immigrants to the United States, from Northern and Western Europe, 1820–1950

	Total Volume (000 omitted)		*Total Volume (000 omitted)*
Germany	6,336	France	638
Ireland	4,622	Denmark	341
Great Britain	4,401	Switzerland	317
Sweden	1,230	Netherlands	271
Norway	817	Belgium	172

In 1880 the mainstream shifted its course when increasing numbers of immigrants came from southern and eastern Europe. This movement began as early as 1850 and increased rapidly after the Civil War. After 1890 these nations tripled their previous annual contributions and they continued to be the leading exporters of people until World War I.

During most of this second period, Italy, Austria-Hungary, Russia, Greece, and Poland sent the largest contingents of immigrants. Many other nationalities than the ten listed in Table 7–3 participated, but in much smaller volume.

In general summary of European emigrants, about 35 million people came to this country during the 130 years—twenty million from the older stream, fifteen million from the second tide. As background for an initial survey of the nationality composition of the American people, the new

[4] Some of the recent studies that deal with this period, or with comparable trends in biological and cultural fusion, are: V. G. Childe, *Man Makes Himself* (London. Watts, 1941); C. S. Coon and others, *Races: A Study of the Problems of Race Formation in Man* (Springfield, Ill. Charles C. Thomas, 1950); L. C. Dunn and T. Dobzhansky, *Heredity, Race and Society* (New York. New American Library, 1952); F. H. H. Roberts, "The Early American," *Scientific American*, Vol. 184 (February, 1951), pp. 15–18; Ralph Solecki, "How Man Came to North America," *Scientific American*, Vol. 184 (February, 1951), pp. 11–15.

Americans were, in order of their numbers: Germans, Italians, Austrians and Hungarians, Irish, British, Russians, Swedes and others in descending order as listed in the tables.

TABLE 7–4. Immigrants to the United States, from Southern and Eastern Europe, 1820–1950

	Total Volume (000 omitted)		*Total Volume (000 omitted)*
Italy	4,785	Portugal	264
Austria-Hungary	4,666	Spain	173
Russia	3,344	Rumania	158
Greece	444	Turkey in Europe	156
Poland	422	Czechoslovakia	128

TABLE 7–5. Immigrants to the United States, from the Western Hemisphere, 1820–1950

	Number (000 omitted)		*Number (000 omitted)*
Canada and Newfoundland	3,203	West Indies	502
Mexico	844	South America	146
		Central America	72

The third movement of immigrants, European in background but originating in various countries of the Americas, also began early in the nineteenth century. This was an occupational movement, increasing as opportunities for employment in the United States increased and decreasing as such opportunities decreased. Countries of the Western Hemisphere, in general, were excluded from the quota system when it was instituted in 1921, giving nationals of this third movement a favored status. During the depression of the 1930s their number decreased, but increased again during World War II. A total of about five million immigrants have come to the United States from other areas of the Americas. This brings the grand total of European-background migration to the United States from 1820 to 1950 to over forty million.

A few European nationalities have not been mentioned in these statistics, partly because of their small numbers and partly because of changing political boundaries. There are also several relatively large and historical subgroups, not distinguished here, but which will be considered in later sections of the book. One of those is the French Canadians who are grouped with the Canadians as a whole. Another is the Jewish people, who are usually submerged in the nationalities from Russia, Poland, or Germany. Still others are various Slavic nationalities. The recent refugee groups will also be discussed later, mostly from the point of view of their ethnic and cultural contributions or their social adjustment to the economy.

DISTRIBUTION AND SETTLEMENT

An active movement of dispersal can be traced back to the earliest Colonial settlements. After a short period of residence along the Atlantic coast, small groups of pioneers moved westward in ever-increasing numbers.[5] As a result, at no time in the history of the United States do heavy concentrations of the foreign born of European origin appear as sources of hostility or unrest. There is, however, a continuity of culture: areas that became the receivers of immigrants or that attracted certain nationalities continue to possess a few basic cultural adhesions as obvious in language, religion, and specialized occupational skills. These characteristics may be economic or political in nature or more specifically distinctive in dietary habits and recreational activities.

A vivid account of the mixture and fusion of European nationalities is presented by T. Lynn Smith in a series of maps showing both the areas of concentration and the wide scattering that has taken place.[6] If these maps are compared with the map showing the distribution of the entire population, the conclusion is obvious that these immigrants are well distributed by city, state, industrial region, or agricultural area because of cultural needs and not from clannishness.

Significant tendencies that help to describe some of the social components of the whole people are as follows: Of all nationalities Germans and English are the least concentrated and the most widely scattered. Concentrations are found in most of the large cities but no one city could be called the German capital (as Chicago is known as the Czech capital, and Pittsburgh as the capital of the Slovaks). Italians are mostly urban and their centers are New York City and other Eastern metropolitan areas. The same essential distribution is typical of Austrians, Hungarians, Irish, and Russians, with the exception of Jews (of any nationality) who are scattered in all the large metropolitan areas. Canadians are spread throughout the northern states and along the Pacific coast, but French Canadians are mostly in New England and in the Northern border states, with Detroit as their most popular large city. Scandinavians are predominantly in Minnesota and other Northwestern States and in West Coast cities. Worcester, Massachusetts is sometimes pointed out as exceptional in its large percentage of Swedes. The French, like the English and Germans, are widely scattered but there are large numbers in most metropolitan cities, of which New York City and San Francisco have top rank. The historical residence of the French in Louisiana will be referred to later. Greeks also are widely distributed in cities but for some unknown reason they have not settled in

[5] For one interesting example, note in the novel by Louis Zara, *Blessed is the Land* (New York. Crown, 1954), the several accounts of Jewish trappers and traders who ranged through all quarters of the frontier and Indian settlements just as the French voyageurs and other representatives of all the original colonies did. Other illustrative novels will be cited in the appended bibliography.

[6] T. Lynn Smith, *Population Analysis* (New York. McGraw-Hill, 1948), pp. 55–87.

cities of the Northwest. Poles are found in large numbers in the cities east of the Mississippi and north of the Ohio rivers and are spread out in the agricultural districts of this region. They are concentrated in New York City, Chicago, and Detroit.

Cultural islands

Small, separate groups are often pointed out as exceptions to the general rule of wide dispersal and speedy trends toward homogeneity. These islands or areas are often the stay-at-homes of some original settlement. They are usually emphasized as a basis for detecting cultural or other barriers to a growing uniformity through assimilation.[7]

Among prominent examples of this resistance to cultural changes, the French in Louisiana, French Canadians in New England, Mexicans in the Southwest, the Dutch in Michigan, and the Welsh in mining districts of Pennsylvania and Ohio are typical. They show how numerous factors such as religion, language, occupation, singly or in combination, may interfere with mobility and assimilation. Other examples, mostly of small groups, include religious settlements, such as the Amish, Mennonites, and other sects of the Plain People; Utopian-community experiments; co-operative ventures; Chinatowns, ghettos, and other restricted urban areas; small occupational colonies of such groups as Finns, Portuguese, and Gypsies. There are also large racial concentrations of Negroes and Puerto Ricans, as well as specialized large areas such as Indian reservations, the Black Belt, and other types of segregation which may or may not be cultural islands. Infrequently and generally in small and decreasing numbers are the occasional settlements of hybrid (Negro-Indian) or trihybrid (Negro-Indian-white) groups.

To date, the cultural island is a better proof of the eventual merging of peoples in the United States than it is of a tendency to seek to escape assimilation or to maintain an insuperable barrier against fusion.

COMPOSITION

Changing trends in composition are suggested in each of the preceding sections. Each Figure also shows the rapid emergence of a native-born population. In recent years the European immigrant has duplicated closely the record of the late-nineteenth and early-twentieth centuries' distribution of nationalities, but in ever-decreasing numbers. In order to compensate for some of this loss, there is a slight increase in the migrants from Canada and Latin America. Since most of the recent European movement has been of the refugee variety, attention in this section will be focussed on these groups and on the English and French Canadians, and the Jews.

[7] T. J. Woofter, *Races and Ethnic Groups in American Life* (New York. McGraw-Hill, 1933), p. 4.

TABLE 7–6. Recent Immigration to the United States, 1930–1950

	Total Volume (000 omitted)		*Total Volume (000 omitted)*
Italy	1,427	Russia	894
Canada and Newfoundland	1,065	Poland	861
Germany	984	Great Britain	828
		Ireland	529

It is easy to see in this analysis of nativity components how distribution helps to clarify trends and how in turn both distribution and composition in their current general perspectives are good introductions to studies of specific changes to be reviewed in Part IV. Age, patterns of fertility, education, and religion offer numerous supporting evidences of the effects of assimilation, of their geographical differences, and of high incidences of other "components" such as regional distributions of health, occupation, rates of mobility, and sources of "trained" personnel for civilian or military duties.

From the totals of the ranking immigrant groups, it is obvious that the recent cultural pattern is the same as that established nearly fifty years ago. The difference is one of volume, since in the decades after 1930 net immigration has been small—an annual average of roughly 200,000 each year. Moreover when the Canadians of English descent are included, the same predominance of English and German influences continues to sustain a uniformity of domestic culture. These numbers also stress the importance of the refugee during the last several years. When all type of refugees are computed, they make up at least 50 per cent of the total immigration after the year 1930. They have come chiefly from Germany and the countries of eastern and southern Europe.[8]

English Canadians

Long before the keeping of accurate records, the United States and Canada exchanged population in large numbers. In 1900 Canadian migration reached 10 per cent of the total immigration to this country. It increased in volume and proportion until 1925, then decreased during the depression years of the 1930's. After 1940 it increased again and has exceeded the combined total from all other countries of the Western Hemisphere by more than 50 per cent.

Observers have compared this type of migration to an exchange of populations largely because of the cultural similarity between the two groups. In such demographic aspects as curve of growth, size of family,

[8] The sources of this discussion are cited in the chapter's bibliography under the heading: Composition. A recent summary is provided by John G. Stoessinger, *The Refugee and the World Community* (Minneapolis. University of Minnesota Press, 1956).

westward settlement, and economic developments, they are nearly identical.

French Canadians

With as long a record of migration to the United States as have the English Canadians, the French segment differs mostly in their smaller numbers and in geographical and occupational concentration. In addition, partly because of their language and religion and partly because they were mostly unskilled factory workers, French Canadians have lived in isolated (New England) villages and have resisted assimilation. Even more often than the English Canadians, the French have been migratory, crossing the border when business conditions were favorable, returning during slack periods, and thus behaving exactly as a labor-reserve group. Many French Canadians, even those native to the United States, cannot speak, read, or write English. From this point of view these areas are referred to as "cultural islands."

In volume the French Canadians have composed about 10 per cent of total Canadian migrants. They reached their peak volume before 1900 and have decreased slowly with the recent decline of New England industries. Some have moved to other parts of the United States and others have returned to Canada.

As a relatively small population, with pride in their French origins, language, and religion, the French Canadian has always had high birth rates and large families and has resisted the trend toward smaller rates and families in both Canada and this country.

Jewish migrations

Among several nationalities already considered, there has been a high proportion of Jewish migrants. These people are distinguished as Jews partly because of their religion and partly because of their language. In the order of their numbers they are classified as Russians, Poles, Austro-Hungarians, and Rumanians. However, practically every nationality has sent a few Jews as migrants to this country. The present number in the total population is judged to be about five million.

The migrations of Jews from country to country has usually been the result of oppression. The earliest Jewish movements to this country were generally by way of a Spanish or Portuguese colony and there were scattered communities along the Atlantic seaboard by the middle of the seventeenth century. By the Revolutionary period they resided in all thirteen colonies. During the second wave of Jewish migrations, beginning in 1815, they came as German immigrants; and their third migratory period coincided with that of Eastern and Southern Europe.

Although the Jewish people in this country are often called a minority group, subject to the prejudice and discrimination that is usual for minority

groups, they share none of the ordinary handicaps of that status. They are not looked upon as second-class citizens and they have never been accused of mental inferiority or dependency of other sorts. Anti-semitism has had a long and dishonorable record, but seems not to be due to the usual charges of biological or cultural defects.

The prime demographic trait of the Jewish people can be distinguished under the caption, solidarity. Presumably the roots of this unity are in their generations of hardship in Europe. Solidarity in large measure is also indicated by their traits as migrants and citizens. They came as permanent residents and as families. They congregated in cities. Even today one explanation for the troubles of the Jew is this uneven distribution in cities, in industry, and in commerce. In most other respects the Jewish population is average. They appear in all income groups, in most economic classes, and in all states. They are usually middle-class folk, although in education they have a larger percentage of their children in college than their proportion in the population would indicate. Their families are small and their birth rates are low.

Because of these various characteristics, especially their low replacement rate, the Jews are called a stable people, which in this instance means good adjustment to middle-class standards.[9]

Refugees

Of all involuntary migrations none has been given more attention than the recent movements of European refugee peoples. Although this current movement has taken place throughout most of the present century, its political setting is obscure, and no country has been able to develop a legislative or administrative program to deal with it that is widely approved.

Refugee peoples are not unique either in Europe or the United States. Throughout American history there has been a continuous flow of small groups from Europe, and of similar unsettled communities from one region to another within the nation. There are also a few instances when groups have refused to accept what they have considered to be oppressive legislation in this country and have made new homes for themselves in other countries. Among the best-known historical refugees are the Puritans, Huguenots, Quakers, Scotch-Irish, various Jewish groups dating back to the pre-Revolutionary Spanish-Portuguese Jews, and numerous economic and political groups, such as the Armenians and others from Turkey, Thrace, Epirus, and Macedonia. From other sections of Europe there have been refugee groups of Poles, Lithuanians, Ruthenians, Ukrainians, and the "Little Russians." In most of these recent examples, a prime obstacle has been the immigration restrictions of the receiving countries.

Most recent refugees are the victims of the fascist governments in mid-

[9] Oscar Handlin, *Adventure in Freedom* (New York. McGraw-Hill, 1954), Chapter 10.

dle, eastern, and southern Europe. This movement began in the early 1930's and reached a peak in numbers about 1939. Thereafter "a deliberate and systematic denationalization" of large masses of people continued until the volume of former European nationals became about twelve million. This number included immigrants who resembled the refugees of the nineteenth century, the dispossessed, who were forced into this category because of their religious, political, or ethnic loyalties, and stateless people who were so-classified because of original, indefinite national ties or because they were deprived of their citizenship as a result of radical political changes.

About one million refugees were admitted to the United States prior to 1950, and close to 200,000 each year is an approximate estimate of numbers admitted under current immigration policies. Since these refugees represent a cross-section of immigrants as a class, they are not of great significance for purposes of most demographic studies. They have been fairly well distributed throughout the nation and in most economic and social classes. A majority came in family groups. With the co-operation of numerous agencies to assist them in their early settlement, they have enjoyed a good record of favorable adaptation and have met with a minimum of resentment and hostility.

SUMMARY: THE DEMOGRAPHIC SIGNIFICANCE OF NATIONALITY

In his analysis of the composition of the people of the United States, Thompson wrote, "We have long had a larger and more diverse foreign-born element in our population than any other country."[10] There was, however, a continuous assimilation of the foreign born and a blending of their culture with native peoples and cultures. This achievement is important in demographic studies. It became the basis for the expression "a new people and a new culture."

One proof of the essential stability of American society originates from these transitions. Immigration was never so great in numbers that it became a barrier to steady growth in American cultural trends nor did it monopolize or control the development of a native pattern of social institutions. There were of course periods of high tension. These instances are shown in part by the earlier reference to cultural islands and to various "hate groups," political oppositions, and plans for moral revivals to counteract the effects of foreign influences. These efforts failed to delay for any considerable period the exchange of ideas. More often they helped to make a situation that sharpened the critical appreciation of new and improved skills, methods, and policies that the newcomers possessed.

[10] Warren S. Thompson, *op. cit.*, p. 111. "Americans of Native and Foreign Stock," *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 37 (January, 1956), p. 8; and in Vol. 38 (April, 1957), p. 7, "Current Pattern of Immigration." These two articles discuss the volume and characteristics of immigrants for the decade 1946–1956.

Contrary to a vigorously supported public opinion, there is some reasonable assurance from the previous pages that nationality is not a significant determinant in either basic cultural advancements or in personal or social affairs. That is why the separate nationalities were submerged in the Figures of this chapter in order to show volume and trends of the foreign born in comparison with the native born or the Negro element. It is probably a correct judgment that in demographic explanations nationality represents only an accident in the society and culture of people.

This conclusion will be observed in most of the topics of the summary that follows. Intermarriage is a good index. People who marry outside of their nationality or ethnic group consider practically all other alternatives and barriers before they give any thought to nationality differences. As a rule, the sequence of more significant obstacles is religion, language, age, sex ratio, locality, social class, or some other and more subjective component. Researches to be reported later invariably support this interpretation, as do the following comments.

Contributions and cultural fusion[11]

As a rule, the observers of cultural trends and distinctions in this country's history have acclaimed the vitality and creativeness of its various nationalities by an enumeration of leaders and of different contributions. English and German achievements are always granted a high position in both personal and material successes. All nationalities are praised for their willingness to work, and their vitality, durability, and ambitions. In concrete cases, however, it would be difficult to show that California would not be a region of grape culture if the Irish had not introduced it or that animal husbandry was in any way qualified by the peculiar merits of the Belgians.

Recent critical surveys have preferred another approach to this blending, modification, and additions to culture. Instead of selecting famous names or deeds from the various nationalities, they stress trends that

[11] In this summary and especially as concerns this topic, the observations are those of authors cited in this chapter's bibliography under the Miscellaneous caption. Since the material is condensed and therefore may be hard to read, it is perhaps well to prepare the way in this manner. As a rule, earlier writers, in weighing the good or evil of immigrants or of foreign influences, followed one of two courses. They accepted both the newcomers and their contributions as excellent or they followed the older practice of ethnocentrism and deplored the handicaps of questionable biological and cultural characteristics of "new immigrants." The former cited people of nationalities by name and their special gifts, such as the ballads and singing of an Irish immigrant, while the latter narrated the burdens of poverty, mental disease, criminality, or moral depravity of immigrants in general—both sides submitting testimony but no proof. The more recent approach has stressed neither good nor evil but a blending of cultures—old, new, European, or American. In order to simplify the cultural trends selected by this more recent group of observers, their chief idea in each blending is italicised.

This type of material is stressed at this point because it is *the* human element in composition that precedes and in large measures outweighs any of the formal demographic results or influences.

presumably are capable of indefinite expansion and improvement—a progression that will continuously suffice to protect people and to insure a good society.

One trend is that toward *tolerance* and the ability to recognize superior achievement regardless of its source. The long record of provincialism and failure is not overlooked. But with future prospects toward "pluralism" in culture or an adjustment to many equally effective cultures as the goal, they point to the agencies, programs, and improved opinion that is accelerating this aspect of democracy.

Among most foreign-born groups there has been a consistent story of *self-help* programs. These efforts are endorsed as a healthy recognition of their need to be assimilated. They are also approved as being one of the most effective trends in social adjustment because, unlike Americanization movements, they are not being imposed upon the people.

Attention to the importance of an efficient material culture is the next trend. Here the zeal to improve techniques or business methods is given priority. *Research* is constantly in process, and no plan is ignored because it is British, proletarian, or Aryan.

In the history of *social policies*, another evidence is found in a national plan for legislation to protect both the immigrant and the native born. This program is now almost wholly positive, indicating the character traits of the desirable candidate for admission in intelligence, health, educational, economic, and social competence, and in the need for his services in an occupation. Dovetailed with this legislation there are also provisions to deport undesirable aliens—provisions with a long background of friction concerning legality and justice and the definition of "undesirable."

Another effort toward assimilation operates on a basis of *adjusting domestic and other cultures* on a large scale. Illustrations are: moderation in religion; tolerance in politics; recognition of the need for experiment in education, art, architecture, music, and philosophy; improvement in the living standards of the various economic classes and interpretation of varying standards so that different locality and social groups will understand each other; and finally efforts to co-ordinate the divisions of labor in industry, commerce, agriculture, or finance so that they will become integrated with a minimum of friction.

These five characteristics of tolerance, self-help incentives, research, social policies through legal enactment, and planned cultural assimilation are ranked as goals of first importance because they are the essentials of democratic ideals. They are bench marks of the widely discussed objective called cultural pluralism. Up to the present they are identified as trends largely because they are still in their formative stages and are not as yet accepted uniformly throughout the nation. But they are supported widely enough to be national social policies. In comparison with the cultural policies of some governments that have failed so far to adopt them, they

indicate why the United Nations has not succeeded in furthering its program of human rights. In this country, on the contrary, they are recognized as basic to good citizenship, as well as to the continuous achievement of wholesome social relations in general, in domestic or foreign affairs.

Prime demographic reactions

Almost always the why of European migrations has been explained by overpopulation, the deficiency of a nation's production, or the business cycle. Sometimes, these causes are arranged in a sequence, and then they seem to be more valid. Comparative studies have modified this interpretation for the secular movement and for each major trend in emigration. As alternative or additional factors, they introduce the changing relations of agricultural recessions and industrial growth, the widening markets of industrial products, the growth of cities and in consequence the balancing of the nation's economy on a wholly different plane for the absorption and distribution of surplus labor.

These newer theories, therefore, tend to abandon the idea that migration follows a pattern of increasing growth to a peak of overpopulation and substitute for it the changing relations between the country's agricultural and industrial economy. Migration is stimulated by a combination of high birth rates and a particular nation's economic balance more than by business cycles or a need for labor by foreign industries.

The emigration cycle

As individual countries or groups of countries joined in the streams of emigration, each nation and group followed a typical cycle. At first the volume of emigrants increased, reached a top level, and then began to decrease, in each instance as the homeland improved its economic stability through industrialization and urbanization. These cycles expanded as foreign markets offered improvements in employment and standards of living and they declined as the sending country's economy developed and became industrial.

This cycle is used to explain the composition of each movement—a British peak in 1850; the German, in 1880; the Irish and Scandinavian, in 1890. In all these countries migration had started to dwindle before the nations of Eastern and Southern Europe became competitors and long before the barriers of restrictive legislation had been introduced.

This cycle also explains or describes the entire overseas migration from Europe. As the second wave of emigration originated and increased its volume, there is evidence of the same lack of balance in the peasant or agricultural economies of the Eastern and Southern nations that had been experienced in other areas of Europe fifty to one hundred years earlier. But none of these nations went through the entire cycle. They reached a crest and were reduced by World War I, quota restrictions, and the depression.

Thereafter, emigration expanded up to quota limits, indicating that these countries have not succeeded in creating a balance between their rates of fertility and their economic capacity to absorb surplus labor.

"Mass migration was the result of the break-up of something old and it was the preliminary of something new. It was a sign of change and it hastened change."[12]

Demographic reactions in the United States

Ample evidence has been given so far to indicate that migrations modify every social relationship in the sending as well as in the receiving country. As a preface to this brief review of immediate reactions of a people to immigrants and their cultures, it is timely to point out the chief focal points of social reactions (as reflected in the chapter titles in Part IV). These are: variations in age structure, fertility rates, family size and composition, educational levels, religious groups, manpower resources, and internal migrations and mobility.

Immediate reactions that become significant in this summary of European influences can be stated in abbreviation. Migration is a source of population growth, even though it may depress the birth rates of certain social classes or be much less than the growth of the native born. According to Kuznets and Rubin (see footnote 3, page 139), immigration contributed one-seventh to the total growth of population from 1870–1910, and about one-fifth to the labor force. In recent years it has contributed practically nothing. To this extent, immigration partly explains lags or spurts in the growth of the native born, the need for migrants in varying numbers in an economy of mass production, and the connections between types of migrants (skilled, unskilled, professional, agricultural, and the like) and the development and use of newer technologies. Also among these reactions is the possibility of overconcentration in occupations or localities, at least temporarily, conditions that are always well publicized.

Changing base lines

In his study of the racial and nativity composition of the population (see footnote 7, page 143) Woofter employed the device of a base line from which he could reckon historical and current trends in this country's ratio of growth. He showed that, at the beginning of this century, there was a significant immigrant population not especially well distributed regionally. Adapting this device for comparisons between 1910 and 1950, the Census

[12] Marcus Lee Hansen, *The Immigrant in American History* (Cambridge, Mass. Harvard University Press, 1940), p. 13. The emigration cycle is also discussed by Thomas Brinley, *Migration and Economic Growth: A Study of Great Britain and the Atlantic Economy* (Cambridge, England. University Press, 1954), pp. 89–174. Dudley Kirk, "Demographic Trends in Europe," *The Annals of the American Academy of Political and Social Science*, Vol. 262 (March, 1949), pp. 45–55.

gives the following relative changes: a native-born white population that is increasing both in numbers and in proportion, and a foreign-born white population that is decreasing in both; decreasing family size; fluctuating birth rates beginning and ending this period at about 25 births per 1,000 population; decreasing death rates; increasing net rates of reproduction; and increasing rates of life expectancy.

This review of the composition of population will appear in more detail at the end of Chapter 9 (see page 195) in order to compare all of the main ethnic elements in this country.

Intermarriage

The speed of ethnic assimilation is usually indicated by trends in intermarriage between nationalities of the foreign born and between the foreign born and native born. As noted elsewhere:

"The trend of marriage between nationalities is one of minimum occurrence among first-generation immigrants, with increasing rates among second and third generations. Among immigrants from Europe, their old-country geographical and cultural similarities and their geographical proximity in this country are favorable to intermarriage. Other social correlates are length of residence, similar economic status and education, and a waning group compulsion. As already observed, most such marriages are between members of similar religious groups. This pattern of intermarriage has an incidence that is higher than either racial or religious intermarriage."[13]

Correlates

Other results of immigration are accounted for by the stages or periods in the total emigration cycle. All of the following conclusions are recognized as correlates with these periods.

Under the influences of increasing migration (and allowing for a certain amount of lagging or leading): (1) the number of jobs increases faster than population; (2) areas with the largest number of immigrants are wealthiest and have more diversified industries; (3) wage rates increase; (4) investments in fixed capital increase—in railroads, mining, all types of building, and in commercial imports, and invention; (5) foreign loans increase; (6) immigrants flock to these areas resulting in the concentration and uneven distribution previously mentioned; and (7) they come with their families.

When emigration is almost wholly an escape from depressed conditions

[13] Harold A. Phelps and David Henderson, *Contemporary Social Problems* (Englewood Cliffs, N.J. Prentice-Hall, 1952), p. 284. See also: "Intermarriage among National Groups Increasing," *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 27 (May, 1946), pp. 4–5.

at home, more skilled and professional people migrate proportionately than unskilled and there are more female migrants and younger people.

When emigration passes its peak, the proportion of middle-aged and elders increases, internal migrations are stimulated, migrations of the "across-the-border type" increase, and native fertility rates expand to balance the rate of population growth.

In summary it may be well to note that immigration legislation has always aimed to preserve the quality of the population. As such, this legislation corresponds to farm policies and programs and is therefore another part of the emergent American population policy. Opposition to European immigrants has been based on eugenic grounds in a few rare instances but it never approached the hostility that developed toward Asiastics or other colored groups. In general, the consensus of the experts is that the United States has been well favored in its acquisition of old, new, and refugee stocks in their genetic and social composition. As will be noted later, biological deterioration and the frequency of the development of dysgenic traits are not especially the burden of any biological, nationality, geographical, or cultural group.

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CHAPTER 8

Negroes

Of all the elements in the population North and South, the Negro is one of those most entitled to the designation "Old American."

T. LYNN SMITH and C. A. MCMAHAN*

. . . in the view of the Constitution, in the eye of the law, there is in this country no superior, dominant, ruling class of citizens. There is no caste system here. Our Constitution is color blind.

ASSOCIATE JUSTICE JOHN MARSHALL HARLAN**

WHENEVER A SOCIETY has a large group of people who differ in some obvious way from the majority, comparisons are inevitable. This situation has been the experience of all immigrants in this or any other country. If the new group is small, serves a useful economic need, and does not compete with the dominant group, the historical policy of "live and let live" is sufficient to lubricate nearly all possible events that might otherwise lead to friction. Any departure from this system is a sure threat of rivalry and unfriendly relationships.

Sources of friction do not have to be visible or critical, as the record of the native and foreign-born white groups have demonstrated repeatedly. But when a group is large, highly visible, and under suspicion of being "different," it becomes the victim of every type of planned opposition and resentment that human ingenuity can imagine.

Although Negroes are old Americans, they have shared few equal social privileges with white Americans, old or new. In strictly legal terms, the constitution may be color-blind, but neither Constitution nor Bill of Rights has created a secure legal status for "minority groups," no matter how often "without regard to race, creed, or color" is repeated as the slogan of personal or public policy.

In this dilemma the United States shares an experience in social relations that is typical of all civilized societies. Actually, no nation can begin throw-

* *The Sociology of Urban Life* (New York. Dryden, 1951), p. 213.
** From the dissenting opinion U. S. Supreme Court in *Plessy* v. *Ferguson*, 1896.

ing stones at a rival on this score, because all have their minorities, their protest groups, and their record of atrocities. Even the "melting-pot areas" (which are the opposite sociologically of "cultural islands") are rarely found to blend races and cultures with outstanding success. More often these areas represent effectively enforced classified or ranked social position.

The particular dilemma of the United States is the indefinite social and legal position of all its minorities. Every minority has had the experience of being classed as aliens, citizenship ineligibles, nationals, visitors only, or as "excluded." Occasionally, some immigrants, such as Filipinos or Asiatic Indians, have been rejected from entry or citizenship because they are nonwhite, or Caucasian and nonwhite (Asiatic Indian), or non-Caucasian, nonwhite, and nationals (Filipinos). The American Indian is another example of contrary court decisions and vague or confused laws. It is not at all clear whether the Indian's legal position is that of citizen, ward, or member of a self-governing nation.

The Negro is handicapped by this legal, social, and moral indecision. His legal position is unofficially described as that of a "second-class" citizen, or he is classified as belonging to a caste or a marginal class. It is certain that he is a minority and a dilemma in a "white" society.

Most of this confusion can be explained by the Negro's biosocial history. As is true of all identifiable groups in this country (American Indians, native-born or foreign-born whites, and descendants of Colonial settlers), the Negro population is a mixed or hybrid people. They are the blends of many African Negro racial stocks and of several white sub-racial groups whose original settlements were in Asia Minor or adjacent regions. After their transportation to this country, their racial identity was broadened by the acquisition of many white genetic traits. They have interbred with the American Indian and also, but less often, with Chinese, Japanese, and Filipinos. When West Indian immigrants settle here (most of whom are a mixed Negroid stock), their characteristics modify the biology of the Negro. In addition to this racial variety, several variables of social composition, such as occupation, economic status, geographical residence, education, or dissimilar cultural assimilation, have broadened the moral base of indecision on the part of the ruling white majority, as to legal and social rights of Negroes.

THE LEGAL STATUS OF THE NEGRO

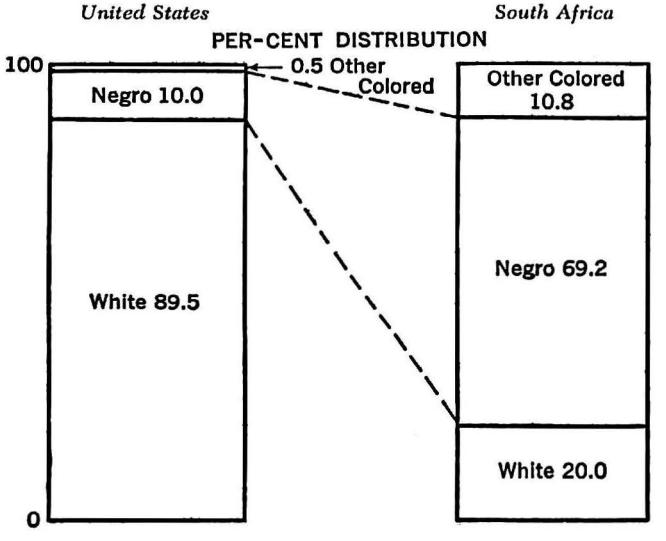
After the publication of *An American Dilemma*,[1] the title became a favorite slogan of the propagandists both in this country and elsewhere. However, the dilemma is not only American but is typical of mixed-race

[1] Gunnar Myrdal, *An American Dilemma: The Negro Problem and American Democracy* (New York. Harper, 1944).

problems in many countries. In South Africa, the Negro-White problem is even more acute than in the United States (see Figure 8–1).

The "American dilemma" is an intermixture of real or implied legal, social, and moral inequalities enforced against the Negro by a society that has repudiated inequality. The continuance of the dilemma is maintained by widespread, not always overt, support by large segments of public opinion, by some political parties, state legislation, conflicting court decisions, and by many religious and professional groups.

FIGURE 8–1. Dilemmas in Racial Composition



SOURCE: *U.S. Census* and *Demographic Yearbook*, 1957, p. 258.

The dilemma of the Negro as a legal person complicates the statistics of the United States Census. In the Census, the definition now being followed of reporting the population as either white or nonwhite is logical. In concrete instances, however, the census enumerator is no more capable of judging who is white or Negro, by logic, than the law and the courts. But census practice allows only the enumerator and not the individual being interviewed to make this decision.

The questionable wisdom of classifying people by visible characteristics is obvious.

Some individuals who may be classified as white by a census taker are Negroes according to law because of some small fraction of Negro blood (generally one-eighth or one-sixteenth and always more than one drop) as decided by genealogy, the testimony of neighbors, association with

Negroes, court decisions, or the choice of the individual himself.[2] Moreover, "expert opinion" can reverse all these decisions and create a legal and social hybrid who may be recognized as white or nonwhite according to the requirements of a particular social situation.

There are many court cases in which an individual has been ruled to be a Negro only in so far as marriage laws are concerned. He can be white for all other legal or social privileges in residence, school, or travel. This variability has led to the recognition of three regions of legal practice and interpretation. In the South the pattern is one of strict legal enforcement of racial separation. In the North, the pattern is the exact legal opposite and laws uniformly ensure equality, allowing, among other privileges, intermarriage. The third pattern, found in most Western states, forbids intermarriage and occasionally imposes other legal restrictions, as on the purchasing of real estate, or the entering of certain professions, or the conducting of commercial enterprises. This region follows the Southern pattern, differing only to include its own sectional attitudes.

Regardless of legal status, the actual social life of the Negro is about the same in all states—he is a second-class citizen. Proponents of Northern and Southern patterns argue bitterly on the merits of their policies. A balanced and scientific approach to the problem is extremely difficult in this atmosphere. However, on the basis of careful studies, conclusions on some aspects of the dilemma appear to be justified. One of these is the area of alleged Negro "racial inferiority." Such racial distinctions depend upon evidences of graded ability and are examined in respect to the biosocial components of biological and psychological traits of population. A transition in this analysis may be introduced by means of the race-relations cycle.

The race-relations cycle

The study of social relations in cyclic periods is made for two purposes. One is to show sequence or continuity of events; the other points to combinations of social events that either improve or disturb an orderly process leading to an integrated and efficient society. The race-relations cycle is similar in this respect to cycles in the growth of rural population, family cycles, or business cycles. In all respects it is a repetition of the migration cycle, including six periods or stages: (1) the length and character of first contacts; (2) the manner in which the native population accepts the "strange" groups; (3) the size of the new group in comparison with the natives; (4) the extent of competition or opposition that develops; (5)

[2] Fractioning the blood or genes is not good hereditary or genetic procedure. The hero in *Showboat* could not become a legal Negro by pricking the finger of his beloved and sucking a few drops of her blood; nor could Mr. Kingsblood make his daughter into a Negro because of his accidental discovery that he might have a thirty-second fraction of Negro stock. See, Sinclair Lewis, *Kingsblood Royal* (New York. Random House, 1947).

measures undertaken by the native or dominant group to control the newcomers, resulting in legal controls, open conflict, or exclusion; and finally (6) some apparently effective compromise is reached which may be temporary, or an indication of sound, statesmanlike assimilation. As a demographic tool, this cycle is useful in discovering how growth of a population, its distribution, or its composition may singly or together become the source of stability or instability.

BIOLOGY OF THE NEGRO

The Negro race, like nearly all others, was hybrid in origin, and this infusion of the characteristics of other races has continued in the United States. Amalgamation has taken place generally outside marriage. Laws can be found that tried to prevent miscegenation as early as 1662.

A moderate exchange of racial traits has gone on for so many years that an identification of "pure" stock and the varying degrees of interbreeding cannot be made accurately. The same situation has been noted in Europe in internationality mixtures and in interreligious marital or extra-marital unions. The south has had the same experience in white-Negro unions. Negroid traits are so widely diffused throughout the population that a limited biological definition of race serves no useful purpose in marriage laws. All Southern states have strict legal restraints against miscegenation and intermarriage, but in the latter the law is interpreted to mean that a marriage license will be refused only when "admixture is evident from appearance." Presumably, amalgamation or interbreeding declines in the South as elsewhere when class or caste lines interfere with and largely eliminate interracial mingling in private or in public.

Estimates of interbreeding are derived from partial census enumerations and from local community surveys. In earlier census reports, Negroes were classified apart from mulattoes and other interbreeds. Since this separation was too difficult to apply, the statistical category, Negro, now includes pure-stock Negroes, Negro-white mixtures, and mixtures of Indian and Negro or of other colored groups.

Conservative opinion holds that fully 50 to 60 per cent of the Negroes in the United States are interbreeds. This opinion is based mainly on census records. More specific studies tend to raise this percentage and they estimate the proportion of Negroes with mixed ancestry at about 75 per cent.

This increasing proportion of mulattoes has raised two significant questions about interbreeding: first, can the observed biological phenomenon of hybrid vigor be applied to human racial interbreeding? Second, is it possible that the white-Negro interbreed may become a new racial type? Both questions are supported and denied by reputable research students. Examples are cited from plant and animal, as well as human, breeding that the hybrid is superior in vitality, strength, and reproductive capacity to

either parent stock. As concerns the human race, observations are supported by studies of interbreeds in such parts of the world as in Brazil, where interbreeding has been going on for more than four centuries, and in Africa, where there has been widespread amalgamation between Negroes and Dutch and German immigrants. In the counter-arguments of the negative or skeptical biological critics, the evidence usually cited holds that both groups had qualities of biological fitness prior to the observed interbreeding, and therefore there are no grounds for deciding that a special superiority is being created.

Commenting only on the biology of the Negro, Lewis has stated that "an unprejudiced examination of the American Negro as a biological type abundantly proves that he meets every test of biological fitness, while his vitality as measured by reproductive rates under adverse conditions exceeds that of the white population."[3]

Other bio-social trends are found in the related topics of legal intermarriage and the "passing" of some Negroes as whites.

At present, statistical records and individual observations agree that legal intermarriage is rare and is decreasing. In states where "equal rights" legislation permits such marriages, it is estimated that less than 3 per cent of Negro marriages and an even smaller proportion of white marriages are intermarriages. To prevent interracial marriages, some states have proposed the registration of all Negroes or interbreeds, but this measure has been ruled unconstitutional in the two states that passed such laws (Georgia and Virginia).

Racial intermarriages occur most often when people are socially or occupationally mobile and hence under circumstances that weaken "group solidarity." They also appear when the sex ratio is unbalanced or the size of the minority group so small as not to constitute a threat to the majority. Cities conform to these conditions more than do rural communities, and accordingly account for more Negro-white marriages.

When people of Negro ancestry have few visible Negroid traits, passing over into the white group can occur. Passing is partly an index of the rate of amalgamation and partly an index of vocational opportunity. There is no way to determine the number of Negroes who thus become white, although several estimates are available. It is generally agreed among observers that males can and do pass more readily than females and that their passing is inclined to be permanent. In the case of females, passing may serve as a method of improving occupational status, but the individual eventually returns to her own group for marriage and social life in general because she finds more security in these associations. There is also a type of passing called "shuttling," meaning that the individual may pass for brief periods of time only. Other evidence points out that passing is

[3] Julian H. Lewis, *The Biology of the Negro* (Chicago. University of Chicago Press, 1942), p. 126.

usually accomplished in early adulthood, for economic or occupational advantages, and more often and easily in Northern cities.

A trend of considerable demographic interest is suggested by each of these changes in the relationships of white and Negro people in the United States. They are evidences, at least to some degree, that the Negro minority is progressively losing its visibility and that the time will come in a few hundred years when it will be completely absorbed by the superior numbers of the white population. Linton argues in favor of this possibility, estimating that the Negro population will be absorbed into the white within two centuries.

PSYCHOLOGY OF THE NEGRO

In the analysis of the Negro biologically, mental inferiority is often assumed. This indictment has always been used to keep the Negro in his place, to justify policies of segregation, and to defend discriminatory practices and prejudice. From this point of view, any advantages allowed to the Negro socially, in occupations, and as citizens, are concessions granted by a beneficent and civilized society. At this stage in the cycle of race relations, different stereotypes are employed as effective tools in the regulation of interracial contacts.

The defense of Negro mental competence is largely the result of anthropological and psychological research. It has always been difficult to collect positive evidence of Negro ability because the earlier racial anthropologist and more recently the clinical psychologist naturally followed the accepted premises of their disciplines and showed by what they believed to be adequate tests that the Negro is measurably inferior. Intelligence tests comparing Negro and white military units of World War I, however, appeared to refute these time-honored premises.

During the next two decades psychologists reversed the field almost completely and, as to native Negro endowment, they have agreed that (1) the historically alleged genetic inferiority of the Negro is wholly unproved; and therefore (2) the thesis that race mixtures are inferior or produce degenerate types are equally unsupported by facts; (3) there is no evidence to show inborn psychological racial differences; (4) gifted children are found in all racial and national groups in numbers proportionate to their group's rank in the total population; (5) when noticeable variations either physiological or mental are reported, they represent the position of the group on the cultural scale as it is conditioned by education, economic status, and social opportunity. In brief, the Negro in the United States has a good biological foundation and his prospects for survival are bright.

GROWTH

In the history of the growth of Negro population, the reasons for these good prospects are clear. Their vital record resembles closely that of the

whites, allowing for lags because of the economic status of the majority of Negroes. When Negroes are compared with whites who share the same economic and social limits, they are remarkably the same. These prospects indicate that Negroes as a group are approaching the white pattern of reproduction, health, sickness, death, and life expectancy.

Temporary differences that are at present indicators of deficiency in Negro health or in general standards of living are:

1. Birth rates are higher than those of the white population, which generally means less voluntary control.
2. Average family size is smaller because of higher general and infant mortality rates.
3. A sex ratio in which females outnumber the males, a Negro-white difference that complicates marriage, family, and occupational adjustments.
4. High stillbirth and maternal mortality rates.
5. Excessively high death rates for certain specific illnesses.
6. A lower life expectancy and gains in life expectancy at rates that are lower than for the general white population.
7. Higher sickness rates.
8. Higher rejection rates in military service because of physical defects and mental disease and deficiency.
9. A geographical and occupational distribution that handicaps social adjustment.
10. A higher rate of internal mobility, accompanied by racial tensions and temporary instability.
11. A high incidence of family disorganization, a common occurrence in the cycle of readjustment.
12. Excesses of unemployment.
13. High rates of labor turnover.
14. A shorter work-life expectancy.
15. High rates of "functional" illiteracy.

MIGRATIONS

Explanations for some of these differences in the vital statistics of Negroes as compared with whites can be found in their migrations—in the advantages or difficulties of their new location, and in their transfer from agriculture to industry and from rural to urban communities. These simultaneous shifts to urban residence and employment are cited as good examples of the adaptability of Negroes. Incidentally they also illustrate the escape from undesirable to more promising living conditions.

After the Civil War, Negro migrations began in the movement of small

numbers to the West and North. These movements increased in volume each decade, with rising rates during and after World Wars I and II. In the first and more moderate outflow from the South, most of the migrants moved westward and this change was essentially a move from one rural region to another. At this time, the economic opportunities were in such rural industries as mining and lumbering. Rural migrants to northern cities during the years prior to World War II were largely recruited by industry as a reserve labor supply, and their numbers varied with the cycles of European migrants.

The first large migration, sometimes referred to as an exodus, occurred during World War I and served as a labor supply to replace the decreasing influx of European workers. This movement was chiefly to northern industrial cities and was a permanent shift of population. Since 1910 there has been a steady decrease in the proportion of the Negroes in the South; in the North the proportion has more than doubled; and in the West it has increased threefold.

The second large migration, occurring during World War II, went to industrial sections, mostly to cities with large war-production facilities, in the South as well as in the North and West.

The characteristics of these migrations correspond closely with those of the European migrations, namely, in the people most often stimulated to move, in the economic motives, in the character of the cycles of migration, and in the nature of their adaptation to the city and to urban occupations.

Most of these migrants were from the tenant-farm group. At first more women than men migrated, but in the wartime migrations there was an excess of men that has been large enough to reverse the unbalanced sex ratio of Negroes in most of the cities of the North, and in recent years upper-economic class and professional Negroes have migrated. The majority of these migrants have been young adults.

Of the drives that encouraged these migrations, one of the most compelling has been the high fertility rates of Negro families. Another has been surplus labor. In this combination (with Negro tenant families reproducing at a rate of natural increase greater than any other occupational group in the national population, and with declining agricultural markets in the South), the basis for the typical cycle of migration was established—that is, a large agricultural labor reserve had come into being, industrialization in Southern cities was insufficient to provide work for this surplus, and the North and West offered incentives of higher wages and more varied types of vocational opportunity. Two handicaps that European migrants did not experience in this cycle were: (1) the racial factor in Negro-white industrial-worker competition, and (2) the Negro's exclusion from most of the South's urban industries.

The total number of migrants in these several streams is not known. There is, however, some evidence of a total from its periodic increases, from numbers shifting regionally and between states, and from urban concentrations. As a minimum estimate of volume over the entire period, a conservative total is cited of four million Negro migrants from the South.

Regional distribution

Since 1900 the proportion of Negroes in all southern states has decreased. At present, this redistribution has raised the population of the North to nearly 30 per cent and of the West to nearly four per cent of the total Negro population leaving somewhat less than seventy per cent in the South. It has also resulted in extremely uneven distribution in some northern states, depending upon extent of urban concentration. At the same time it has reduced appreciably the area in the South called the "Black Belt," although with equally distinctive varying rates of loss. There are, however, some states and counties that still have between 25 and 50 per cent Negro population.

In estimating the probable future numbers and distribution of the Negro, the general belief is that both will be stabilized in close resemblance to present conditions. Thus, the South will continue to have the majority, and incentives to migrate will become less attractive as industrialism increases and bi-racial policies equalize some of the advantages now available in other regions.

Another migration of Negroes, to be discussed in the next chapter, is that from the West Indies. Numerically, this has been a relatively small movement, but it has introduced selectivity and quality problems of some importance. In spite of previously mentioned conclusions—namely, that migration probably does not select either better or worse qualitative types of people, the admission of more individuals to increase the numbers, competition for jobs, and proportions of Negroes in the lower cultural classes has led to criticism. Experts regard this newer element as an unnecessary burden—particularly in the light of the Myrdal dilemma—because it is an interference with assimilation. This dilemma is based upon a bio-social and ethical dualism in cultural practices and produces divergent value systems which complicate and prolong the achievement of a solution.

URBANIZATION

In this urbanward movement of Negroes, the trend corresponds almost exactly with that of the total population. As will be seen in Table 8–1, Negroes took a longer time to get started, but the "pull" of war industries has practically equalized the two movements. During the last five decades, the Negro urban population increased rapidly and now includes more than 60 per cent of the Negro total.

TABLE 8–1. Urbanization of the Negro Compared with that of the Total Population United States, 1900–1950
(Per Cent Distribution)

		Negro		*Total Population*		
Years	*Total*	*Rural*	*Urban*	*Urban*	*Rural*	*Total*
1900	100.0	77.3	22.7	39.7	60.3	100.0
1930	100.0	56.3	43.7	56.2	43.8	100.0
1950	100.0	37.6	62.4	64.0	36.0	100.0

SOURCE: U. S. Census. The per cents for 1950 are determined under the new definition of urban. Compare with Table 2–1, page 32, which gives the per cents under the former definition.

The Negro has always been urban to some extent. In the first census, several eastern cities had relatively large numbers, and Negroes participated in every movement westward. A similar, but more moderate, urbanization also developed in the South, although attention was rarely paid to it because of the more obvious size, rapidity, and concentration that typified the northern movement. Southern cities continue to have the highest percentage of Negroes in their population; the following eight are approximately one-third Negro: Birmingham, Memphis, Atlanta, Jacksonville, Washington, D.C., Richmond, Nashville and New Orleans.

In the North, the eight ranking cities are Baltimore, with the largest proportion (23.8 per cent Negro), and in descending order, Philadelphia, St. Louis, Detroit, Cleveland, Cincinnati, Indianapolis, and Chicago (with 14.1 per cent). Since most of these cities, south as well as north, often make headlines as trouble spots in race relations, the analyst has, in the ratio of Negroes and whites in the city, one cue at least as to causes. There are two other numerical evidences of these trends. In the decade 1940–1950, forty-five cities in the urban category of 50,000 or more people have had a doubling of their Negro population. And nearly one-third of the total of fifteen million Negroes live in twenty-seven cities.

The pattern of Negro urbanization corresponds closely with that of the European migrations. Cycles of migrations have been similar and, as already discussed, the cycle of racial or social relations follows the same sequence of events. There is further similarity in the hazards to which the newcomer and his family are exposed—a typical poverty cycle of family disorganization, overcrowding of urban areas and housing congestion, economic insecurity, insufficient diets, ill-health, and the ordinary correlates of these indexes of marginal or submarginal living.

The urban Negro in Pittsburgh

The history of the Negro in Pittsburgh has been neglected in the story of his urbanization. One reason is that this growth has been slow and the volume of migration has never been large enough to class the city among

those with the largest Negro concentrations. Another reason is that nothing dramatic has ever led to the stereotyping of the city as New York has been typed with its Negro capital in Harlem. On the contrary, the Pittsburgh record is worthy of notice because it has a reputation for being a "good community for Negroes." The reasons for this conclusion include the percentage of Negroes (12.3 per cent of the total population), a tendency for Negroes to be widely scattered in the city and county and with no exaggerated zone of concentration, and work opportunities in a wide selection of vocations.

Another favorable condition results from the longtime residence of Negroes in western Pennsylvania. There were Negro families in residence here during the Colonial period and the growth of the population was mainly that of natural increase until 1900.

Since that year the Negro population has grown rapidly and with patterns of settlement and unrest that are similar to those of other cities, north or south. Prior to 1930 there was no occasion to use the word "ghetto" to describe excessive crowding of Negroes in one area. However, when this crowding did take place during the decade, 1920–1930, and was reported in the census of 1930, Pittsburgh's Negro district had the usual clustering of bad living conditions that are recognized symptoms and results of slums—high percentages of renters; high rents; high property valuations, meaning low percentages of home ownership; substandard housing; and inadequate levels of living. Social disorganization was evidenced in child and family dependency; unemployment or irregular work; low income; high rates of birth, death, illegitimacy, crime, suicide, and juvenile delinquency; and inadequate social services.

In the demographic terms of growth, distribution, and composition, this record of the city is shown graphically in the comparisons between the base map—the distribution of the Negro population in 1900—with the census maps for 1910, 1920, 1930, and 1940 which show both movements of concentration and scattering. The high in concentration was in 1930. Subsequent trends were toward the dispersal of Negroes in several large communities and in practically every census tract. The 1950 distribution is not precisely comparable but within its stated limits the same diffusion is continuing. This pattern of settlement is, according to students of intergroup relations, the preferred and most effective foundation of friendly race relations and the best check on tensions or social disorganization.

THE NEGRO FAMILY

As noted sketchily in reference to the adaptations of the Negro family in a comparatively favorable environment, the history of the Negro family corresponds closely to that of white families as a whole in this country. It is modified by prevailing economic or other cultural standards, and it

achieves stability in varying degrees in response to immediate conditions, whether they are wholesome or demoralizing.

Efforts to belittle Negroes on the score of low moral standards or impermanent marriages cannot be credited. There is no long-term evidence of such characteristics—as there is no evidence, for example, of the influence of African culture or slave standards. The most obvious difference between white and Negro families has been the slower development of the unified Negro family. In general, the Negro has copied the domestic life of the white population, with a few lags that can also be found in some of the European nationality groups; for example, in their higher fertility rates, excesses of unstable marriages, and slower response to voluntary limitation of births.

This conforming to custom in marriage and family is noticeable in the history of free Negroes long before abolition. Such families had the same characteristics as white families who had similar residence, occupation, income, education, and religion. During the period of slavery too there were permanent marriages and wholesome family relations where the conditions of life permitted.

The breakdown or disruption of the Negro family in this country is a good example of the influence of contingent institutions. After abolition, the chief deterrents to a rapid growth of Negro domestic standards that would duplicate those of white families were tenancy, migration, poverty, and associated handicaps. These obstructions were so intense and widespread that many sympathetic observers were inclined to believe that the Negro family could not survive.

As frequently occurs in institutional changes, the Negro family readjusted itself to these hardships by becoming temporarily a family in transition. This adjustment required no invention. For a period the family depended upon what is termed common-law marriages, or relatively impermanent or informal unions without benefit of law or clergy. This family is also sometimes called "consensual," implying a durability according to the sentiments of the people involved or the requirements of particular cultural situations. This period of Negro family instability prevailed so long as the chain of adversity already mentioned continued to hold it within the poverty cycle.

In recent years a pattern of family stability has developed. As a result of economic security, home ownership, and improved education, the present-day Negro family resembles the white family in most of its social achievements. Legal marriage has become the rule; affectional relations, and improved care of children are customary. There are many indications that Negroes are acquiring the social standards and personal values usually identified with the middle-class population.

By this achievement, the Negro has displayed a vigorous drive toward assimilation. As an evidence of capacity, adaptability, and social success,

this record of family adjustment ranks among the most optimistic critical indexes of his future position in American society.

LABOR FORCE, OCCUPATIONS, AND INCOME

Economic opportunity is the main reason for recent improvements in all social changes of Negroes. Their retreat from agriculture and allied rural occupations has had two immediate effects. The number of vocations now being opened to Negroes is increasing and the chances for improved occupational status are providing employment that requires skill and thus ensures greater security. In addition, their competitive status in the labor market has eliminated much of the stigma of a labor reserve. The Negro can no longer be used by employers as a tool to force minimum wages or working conditions.

TABLE 8–2. The Rise of the Urban Industrial Negro Working Class, United States, 1890–1950

	Per Cent of Negroes Employed	
Year	*Agriculture*	*Industry*
1890	56.1	5.8
1950	20.8	17.9

SOURCE: *Bureau of Labor Statistics, Bull.*, 1119 (1952).

From 1890 to 1940 this change followed the pattern of a rather spectacular labor mobility. But in the decade, 1940–1950, the opportunity modifications in the direction of Negro economic equality have been so great as to be revolutionary and could not have been predicted from other labor-mobility experience. In that decade, the volume of Negro industrial employment doubled. This increase occurred in all branches of industry, among the unskilled, skilled, and foremen. In clerical jobs and selling, Negro workers increased from one per cent in 1940 to more than three per cent in 1950.

As a result, there is a larger proportion of Negroes now being employed than of whites. This trend holds for both sexes (except white women in age group 21–24), for married couples, and for younger (under age 20) and older (over 65) workers. In the age group, 20–64, the proportion of whites and Negroes is similar. In male employment these increases have occurred in construction, manufacturing, and wholesale and retail trade, service employment remaining about the same. In female employment, larger proportions have gone into manufacturing, and wholesale and retail trade, other occupations, such as agriculture and service remaining unchanged.

Although his economic prospects are much improved, the Negro continues to be handicapped as are all workers in the larger, competitive labor

markets. The majority of these workers are still in the lower-paid jobs where unemployment rates are high and the duration of employment (an index of labor turnover or of job security) is at least a year less than the white average. (The index for white workers is 3.5 years; for Negroes, 2.4 years.) Work-life expectancy is also less, being 36.2 years for Negroes in contrast with 41.8 years for whites. This expectation means a probability of earlier and forced retirement.

Median family incomes are lower by about 50 per cent than the incomes of white families. This comparison, however, does not allow for variation in economic status. In comparisons between families on the same occupational levels the income of Negroes and whites is much closer to equality. In addition, regional differences in costs of living must be included in the comparison. This low median income does explain why more individuals and married couples seek employment. The net gain, however, is considerable. Since 1939, median family income of Negroes has increased nearly four times, while that of white families has not quite tripled.

TABLE 8–3. Median Family Income Per Year, United States, 1939–1951

Year	*White*	*Negro*
1939	$1,325	$ 489
1951	$3,673	$1,943

SOURCE: U. S. Census.

The Negro market

These prospects of more work and more money are putting the Negro consumer in a better bargaining position as an important purchaser of goods and services. This change is novel, since in many areas the Negro has been ignored as a consumer and was considered a poor credit risk. Current marketing surveys show a decided turn toward improved services for Negroes. Segregated shopping is being modified; special advertising campaigns are being designed to meet their needs; and numerous limitations on purchasing are being abandoned rapidly. According to one investigation of these trends by the United States Census, there is a more noticeable trend toward economic equality in marketing than in employment. This trend explains in part the increase of employment among Negroes in sales, advertising, banking, insurance, and in clerical occupations.

SUMMARY

In tangible advancements there is probably no other large element in the population of the United States that has as favorable a record as that achieved by Negroes, especially in the last five or six decades. This advancement is mostly due to the Negroes themselves, who have been obstructed

by, and are overcoming, about as many barriers and conceits as any group in the history of human society. Whenever and wherever Negroes have indicated their wants as people, they have struggled for more education, more wholesome living conditions, better housing and recreation, and improvements in every other institution. No people has been more willing to work hard and faithfully in jobs ordinarily labeled inferior or laborious; none have tried more patiently, by small and hard-won advancement, to improve their vocational skills, economic position, and standards of living.

The trends just summarized are most optimistic for the Negro economically. There are, nevertheless, many remaining roadblocks, some of which continue to be economic, others equally obstructive but in more subtle form. The Negro's income continues to be low, his employment less regular, and his status just above the labor-reserve category not particularly encouraging. In addition, he is excluded from many jobs and frequently, from the opportunity to gain seniority or security. Organized labor must assume responsibility for some of these adverse conditions.

Segregation in many areas continues to be the policy in spite of court rulings, Fair Employment Practices legislation, or admininstrative rulings. The Negro is still treated as a second-class citizen (although less so than in 1920) in nearly all public affairs.

For all these reasons the Negro population is still in a position of unstable equilibrium, in growth, composition, and distribution. The individual Negro has achieved a new and different status as a marginal man, but this gain is not insurance against instability. His most adequate social adaptation is in his own community—in fraternal club, church, or leisure-time organization. In their upward movement, many nationality groups and religious groups have had the same temporary experience, but they were able to discard the traits of newcomers when they merged culturally. The cultured Negro has no such opportunity. Reuter stated this position about as completely as possible when he referred to Negroes as a group with no respected place in society and therefore as a group with divided loyalties.

This brief account of the bio-social and demographic history of the Negro will be supplemented in each of the chapters of Parts IV and V. In the various researches comparing Negroes and other groups, some of the findings are positive and in his favor; an equal number will call attention to deficiencies of varying intensity and duration, but none of the observations given above or to be cited later is more reassuring than that mentioned in the review of his biological make-up and prospects.

To repeat, as a biological and cultural amalgam, the Negro is a blend of many racial and social groups. There is every reason to believe that he represents a good and desirable biological, cultural, social, and personality type. His prospects in the future of society of the United States are definitely encouraging.

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CHAPTER 9

Minor Groups

The American still lives side by side with a cross section of mankind, and is imbued with a cosmopolitanism not to be found anywhere else in the world. It is a peculiar situation which teaches him to combine his nationalism with a broad understanding of human values.

EMIL L. JORDAN°

Men must somehow be taught that difference is not separateness and that community is not identity.

R. M. MACIVER°°

SINCE THE earliest official record of immigration to the United States in 1820, small groups have been received from all parts of the world, in addition to the large groups from Europe. In comparison with other American nations and countries (all of which have attracted immigrants), the United States has admitted more than their combined total. In addition, immigrants from these countries in the Western Hemisphere to the United States have greatly exceeded the total contributions of Asia, Africa, or the rest of the world.

The chief sources of these minor streams have been the nearest geographical neighbors—Canada, Mexico, and the West Indies. Canadian immigration, by way of comparison, contributed 60 per cent of all the migrants from the Western Hemisphere. And Mexico, the leader among the remaining 40 per cent, contributed 844 thousand to Asia's total of 950 thousand. All of these migrants followed the course of best transportation and employment. They settled in regions closest to their former homes, and this concentration is the primary reason for the unusual attention that has been given to them "as separate racial groups."

This type of immigration resembles the interstate or interregional characteristics of internal migration. Less is known about it because of the ease of entry and return and because complete records have not been kept. Most of the migrants came initially as temporary workers; they remained

° *Americans: A New History of the Peoples Who Settled the Americas* (New York. Norton, 1939), p. 438.

°° *The More Perfect Union* (New York. Macmillan, 1948), p. 10.

for the same reasons that account for the small number of United States citizens who have moved to Canada, Mexico, or elsewhere in the Americas as permanent residents. As components in the population, these migrants also differ from the European in that a majority of them are considered to be among the most difficult to assimilate because of self-imposed isolation or excessive cultural differences.

HISTORICAL BACKGROUND AND INTERPRETATION

In addition to these characteristics of the minor groups, their most typical identification is their small number collectively as well as individually. This characteristic of their role in the history of American immigration is indicated by the fact that, during the first century after 1820, all migrants from the Western Hemisphere were less than 10 per cent of the total received. Asia and the rest of the world, not heretofore included in Chapters 7 and 8, contributed even less.

As the broad summary in the preface to Part III indicates, the total contribution of all these areas (see Figure, page 134) to the annual streams of newcomers has been less than 1 per cent and their total in the population (see Figure, page 138) has never exceeded 2 per cent. In comparing the main contributors for the entire period, 1820–1950, all of Asia contributed 2.4 per cent of the total immigrants; Mexico contributed 2.1 per cent; and the West Indies, 1.3 per cent. Some of the minor groups cannot be compared in these summaries because they are not recorded as aliens.

TABLE 9–1. Minor Group Migrations to the United States, 1920–1950*

	Number (000 omitted)	
Asia (Total)		950
China	399	
Japan	279	
Elsewhere	252	
Pacific Islands		20
Mexico		844
West Indies		502
Central and South America		220

* All figures in the description of minor population groups throughout this chapter are from census reports unless otherwise noted.

All of these sending areas responded to variations in the streams of European migrations. Thus the immigrants from North and South America increased as European migrations decreased, and Asiatic migrations varied with changing demands for labor in the Pacific states. After the quota acts, immigration from the Western Hemisphere reached its highest propor-

tions, but even then (from 1920–1950) it did not make up for the losses sustained by the new immigration policy.

A substantial proportion of the combined minor groups is included in the census classification "Other Nonwhite." If there are apparent inconsistencies in the per cents of migration and total composition, the reason is that this classification conceals too many varieties of people. However, in the foregoing total proportion of less than two per cent of the population, the following minor groups will be reviewed: American Indians, Mexicans, Chinese, Japanese, Filipinos, Puerto Ricans, and foreign-born Negroes (mostly Negroes from the West Indies).

These small-population groups are chosen primarily because of the attention that they have been given as demographic, ethnic, or racial components. As a rule, they are identified with the Negro population and often Negro demographic facts are presumed to include these "Other Nonwhites." Like Negroes, too, most of the groups are also reviewed from the standpoint of their minority status, and thus are also classifiable with a few nationality or religious groups similarly regarded as minorities.

The word "minority" in these connections means much more than small in size. As a matter of fact it signifies all the insecurity and injustice that are found in the social history of Negroes. The following remarks, therefore, are made to summarize peculiarities that identify some of the interpretations of "minority."

Most of these people are defined as a race differing from the white or Caucasian. Nevertheless, race is usually not well defined. It can and often does mean language, religion, or some other cultural trait. It is also confused with nationality. This confusion is a source of cumulative errors in census enumerations and is one explanation for inconsistent reporting.

Similar to the status of the Negro, most of these people are hard to classify when some are native born, when some have "passed," or when there is any appreciable amount of interbreeding as between Mexican and Indian or Negro and Indian. Invariably, too, the attempt to distinguish between Old Americans and newcomers has not been especially clear-cut. Accordingly, some individuals more colored than white are defined as white and vice versa. Part of this confusion is due of course to the original hybrid character of all these groups—American Indians, Asiatics, and especially the West Indian migrants.

For all these reasons and others to be mentioned shortly, the census has never been able to arrive at accurate counts. Occasionally this deficiency may be traced to their impermanence as residents, or to the fact that they were not defined as immigrants but as nationals or wards. At other times a special drive by census officials to ensure accuracy will distort the reports, an event that has occurred in several census enumerations of Indians and Negroes, or they will change the designation of a people from one classification to another, as in the case of Mexicans and Puerto Ricans.

Like the native-born Negro, too, all of these smaller groups experience a somewhat similar cycle in the economic and social relations of their adjustment. It may vary in duration and severity but generally it retains the same periods of instability, of implied inferiority, of divided loyalties, of economic rivalry, and of "group self-hatred." In the relations between the native-born Negro and the West Indies Negro, between the foreign-born and native-born first, second, and third generations of Orientals, and between the several classes of Spanish-Americans, these comparisons and clashes can be a prime barrier to assimilation.

All minor groups share another trait. In the unofficial citizenship hierarchy, they rate as second or third class. Their legal status is poorly defined. Class or racial legislation persists in spite of a Bill of Rights. And occasionally, administrative rulings, the economic policy of a trade or industry, or etiquette will be more compulsory than laws and court decisions.

In addition, there is a wide difference in the social, economic, and educational status of individuals within these groups. In these respects, they resemble refugee immigrants as a class. And for all these reasons, most of them are not only hard to assimilate but many resist overtures towards assimilation.

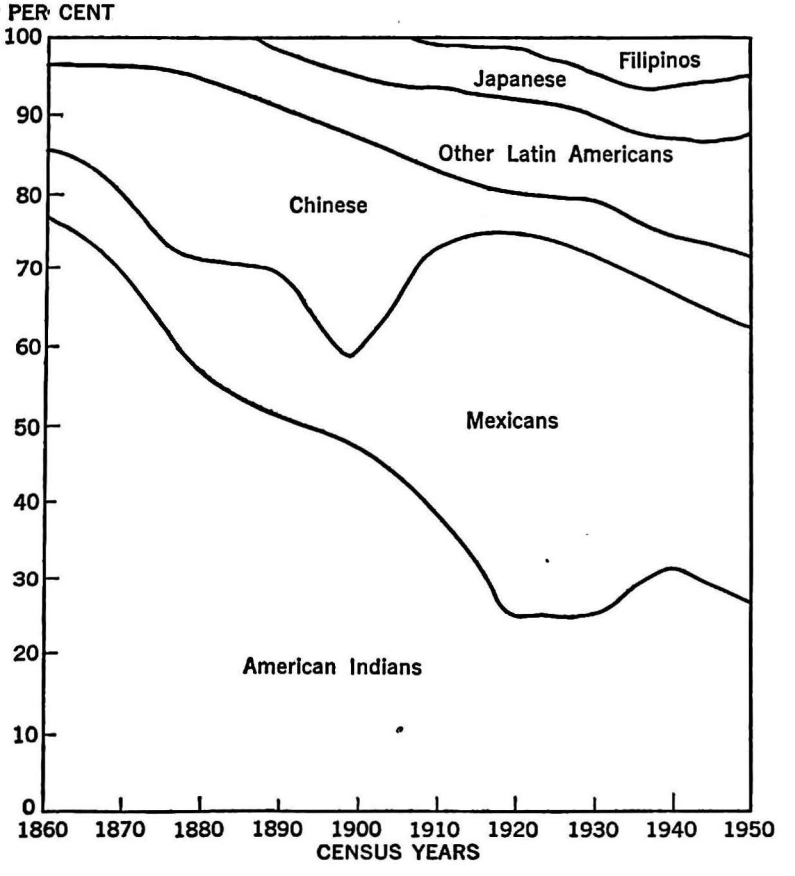
All these conditions help to explain "minor group" demography. They do not compensate for absence of census reports or for deficient registrations of vital statistics. However, they do show why most of these people cannot be discussed in the same manner as the native-born white or Negro.

In Figure 9–1 the primary minor groups are compared on a one hundred per cent basis for the census periods 1860–1950. This presentation is submitted as partial evidence of numbers and trends and is probably about as precise as any other possible demographic interpretation. However, it violates all the rules of statistical comparison. American Indians are represented by their incidence in the total population. Mexicans are included in the totals for foreign-born whites; this category, therefore, does not include all Spanish-Americans, as will be noted later on. Japanese and Chinese incidence includes the total populations. "Other Latin Americans" means "in addition to Mexicans." It includes Puerto Ricans and most of the foreign-born Negroes. The proportion of Filipinos is from census records but, actually, the figures are more estimates than accurate enumerations. Other interpretations of this Figure will appear in the pages that follow.

INDIANS IN THE UNITED STATES

Like most native populations that have experienced invasion and colonial aggression, the American Indian has survived as a subordinate and more or less dependent group. Originally, "they called themselves The People or the Real People, and looked with suspicion upon other human folk who

FIGURE 9–1. Minor Groups in the United States, 1860–1950



SOURCE: U.S. Census.

must necessarily be of inferior origin."[1] Either this desire to remain separate or their unwillingness to adapt their mode of living to European standards is the explanation for most of their contemporary handicaps.

In comparison with other American nonwhite groups, the Indian has had a peculiar demographic, as well as social, history. As the oldest of the Old Americans, he has been accorded a nominal prestige that no other similarly "visible" group has received. Some prominent white people have gone so far as to brag of their fraction of Indian blood. But Indians as a

[1] D'Arcy McNickle, *They Came Here First* (Philadelphia. Lippincott, 1949), p. 44. See also, Chapter 25, p. 275 ff.

class are not recognized among Old American stock, and in their struggle to survive as an independent people they have shared more in a misunderstanding of human values than Jordan found to be the rule for the United States in its appreciation of "intergroup" relations. This interplay of values is shown most vividly in their cycle of depopulation.

Among the unknowns in Indian history, speculation has stressed most often possible hybrid origins in different Mongolian sources. Our estimates of their numbers prior to and during the settling of the country by Europeans are also random guesses. Moreover there is no sufficient explanation as to the aggressiveness of some tribes, while others retreated westward to territory that white settlers did not covet and eventually escaped from white domination by way of the reservation.

In the beginning of white-Indian contacts, the Indian population has been estimated at from 500,000 to possibly a million. These people were scattered by tribes in every part of the country and their cultural organization varied from the loose and impermanent life of primitives to the highly organized political system of the five civilized tribes. Their history is a constant repetition of treaties concerning land ownership, removal acts, warfare, resistance, and migration westward. These conditions are preliminary to an understanding of their current types and distribution, their legal status, the cycle of depopulation, and the current population policy that may explain the recent upturn in the cycle.

Indians are classified in several different ways. One way represents an effort to estimate the extent of their amalgamation with whites, Negroes, or mixed-racial groups. Loosely, this results in their being grouped as "full-bloods," "half-breeds," or as interbreeds associated with location. From the point of view of this book, Indians are classified as follows: reservation Indians—approximately one-third of the total, who live on reservations under the administration of governmental agencies; another third are called allotment Indians, a group that is in process of becoming independent through land ownership; the remainder live as typical American residents. They are the most subject to assimilation, but few students of Indian-white relations are optimistic of rapid acceptance of white modes of living by the other two groups, primarily because of Indian family solidarity.

There is no acceptable definition of "Indian" either in the census or in the Office of Indian Affairs. As a result, a person may be Indian or non-Indian, depending upon the legal or social requirements of particular situations. For most census purposes an individual is recorded as Indian when he lives on a reservation, or if he is a nonreservation resident, when he obviously possesses Indian physical traits and culture. In the case of interbreeding, the census rule is that "a person of mixed white and Indian blood should be returned as Indian, if enrolled on an Indian agency or reserva-

tion roll; or if not so-enrolled if the proportion of Indian blood is one-fourth or more, or if the person is regarded as an Indian in the community where he lives."

Although the Indian population is scattered in small numbers in all regions of the country, the majority are concentrated. Two-thirds now live in five states: Oklahoma, Arizona, New Mexico, and North and South Dakota. There are only ten states with a population of more than 10,000 Indians. According to recent observers, the Navajos and Pueblos (Arizona and New Mexico) have retained more of their original culture than other tribes and will be the slowest to assimilate.

Legal status

Indians are now both citizens and wards. In this unique legal status, they differ from all other minor groups. Another difference is that the source of their citizenship is by act of Congress and not as a Constitutional right. This double status was granted in 1924, after many decades of legal contention had transferred the Indians from sovereign independent nations to domestic dependent nations. Tribal governments will retain this dependent sovereignty, but in spite of these concessions the long-term handicaps of an insecure legal position have not been entirely removed. In some states they are denied certain legal privileges of citizenship, are ineligible to certain governmental services, and occupy a position, like that of the Navajos, at the low point in the white man's poverty cycle. According to LaFarge, this is second-class citizenship.

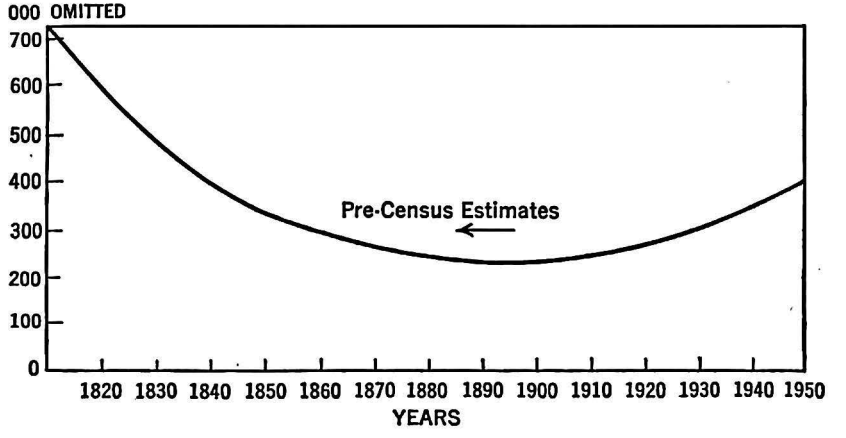
This transition, however, represents many optimistic prospects, even though the full rights of citizenship are yet to be achieved. In the course of the long legal controversy, the record has been one of "removal acts," forced migrations, reduction in Indian lands (in the period, 1887–1934, 90 million acres from an original total of 139 million were lost to white ownership), and the subsequent occurrence of a large number of poverty stricken, landless, and segregated tribes. This record is documented in the bibliography and is outlined here as a partial explanation of Indian depopulation.

The population cycle

There are few authentic studies of depopulation in world history, but many presumed large-scale examples—sometimes of entire nations, such as the Aztec or Maya civilizations, or of France since the late eighteenth century. Generally, the period of declining numbers is started by famine, disease, or some drastic cultural deficiency; then it proceeds to a destruction of every social institution. In the case of the American Indian these identical events took place but in a different order: first, land removal acts, expulsion, wars, and forced migrations; then, in sequence, food short-

ages, starvation, and epidemics added their toll to the disappearance or dwindling numbers of Indians. In the downward swing of the cycle epidemics of smallpox and cholera were constantly recurring over extensive areas. They were followed in more recent years by tuberculosis, syphilis, diphtheria, dysentery, and trachoma. The disease incidence was aggravated by inadequate land and an inefficient economy for minimum standards of well-being.

FIGURE 9–2. The American Indian Population Cycle, 1810–1950



SOURCES: U.S. Census for years 1890–1950. D'Arcy McNickle, *They Came Here First* (Philadelphia. Lippincott, 1949), p. 276 for previous estimates.

Under these conditions, as indicated by Figure 9–2, the population decreased until 1880. Since that time there has been an upturn, partly to be accounted for, presumably, by more careful census enumerations—since the most rapidly growing tribe is the Navajo, which has recently been described as the most destitute and underprivileged of all minorities in this country, such growth can hardly be stated as an evidence of revival. Indians in Oklahoma and the Dakotas, however, are showing a much more balanced revival and some demographers believe that they are more numerous today than before white settlement. This opinion is shared by several recent surveys of national resources, and the favorable prospects of the Indians as a whole are accounted for by the policies of rehabilitation that were introduced in 1934.

This rehabilitation program resembles a complete population policy in that it attempts to ensure a self-maintaining people. These innovations restore enough land for profitable farming and offer measures to assist in its purchase. Business enterprises are encouraged and credit facilities are

supplied. There are also special divisions under the Indian Service that are devoted to reorganized medical, educational, and welfare services. In addition, a system of civil service has been established and plans are in prospect for conservation of soil, water, forests, and for agricultural extension.

MEXICANS

A social history of the Southwest can be outlined to a large extent by migrations from Mexico. These began about the middle of the nineteenth century, increased rapidly after 1900, and replaced a considerable proportion of the losses due to the stoppage of European immigration after 1915. Each extension of agricultural and industrial growth in the West is a further incentive to these migrations. In the first three decades of this century, more than 700 thousand immigrants, or a number equal to ten per cent of Mexico's adult population, crossed the border.

Their numbers in the population have been an insoluble problem for the census. They are by far the largest group among the peoples coming from countries in the Western Hemisphere outside of Canada. In spite of their concentration, both by area and industry, they are excessively mobile. In addition, they are exceeded as an ethnic or racial group only by Negroes. The census has tried to simplify their numerical status by defining them as white but this definition has added little to exact enumeration.

A majority of the immigrants, or the native-born of Mexican parentage, live in five states: Texas, California, New Mexico, Arizona, and Colorado. Nearly a third of all Spanish-speaking people live in Texas. Although Mexicans have migrated further North and to some of the larger cities, this trend stopped with the depression of the 1930's. They are now the largest reserve labor supply for agriculture in the Southwest and West. In this respect they have responded in typical fashion according to the immigration cycle. Mexico could not develop fast enough economically to absorb its population of working age. Both in the classes of migrants and in their volume the periods of good and bad times can be noted, as well as the tardy growth of industry in Mexico.

Most Mexican migrants have come to the United States to escape poverty, oppression, and the exploitation that is called the peonage system in Mexico. In this country they have lived under conditions that are slightly better, but their economic and social status continues to be low and precarious. Most of these difficulties are explained by the different types of migrants.

Mexicans in Mexico are a Spanish-Indian interbreed. There are few "pure-bloods" among the old Mexicans. As immigrants to the United States, length of settlement and the privileges of favorable economic status have separated them into distinctive cultural groups that make any one designation inaccurate as a social or ethnic classification. In their own efforts to

set the record straight, such terms as Spanish-Americans, or Hispanos, are used to designate old settlers or those who have been able to simulate old settlers (usually the native born of foreign parentage).

These Spanish-Americans make up about one-half of the population of New Mexico. They rank culturally among the oldest settlers of European origin. Frequently they are classified with the French in Louisiana, or French Canadians in New England, as a cultural island. Pride in their language and religion has served to strengthen their isolation. This group, however, is a small percentage of the Mexican or Spanish-speaking population and as a matter of fact has little to do with recent immigrants socially or in any other way.

All other Mexican immigrants are of the more visible hybrid Indian-Mexican ethnic origin. These Mestizos are representatives of the great majority of Mexicans, differing precisely as Europeans have according to the period of their entry. However, all these people, old or recent, are subject to certain common discriminations because of their language, color, religion, and subordinate economic status. This discrimination has been reported in attitude tests in which many Americans prefer to withhold the designation "American" from all of these immigrants and from the first generation of the native born. They are called Mexican-Americans, and they in turn call other native-born citizens "Anglos." They reserve the term "race" as a collective designation (*la raza*) of themselves.

TABLE 9–2. Composition of Spanish- and Mexican-American Population in Five States[a], 1950

	Number (000 omitted)
Native-born	1,113
Foreign-born and mixed	775
Foreign-born	392
Total	2,280

Total Spanish-speaking residents in the U. S. ..... 3 million[b]

Wetback or illegal entries ..... 19,000 per year[c]

[a] Arizona, California, Colorado, New Mexico, and Texas.
[b] Estimate of John Burma
[c] Estimate (Consensus)

The remaining classes of migrants are contract laborers and "wetbacks." Contract laborers were recruited during the war in accordance with a treaty between the governments of the United States and Mexico. "Wetbacks" is a term applied to all illegal entries, of which there has been a large but unknown number. They are mainly responsible for unreliable census counts and for nearly all of the difficulties of other Mexicans. They intensify economic competition and keep Mexicans among the poorest and most transient of all laborers. In turn this combination of social and

economic insecurity adds to all other types of discrimination and keeps the Mexican among the groups least subject to assimilation.

Mexican immigrants accordingly rank high among the most unstable population groups. Although defined as white, most of them are as visible as Negroes and they are subjected to similar forms of segregation in public as well as private institutions. In addition to being employed for the lowest forms of ill-paid work, they are low in education and have exceptionally high rates in all vital indexes that are accepted as proof of low social and health standards. Their transiency has resulted in high rates of family disorganization, juvenile delinquency, and adult criminality. Like other immigrants who have passed through this period of maladjustment, they have high birth and death rates, and a low life expectancy. In addition to this list of liabilities, most of the recent immigrants refuse to be naturalized which adds a confused legal status to their other insecurities.

The indefinite nature of the social and demographic composition of the Spanish or Mexican element in the population has complicated efforts to bring about better social adjustment. Mexican immigrants stay at the foot of the economic ladder, in all probability, because they have in good measure all the traits that make a substandard or marginal group. This status is the chief theme of the many surveys of minor or minority groups,[2] and is a major stimulus to the attitudes that directly refute Jordan's interpretation of American sensitivity to moral conditions. This insensitivity is also noticeable in a comparative absence of governmental or private effort to organize programs of rehabilitation.

In recent years, the beginnings of a population program are to be found in quota acts by both Mexican and American governments. For special groups there are other partial plans. The national government has introduced programs for New Mexican Hispanos that resemble those already noted for the Indian; namely, plans to stimulate land ownership and to improve agriculture through soil conservation, irrigation and water supply, restoration of range lands, and forestry. For the migratory laborer and his family, efforts are being made to improve their lot through regulation of wages, working conditions, child labor, and the extension of Social Security provisions.

CHINESE

Immigrants from China appeared in California during the gold-rush period. In the mines, agriculture, and in domestic jobs they were admitted

[2] Brewton Berry, *Race Relations* (Boston. Houghton, Mifflin, 1951). Edward C. McDonagh and Eugene S. Richards, *Ethnic Relations in the United States* (New York. Appleton-Century-Crofts, 1953). Charles F. Marden, *Minorities in American Society* (New York. American Book, 1952). R. A. Schermerhorn, *These Our People* (Boston. Heath, 1949). Paul A. F. Walter, *Race and Cultural Relations* (New York. McGraw-Hill, 1952). George E. Simpson and J. Milton Yinger, *Racial and Cultural Minorities* (New York. Harper, 1953).

willingly. But from the outset they met opposition in most of the other occupations, in residential privileges, and in legal rights. In spite of all informal barriers they reached their peak growth from immigration (105,465) in 1880. After 1882 there was no legal immigration for permanent residence until 1943, when Chinese were admitted to the minimum quota allowance of 105 individuals yearly. Locally, they have been excluded from the mines and later from agriculture. These occupational restrictions forced them into the cities where they created their own communities and were employed as laborers, factory workers, and domestics.

The concentration of the Chinese in cities has been divided into three periods. In the first period, which ended with the exclusion acts, they resided mostly in the cities of California and other western states. From 1880 to 1910, they moved to cities throughout the rest of the country, and from 1910 the trend has been to the large metropolitan areas.

As in the case of all migrants, Chinese found employment among the new and flourishing industries that required a cheap and elastic labor supply. As soon, however, as white labor felt the competition, ways and means both legal and economic were introduced to boycott them. Prior to the exclusion acts, trade unions actively opposed them and local legislation forbade their employment in all but a few occupations. These restrictions coincided with the period of dispersal, when Chinese worked as cooks or in laundries and as seasonal agricultural hands, and when they formed small residential quarters or Chinatowns throughout the country.

The exclusion act of 1882, which was continued until the quota or other acts accomplished the same purposes, effectively eliminated the Chinese laborer. As a result, the resident population reached its peak, in 1890, of 107,500, and declined 1,000 per year for the next thirty years. During these decades the Chinese established themselves in the large metropolitan cities where there was sufficient population to support their industries. Meanwhile, marriage and family had become more stable in terms of age and sex distribution, and their numbers began to increase through the birth rates of the second and third generations.

TABLE 9–3. Chinese Population Revival in the United States, 1920–1950

Year	*Number (000 omitted)*	*Year*	*Number (000 omitted)*
1920	61	1940	77
1930	74	1950	117

Considerable attention has been given to the reaction of the Chinese to exclusion, discrimination, and hostility. In general, they resorted to self-segregation in Chinatowns, and retreated to occupations such as laundries and restaurants that did not arouse the envy of white workers or employers.

With improvement in their standards of living, they have adopted some American customs but are primarily good examples of adjustment to a fixed and isolated social status.

As a whole they have become a marginal people, and as in nearly every instance of marginality, a socially unstable people. This predicament is a major handicap of the second and third generations who, during childhood, become similar to all children in their schooling, but who cannot escape the cultural barriers of their family and the physical barriers of their appearance. These limitations become more serious in young adulthood when occupational restrictions reduce their vocational prospects. These Chinese-Americans often cannot find employment outside of Chinatowns, and those who have tried to rebuild their lives in China or elsewhere have experienced the usual handicaps of the cultural hybrid who is unadjusted to both former, and native, culture. In one, they are too American; in the other, the color-line cannot be passed.

Most students credit the cityward movement of the native Chinese to the greater variety of occupations and presumably more liberal cultural pluralism of urban living. The same authorities, accordingly, anticipate a gradual disappearance of Chinatowns, and they believe that the eventual adjustment of this group will be effected by intermarriage with other minorities. Meanwhile, with the quota limited to 105 immigrants per year, there is no apprehension that the present rate of increase will create a "yellow peril" or will interfere with the gradual fusion of this and other minorities into "one people."

JAPANESE

The early Japanese migrants to this country came at about the period of the exclusion law against the Chinese. Thereafter, until 1907, the number of immigrants increased each year. As shown by the comparative rates of Chinese and Japanese population trends, Japanese immigration at first, and then their natural rate of increase, replaced the losses of Chinese that resulted from the exclusion act of 1882. The first Japanese were rural peasants and were well adapted to the expanding agriculture of the large California farm operators. They were also a transient labor supply since many of them returned to Japan. By 1890, however, the Japanese began to purchase land and gave every indication of their intention to become permanent residents. This trend is also shown by the curve of population growth, which is probably about as large as any immigrant group has experienced.

Accordingly, the Japanese were faced with the same hostility as the Chinese. By the "Gentlemen's Agreement," in 1907, the immigration of laborers was stopped, and further increases depended upon the practice of admitting picture brides for immigrant males already in residence. This type of increase continued until 1924, when, with the quota laws of that

TABLE 9–4. The Japanese Population Boom in the United States, 1890–1950

Year	Number (000 omitted)	Year	Number (000 omitted)
1890	2	1930	138
1900	24	1940	126
1910	72	1950	141
1920	111		

year, further increases by immigration were reduced more than for any other group. The alien land laws of 1913 and legislation excluding Japanese from citizenship were other disabilities imposed by a distrustful ruling majority.

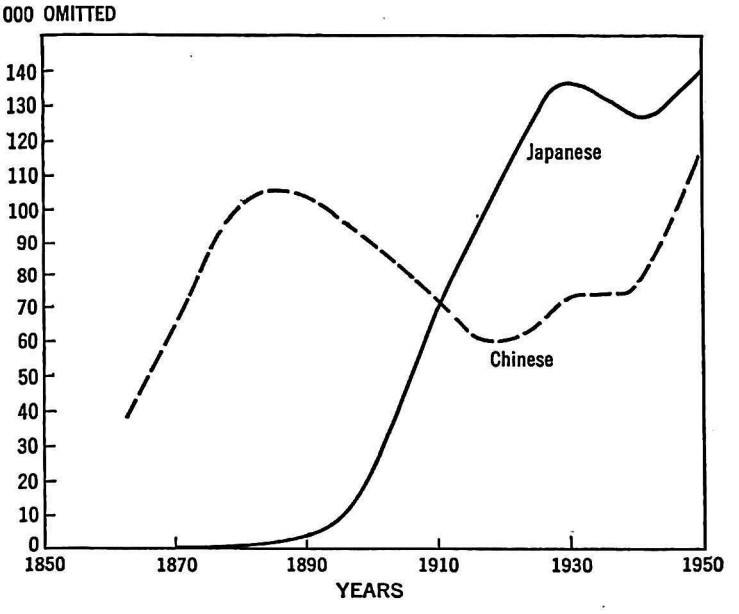
The chief difference between Chinese and Japanese immigrants is found in what Schermerhorn has described as a new quality in immigrants, a "dynamic aggressiveness."[3] In brief, the Japanese rapidly developed their own business and industry. They established their own communities. They organized societies to protect their interests. To a considerable degree of efficiency, they demonstrated how a small, well-organized group can protect itself and compete effectively with a large poorly organized, unfriendly society.

The early history of Japanese immigration, like that of the Chinese, can be divided into three periods. But these transitions are wholly unlike the trends of the Chinese toward scattering and segregation. From 1870 to 1908, the first period, Japanese immigrants were largely young men and transient labor. The second period, from 1908 to 1920, is described as one of family building. The interval from 1920 to 1940, the third period, is that of the second generation, when birth rates became the only source of population growth. According to Schermerhorn the sharp upward growth curve is not one of overbreeding but is typical of a stable rural population at a temporary stage in the total cycle of growth.

This natural rate of increase aroused the same fears of the "yellow peril" as did the Chinese. But the real reason for this hostility was the concentration of the Japanese in a few regions of the Pacific States. They were similarly concentrated in a few occupations, particularly agriculture. Although this limited economic base has been pointed out to be an excessive risk for any group, it was part of the strength and stability of their social and economic organization. It was adapted to the strong sentiment of kinship and family solidarity. In part, it was sustained by the numerous restrictive laws against citizenship and the right to purchase land. These barriers created a need for close community relations in Little Tokyos, political resistance groups, and social, fraternal, or recreational associations.

[3] This source is cited in footnote 2, and the reference is to pp. 206 ff.

FIGURE 9–3. Japanese and Chinese Populations in the United States, 1860–1950



SOURCE: U.S. Census.

Japanese-Americans have experienced the same cleavage between the first and second generations as did the Chinese, or as is customary in the history of foreign-born groups and the first generation of native born. This conflict was even more intense for the Japanese, partly because the first immigrants were forced by local restrictions to retain and solidify much of their old-country culture, their group loyality, their pride in family, and their language, and partly because of the age-gap between the first and second generation that the suspension of immigration brought about. As a result, the contrast between the unassimilated first generation and the new generation of Japanese-Americans was an especially aggravated source of conflicts. It handicapped both generations and was a prime barrier to good community relations and to assimilation. Students of these trends in the assimilation of the Japanese believe that the third generation will be equipped to make effective gains in this cultural adjustment. As proof, they cite the changes already brought about through improved standards of living, smaller families, and, since 1945, wider distribution geographically, employment in a wider range of occupations, and a gradual elimination of prewar legal restrictions.

Their solid status as a population group is also noted with appreciation as further evidence of their biological vigor and wholesome social prospects. As Walter, Sabagh, Thomas (and others cited in the bibliography), have pointed out, the contemporary Japanese-Americans have adapted themselves to the American demographic pattern, and in times of stress they have maintained an economic and social balance rarely equaled by any ethnic group, foreign or native. The social significance of these qualities become apparent through comparison with such loose-jointed, dependent groups as the Puerto Ricans.

FILIPINOS

The last numerous Asiatic group to come to this country as migrants were Filipino nationals. They entered primarily as temporary workers either directly from the Philippines or by way of Hawaii. Not, at this time, being immigrants, aliens, or individuals eligible to citizenship, this peculiarity of their legal status, plus the large numbers who returned to their original homes, has confused their social status, their census enumeration, and their establishment as a demographic minority.

The first large streams of Filipinos came during the 1920's. The stimulus was the lack of restrictions and the need for cheap labor that the quota acts cut off. This number was reduced by the depression and was practically stopped in 1935 when the islands were granted their independence and a quota of 50 immigrants per year (raised to 100 in 1945) was established.

TABLE 9–5. Estimated Numbers of Filipinos in the United States, 1920–1950

Years	*Number (000 omitted)*	*Years*	*Number (000 omitted)*
1920	5	1940	50
1930	45	1950	61

As an element in the population, this transient group relived nearly all the experiences of high-pressure economic competition, political and legal ostracism, inferior social status, and psychological tensions that are typical of other migrants. All previous anti-foreign propaganda was directed to effect their exclusion. Negroes and Mexicans added their support to this opposition and a bill to exclude them was introduced by a California congressman in 1928. Part of this hostility was based upon the Filipino's interpretation of his own status—a result of his education in American political ideals in the Philippine schools—and his consequent unwillingness to accept the status of a colored, low-class laborer with no legal status and with few opportunities for advancement.

Other sources intensifying native resentment are obvious in their social characteristics. Most of the early migrants were young, unmarried men who intended to stay temporarily, either to make their fortunes or to complete their education. Consequently, they had the largest unbalanced sex ratio on record. Not being able to accomplish either mission of education or wealth, many were forced to stay. In their own efforts to find satisfactory work, they were considered too aggressive because they adopted the tactics of organized labor; and in their courtship practices they annoyed the opponents of mixed marriages. This type of economic disorganization and "homelessness" remained as irritants until about 1940 when the sex ratio and age groups became more equal and marriage and family life followed more closely the American pattern.

In the course of these unadjusted years, Filipinos were conspicuous and were the objectives of public suspicion for other reasons. Most of them remained in densely occupied quarters on the West Coast or in New York City, where they took on typical slum characteristics. They were similarly conspicuous in their concentration in highly transient employment, either as migratory agricultural laborers or as domestic workers in the cities. As a result, they never duplicated the organized community or family life of the Chinese and Japanese.

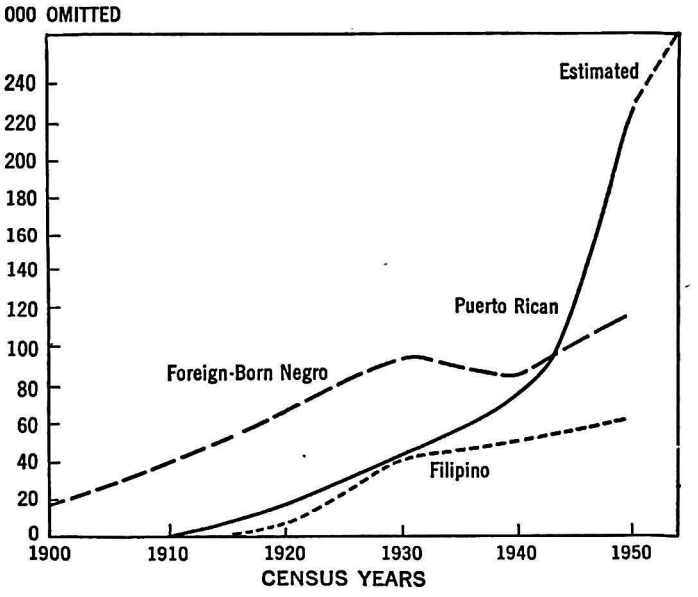
Burma is of the opinion that the Filipino has passed through the most demoralizing period of his particular race-relations cycle with a considerable degree of success. Since 1940 the increase in the number who are married, and especially in intermarriages, suggests a rapidity of amalgamation and assimilation. Both trends indicate the probability that the Filipino group will become smaller, more evenly distributed in the population, more stable economically and socially, and in brief more closely identified with traditional American standards.

THE PUERTO RICAN EXODUS

Since World War II the main source of migrants from outside the continental limits of the United States has been the Puerto Ricans. Numbers have increased each year after 1945 and have reached a total well above the totals of either Japan or China. Between 1944 and 1951, 240,000 Puerto-Rican migrants came to this country and recent annual estimates indicate greater increases since that time. Because this is a movement of citizens similar to interstate migrations, there are no methods of determining the exact volume of in- and out-migrants.

Migration of Puerto Ricans began in 1900 after the island had become a possession of this country. During the first two decades small numbers of migrants came as permanent residents. These people were mostly white, well-educated, and of a better-than-average economic status. During the first four decades prior to World War II another class of migrants came

FIGURE 9–4. Puerto Rican, Filipino, and Negro Foreign-Born Populations in the United States, 1900–1950



SOURCE: U.S. Census. Estimates to 1954 by John Burma.

and left according to the needs of industry or the labor market in general. Most of these people settled in New York City or in adjacent cities of the Atlantic coast. In this way New York City became the goal of the majority during the exodus.

TABLE 9–6. Puerto Rican Migrants in the United States, 1910–1954

Year	*Number in the United States (000 omitted)*	*Per Cent Residing in New York City*	Year	*Number in the United States (000 omitted)*	*Per Cent Residing in New York City*
1910	1	36.6	1940	69	87.8
1920	11	62.4	1950	226	82.9
1930	52	—	1954	400*	95.0*

* Estimated by John Burma.

This exodus has assumed such large proportions and has been so unusually localized in New York City that the entire movement resembles an escape of refugees or a mass colonization. It is unique in this respect, and it is also a new experience for New York City since this group is the largest non-English speaking invasion of nonwhite stock that the city has had.

For some time there have been more Puerto Ricans in New York than in San Juan, the capital of Puerto Rico.

An explanation for this invasion is readily found in the economic development and population growth of the Island. It is now one of the most densely populated agricultural economies in the world. Under United States governmental control, population has increased each year at rates heretofore regarded as possible but not probable; namely, the doubling of a large population group every twenty-four years. At present the population density resembles that of Egypt, India, and China. With inadequate land area, both in acres and quality, minimum levels of subsistence have not been maintained since 1930 when the island was called the American poorhouse. Upon this background the typical poverty cycle has prevailed. Insufficient nutrition, large families, unemployment, inadequate production, dependence upon imports, and a consequent economic bankruptcy have not been remedied by enormous expenditures in relief by the United States Government. Moreover, economists who have evaluated the situation see no prospects for improvement until the island's economy is industrialized and the population is reduced in size so as to be better adapted to its resources.

The Puerto Rican exodus is, therefore, a real retreat from overpopulation, economic chaos, chronic undernutrition, and the absence of economic opportunities.

Although conditions in New York or other cities are not especially favorable, at their worst they are an improvement over Puerto Rican disadvantages. In the American city the Puerto Rican is handicapped because his previous life was rural. As a rule he knows no English, has no skill, and does not have the resources to start a business of his own. He has made up a large proportion of the dependent group in regular need of relief even during the times of high employment. Because of his color, he is obliged to compete with Negro labor or to take work that Negroes refuse. In this respect his status is like that of the Mexican transient family.

Unlike other unstable migrant groups so far discussed, the Puerto Rican's one advantage and only access to assimilation is citizenship. Apart from this characteristic he has all the other handicaps previously noted for the nonwhite, alien immigrant. His prospects in assimilation are not particularly good under current policies of the American system in helping newcomers to adjust. For these reasons Burma recommends a planned program of redistribution throughout the country. In this manner, work and housing would be more available; schools, hospitals, recreational, and other social services would not be as overcrowded; and in addition, there would be opportunity for an experimental adaptation of various programs (previously found useful in work with earlier migrants) to meet the special needs of Puerto Rican adults and the particular needs of their children.

FOREIGN-BORN NEGROES

A small but regular addition to the nonwhite population of the United States has been the foreign-born Negro. These immigrants have come from many different regions. Most of them, however, are from the West Indies or adjacent areas. The admission of foreign-born Negroes to a population already considered to be overburdened by its nonwhite elements has been a paradox that few demographers have tried to explain.

This movement began, increased, and subsided precisely as reported for Puerto Ricans prior to 1940. Most foreign-born Negroes left countries that were overpopulated, underdeveloped economically, and poverty-stricken. Numbers increased after 1900 to the period of the depression and thereafter remained more or less constant.

In this country their adjustment and their handicaps are almost precisely those of the Puerto Rican. In addition to the disadvantage of being nonwhite, they are non-English speaking; they are strange to the traditions and standards of living of white Americans; and they lack vocational skills. They face the traditional animosity of the native-born Negro, and as a result become a minority within a minority. In order to become adjusted they must remove the barriers raised by the colored population as well as those of the white population.

Like the Puerto Rican, too, their tendency is to go to a few areas—New York City, Boston and New Bedford in Massachusetts, and Miami, Florida. During the early years of their residence they tend to have birth rates that exceed those of the native-born Negro, but as assimilation advances these and other vital rates become similar to those of the general population.

TABLE 9–7. Foreign-Born Negroes in the United States, 1900–1950

Year	*Number (000 omitted)*	*Year*	*Number (000 omitted)*
1900	20	1930	98
1910	40	1940	83
1920	73	1950	113

SUMMARY

Although minor groups are a small fraction of the total population, they are significant in revealing a number of demographic and social trends. Their experience clarifies, for example, the basic requirements for assimilation; it also emphasizes that a people becomes united culturally as well as demographically through transitions that cannot be achieved by a bill of rights or by lip-service to an assumed collection of human values. A population becomes stable, balanced, and efficient through a combination of biological and social conditions that no policy (eugenic, legal, or social) can do much to modify. In observing the operation of these conditions,

both time and sequence are major factors in the formula of growth, fusion, and adjustment.

In the conclusion of Chapter 7, a comparison was made between the main components of the population. From a base line of developments up to 1910, major changes in the growth, number, and vital rates of the native born and foreign born are traced for a period of forty years. The essentials of this comparison are shown graphically on page 134 in the introduction to Part III. In general, the native population is absorbing all other elements. Its vital rates are evidences of a vigorous, balanced growth. Also, they set the pattern for other elements—either foreign-born white or nonwhite. An apparent conclusion, with no exceptions, is that in time and in a well-ordered sequence all vital rates follow a similar trend, and this trend is affected more by economic, social, and psychological circumstances than by peculiarities of hereditary or biological variations.

Part of the foregoing conclusion can be supported by the growth of nonwhite groups from this base line. The Negro population is increasing in numbers and is decreasing in proportion to the white or total population. All other nonwhite groups are also increasing but their proportion in the population has always been small and has remained constant during the last four decades. Altogether these trends are a composite indication of both biological and cultural fusion.

A particular advantage in analyzing the minor groups separately is the opportunity this gives us to observe the temporary exceptions to trend that are often confusing. Such exceptions are high rates of growth or excessive death or illness rates. As a rule such rates are temporary. They must be interpreted from the position of the group on the total curve of growth, in the cycle of immigration, or in terms of the age, sex, economic, geographic, or other variables that affect growth or vitality. In general, family size, reproduction rates, sex ratios, susceptibility to disease, mortality trends, and life expectancies are sequences of social and economic class status.

Another contribution inherent in the comparison of small groups is its revelation of the social or personal conditions that help or hinder their adjustment. In other elements of the population, demographers and sociologists have reported upon the ease or difficulties in the adjustment of foreign-born white immigrants. According to such analyses, broad cultural obstacles, such as differences in language, religion, or tradition, can impede a group's adjustment or stability for a generation but rarely longer. When color or visibility is the barrier, there is a more complex pattern of adjustment.

In the foregoing analysis, these barriers to nonwhite groups are observed to be slightly different. The reasons may be traced occasionally to historical patterns of intergroup hostility or to comparatively difficult-to-detect psychological differences.

From the experiences of all these groups, Indians especially, the geographical concentration of a people is not a good method to bring about wholesome social or demographic adjustment.

Likewise, concentration in a narrow range of occupations, especially those requiring constant migration, is also a sure sign of instability.

Size alone is sufficient in some cases—noticeably, among Mexicans and Puerto Ricans—to be an effective interference to rapid and sound adjustment. In this connection, it should also be noted that a people migrating wholly because of instabilities in its homeland will not escape these handicaps simply by migration.

According to the observations of sociologists, the American-Japanese has become a comparatively well-adjusted and balanced element within the population. At the other extreme are most of the peoples of Spanish speech. From this comparison, the chief requirements are: well-organized families, birth rates that do not exceed the economic resources of the family, well-organized life in the community, economic resourcefulness in occupations, developing and operating their own business establishments, introducing and supporting self-help agencies—or, in brief, a dynamic aggressiveness.

In time, of course, there are other needs such as wider distribution geographically and vocationally. These goals, however, depend upon the good will and co-operation of society as a whole. Consequently, it is apparent that a national policy of population can do a lot to improve the environmental prospects of these minor groups. Most of their real and future needs can be readily supplied without such costly programs as the Indian reservation system, or without the hazards of creating large submarginal, pauperized classes.

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Part IV

BALANCE OR STABILITY

Let us raise a standard to which the wise and honest can repair.

GEORGE WASHINGTON*

A chance to live, learn, earn an adequate income, grow up a healthy, wholesome, happy family, worship God—this is the definition of the "good life. . . ."

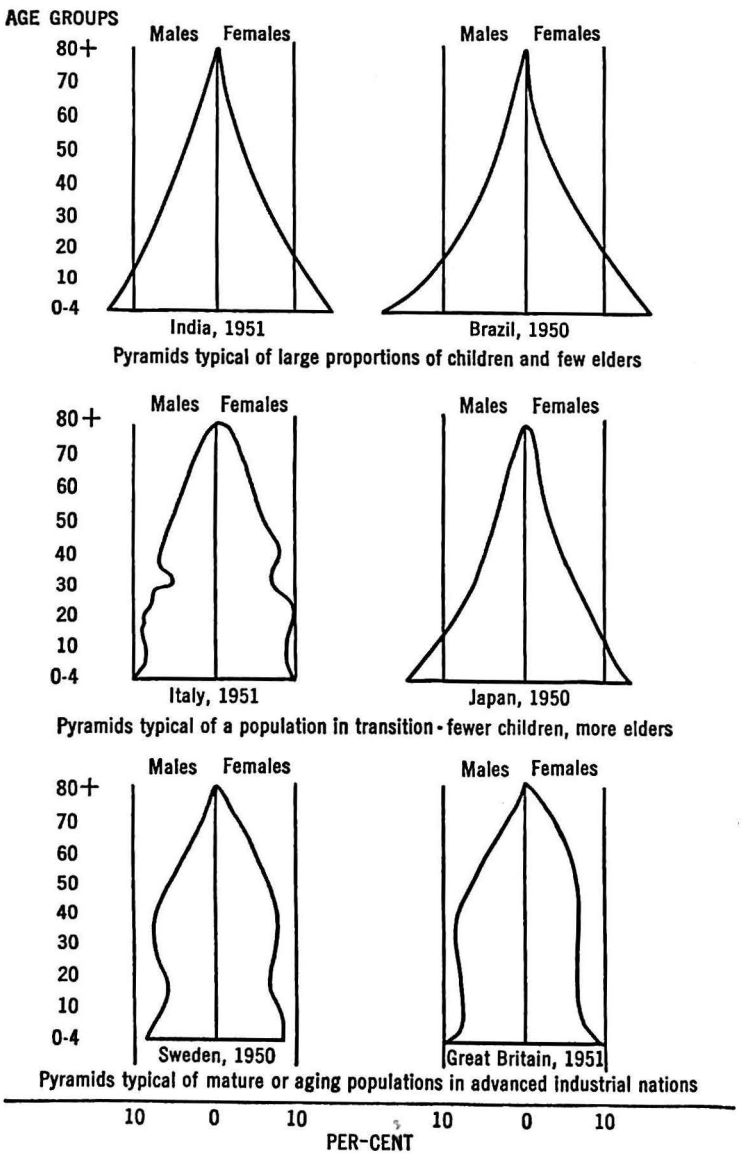
AUSTIN L. PORTERFIELD AND OTHERS**

IF PEOPLE WERE UNIFORM individually or in their social groups, then it would be possible to describe them as the census does either by simple enumerations or classifications. But people are not uniform—physically, mentally, or socially. Moreover, their social or group differences extend beyond such counted changes as age, sex, residence, or migration and become patterns of social components that are not readily counted or classified. These differences in family, education, religion, work, leisure, politics, or social mobility are as significant in the stability of a people as its numbers or biological quality. As Table 10–1 shows, differences in age groups modify radically the composition of a society with effects that alter the character of every social institution. The other social components also modify a people but they are often less readily described by graphs, rates, or trends as stabilizing or disorganizing conditions.

* *Message to the Constitutional Convention*, 1787.

** *Crime, Suicide and Social Well-Being in Your State and City* (Fort Worth. Texas Christian University, Leo Potishman Foundation, 1948), p. 1.

Changing Population Pyramids, 1950 and 1951



SOURCE: Adapted from *Population Bulletin*, Vol. 11 (May, 1955), Figure 1, p. 36. Reproduced by permission.

CHAPTER 10

Age Groups

It has been estimated, from fossil findings, that in prehistoric times the average man lived about 18 years.

. . .

MORTIMER SPIEGELMAN*

Most animals live about six times longer than it takes them to grow to full physical maturity. If man were consistent with his biological relatives in this respect he would live to be about 150, since human growth ordinarily does not stop until age 25.

ROBERT COUGHLAN**

THE AGING OF POPULATIONS is one of the most dramatic social changes in recent decades. It is a major factor in the general growth of population, and it affects all aspects of growth. It indicates positive improvements in public health, sanitation, water supply, nutrition, the control of epidemics, and in economic well-being; it also shows that spectacular gains have occurred in the balance of births over deaths, and that average length of life has increased. These vital statistics are prime indexes of a society's human resources and of its degree of stability or instability.

In general demography the model of age distribution is the pyramid. If this distribution is not interfered with by migration or excessive death rates, the population pyramid is an equilateral triangle showing that numbers in the different age groups decrease constantly from the first year of life onward. This model is sometimes called the "tree of life." In the language of the insurance company or the actuary, it is a chart of the chances of death or of survival. Another device for the analysis and comparison of age groups is the standard million of population. The standard million is a point of reference, such as the population of Sweden in 1890 or of England and Wales in 1901, useful in computing changes in demographic variables. The wide use of the pyramid as an analytical device is due to its simplicity in

* *Health Progress in the United States* (New York. American Enterprise Association, 1951), p. 8.

** "Science *vs.* Old Age," *Life*, Vol. 38 (April 25, 1955), p. 156. A review of researches by Dr. A. J. Carlson.

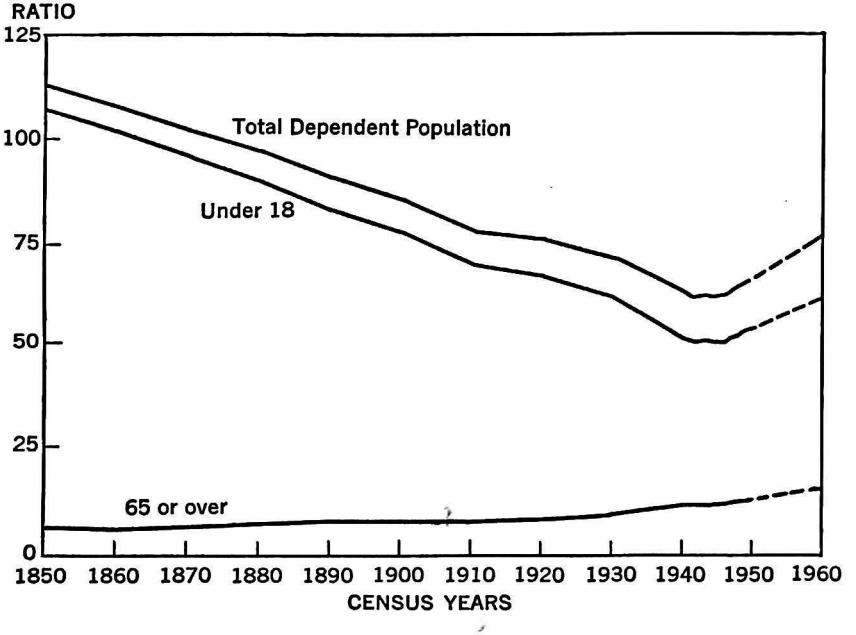
showing primary distortions because of unusual events—war, migration, or economic transitions—in the growth, distribution, or composition of a given segment of population, such as a rural group, a nationality, a class.

In the United States, the population pyramid has always varied from the standard triangle. Such variations are normal in any rapidly growing population. They are explained by the increasing birth rates from 1850 to 1900, and then by the cycle of decrease and increase of birth rates from 1900 to the present; by the large immigration from 1890 to 1915; and by the drastic reduction in death rates. These conditions also account for the changing balance of the young, the mature, and the old. They explain why the proportion of elders is on the increase and why in the later decades of this century it will decrease proportionately with declining fertility and immigration.

COMPOSITION

During the past century the two most important occurrences in the aging of the population have been the the increasing average length of life and

FIGURE 10–1. Ratio, Population at Ages of Dependency Under 18 and Over 65 per 100 Persons 20–64 Years, United States, 1850–1960



SOURCE: *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 31 (June, 1950), p. 2. Reproduced by permission.

the increasing proportion of people 65 years of age or older. Both changes have upset the balance of the mature (the people of working age) and the dependent groups (children and elders).

For nearly a century the burden of these dependent groups decreased, as noted in Figure 10–1, from a ratio of 113 children and elders to every 100 adults of working age in 1850 to a ratio of 63 to 100 in 1942. Since this year the increase of the dependent group has been constant and is explained by the increasing number of elders.[1] During the period 1900 to 1950 when the total population of the United States doubled, the number of elders increased four times. During the same period adults in the productive age groups doubled and the ratio of children to these groups dropped sharply (from a ratio, in 1850, of 107 children under 18 years of age to every 100 in the age group 20 to 64, to 54 to 100 in 1950).

Since the baby boom that began in the 1940's, the number and proportion of the different age groups indicate significant variations from the trends that are shown in the decennial census reports. According to recent surveys by the census, the number and proportion of dependent groups have increased steadily and will continue to increase until 1975. After 1956 this increase will appear in the age group 18 to 24 and as a result, the productive age group 25 to 64 will become the slowest growing group. Table 10–1 gives the official enumerations since 1870 and projections estimated for the years after 1950.

TABLE 10–1. Age Groups in the United States, 1870–1975

	The Younger under 20 years		*The Mature 20–64 years*		*The Elders 65 and above*	
Years	*Number (in thousands)*	*Per Cent*	*Number (in thousands)*	*Per Cent*	*Number (in thousands)*	*Per Cent*
1870	19,156	48.1	19,504	49.0	1,158	2.9
1900	36,680	48.3	36,034	47.4	3,280	4.3
1950	51,099	33.9	87,328	57.9	12,270	8.1
1955	—	36.3	—	55.2	—	8.5
1975	—	36.8	—	53.9	—	9.3

SOURCE: U. S. Census and *Current Population Reports*, P–25, Nos. 98, 123, and 146.

GROWING OLD

Rates of growth and changes in population pyramids demonstrate that both aging and the relation of the different age classes observe about the same variations as those previously noted (in Chapters 1 and 2) for population in general. In the growth of the individual, for example, there are three periods. The first is the period of maturing, one during which the

[1] "Trends in the Dependent Population," *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 31 (June, 1950), pp. 1–3.

body as a whole or some of its parts are developing and which ordinarily requires about twenty-five years. The second, the period of maturity, continues for the next two or three decades. During this period, aging (meaning the wearing out of parts of the body) becomes noticeable and the third period—old age—begins. This is the stage when physical efficiency starts to decline at increasing rates.[2]

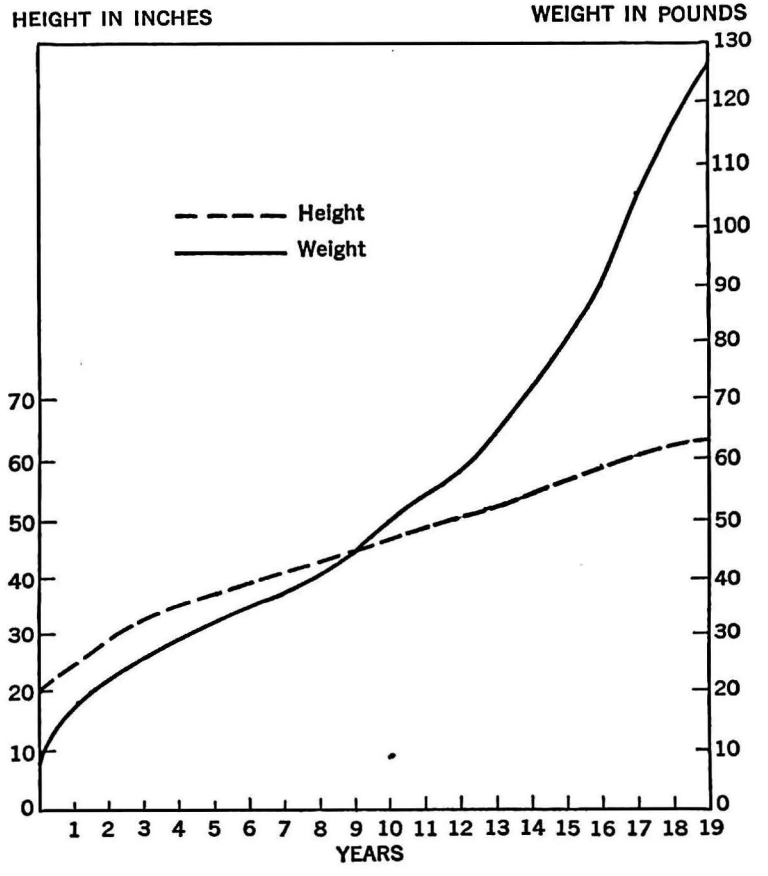
Changing rates of growth, as indicated by the curves in Figures 10–2 and 10–3, occur for different parts of the body as well as for the body as a whole. This rule holds for the obvious changes in weight and height and for the less obvious changes in internal organs. In spite of many exceptions to rules of regularity in growth, most people develop gradually and uniformly according to a pattern of growth that is biologically established for the human species.

Because of the constant repetition of this pattern of growth, physiologists are of the opinion that it has remained substantially unchanged for many thousands of years. The rules that are basic to an understanding of growth and of aging or the prospects of changing them include both human heredity and the limits of human environments. The general rules or laws of growth are: (1) Nearly all individuals follow a similar curve or cycle of growth. (2) There are different rates of growth for different parts of the body. (3) Important variables in growth occur for both size and proportions of the body because of sex differences and because of individual differences in energy and in the rate of its expenditure. (4) Periods of rapid or slow growth are explained in terms of biological and environmental conditions such as nutrition, infection, exercise, and climate. (5) Physical growth, like intelligence, is generally considered to be unresponsive to ordinary treatment or regulation. However, in recent years there has been extensive research in the isolation of hormones that may eventually become important both as regulators and stimulators of growth and possibly as treatment to prolong life.

At present the chief interferences with normal growth, in addition to hereditary deficiencies, are disease, constitutional impairments, and malnutrition. Primary disturbances are the acute infectious diseases usually called the diseases of children, the deficiency diseases, and finally the chronic diseases that are now the major enemies of old age. Other interferences are specific mineral or vitamin deficits, specific types of malnutrition or undernutrition, disturbances of the acid-base balance of the body arising from respiratory or metabolic conditions, the allergies, diseases of

[2] There are no absolute measures of the beginning of aging or of old age. Whenever a year is suggested, the reference is based upon some specific bodily change that is manifested by recognizable impairments, such as those of the reproductive system that begin as early as age 22, of blood and heart at age 30, of kidneys, stomach, and intestines at age 40, and of sensory defects, such as the changing elasticity of the lens of the eye that becomes general after age 40 but has been observed in earlier age groups, and the declining sensitivity of taste about age 50 and of smell about age 60.

FIGURE 10–2. Rates of Growth: Height and Weight of Boys



SOURCES: Curves based on the low measurements for each age group and are the consensus of several standard tables.

the blood and lymph nodes, defective functioning of the ductless glands, and various relatively unknown conditions of emotional or social origin.

Since all these factors must be reckoned with in computing rates of growth or in testing the rules of growth, there are no exact indexes of periods of growth, of aging, of when aging starts, or of what actually determines old age or senility. The general practice has been to supplement the popular judgments that are derived from chronological or mental aging by such physical changes as ossification, pubescence, the duration of reproductive capacity, the onset of the menopause and of declining rates of basal metabolism, and degenerative changes in the nervous system. In

addition, there are other sources of evidence in mental, emotional, and social growth as noted in habits, attitudes, and skills, and in the general ability to make satisfactory human adjustments.

In examining rates of growth and especially as a base for the estimate of the onset of aging, physiologists are particularly interested in the growth of different parts of the body. From such observations they report the following trends and relationships: Lungs and digestive system grow at about the same rate as the body in general. The head develops to ninety per cent of its full size by the second year but arms, legs, and trunk at this age are only one-half of the size that they will be at age twenty. Upper limbs grow more rapidly than the lower limbs. During adolescence leg length precedes trunk growth and strength is exceeded by trunk growth, a condition that often explains the fatigability of adolescents and their frequent tendency to attempt physical exercises that are beyond their capacity. Another explanation for such overstrain is cited because of the slower growth of the heart. Although the heart develops rapidly during adolescence, it does not keep pace with the growth of bones and muscles. The result is a liability to strain, functional murmur, and rheumatic heart disease.

In a summary of these rates of growth by decades of life, maturity is reached in the following order: During the first decade of life, the eyes and brain reach their full growth. During the second decade, the heart, spleen, thymus gland, and muscles reach their full growth. During the third decade, the thyroid, pituitary, adrenal, and sex glands become mature, and lungs, liver, and skeletal structure attain their full development.

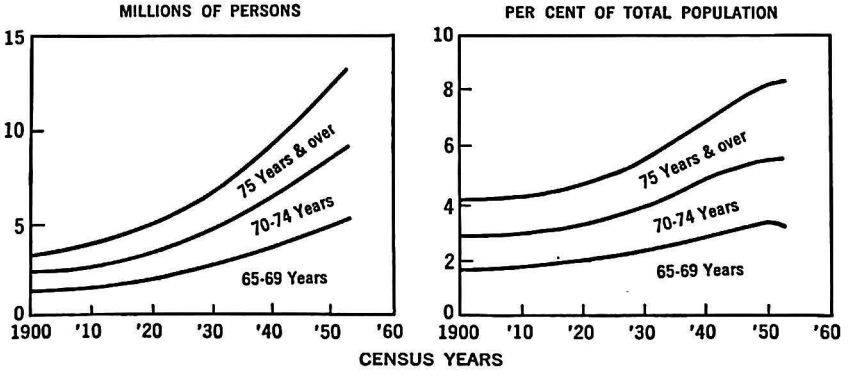
There are also significant sex differences in growth. On the average boys are taller and heavier than girls in relation to their height. Girls tend to be more mature physiologically than boys at all ages of childhood. At about the level of the seventh or eighth grade, two-thirds of the girls have reached puberty, whereas two-thirds of the boys have not. Ossification occurs earlier in girls than in boys, the latter being delayed one or two years behind girls in their skeletal or "bone" age. Though the skeleton of boys grows more slowly than that of girls, it grows over a longer period and is finally larger in size. There are also important sex differences in strength, body structure, length of bones, proportions, and heart beat.

Mental growth, like physical growth, takes place continuously throughout childhood. It is measured by degrees of bodily co-ordination, the acquisition of skills, learning, and judgment, and by social adaptability. On the average the peak is reached between fourteen and twenty years of age. Thereafter, there is a gradual decline that varies in rate according to the mental make-up and the social experiences of the individual. This rate of decline, as judged by the speed of learning, increases on the average after age 40, and by age 80 the speed of learning is about that of a twelve-year-old child.

LIFE EXPECTANCY

The average length of life has been increasing since the earliest estimates and records. These averages are also called the expectation of life or the chance of survival. They are derived from death records. In recent years life expectancies are computed as life-tables which give the average duration of life for an entire population born the same year and estimate the remaining years of life or the chances of survival for each succeeding year.[3]

FIGURE 10–3. Population 65 Years of Age and Over, United States, 1900–1960



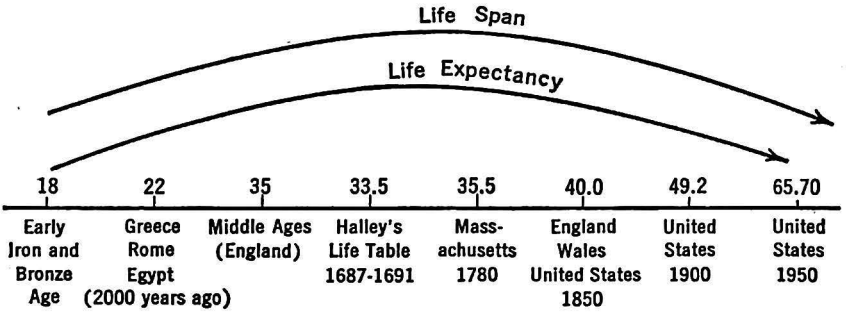
SOURCE: *Road Maps of Industry*, No. 960 (New York. The Conference Board, 1954). Reproduced by permission.

During the last one hundred years there has been a greater increase in average life expectancy than in all previous centuries combined. If the evidence of fossil remains is conclusive, an average length of life of eighteen years prevailed during the period of man's early history. This figure means extremely high death rates of children because of disease, starvation, or neglect and high rates of death because of accident and violence. Under such conditions most people did not live long enough to reach maturity. Until Halley, the English mathematician, computed the first life-table from the mortality records of Breslau (1687–1691), all pre-

[3] Louis I. Dublin and others, *Length of Life* (New York. Ronald, 1949), Chapter 1. As a rule life-tables describe the age distribution, and deaths to be expected, in a stationary population. They are constructed from death rates, specific for age. From this computation the number of survivors from birth to each successive year is given and the average length of life for each year of age, namely, the number of years remaining, is reckoned. Life-table figures are given separately for males, females, whites, and nonwhites. They are most reliable for the years prior to the fulfillment of average life expectancy and are not much more than rough estimates thereafter for age groups beyond 70. Revisions of life-tables appear each year in the publications of the U. S. Department of Health, Education, and Welfare. For an example, consult: *United States Life Tables, 1949–51*, Vol. 1 (November 23, 1954). This is a special report of the National Office of Vital Statistics.

vious statements of average length of life are estimates, in which many different and ingenious uses of partial evidence were demonstrated. Halley's computation of 33.5 years as average life expectancy remained fairly representative of all other estimates for Europe and the United States for more than a century. As Figure 10–4 shows, the average length of life prior to the eighteenth century generally remained between 20 and 30 years and did not begin to increase appreciably until 1850. In 1950 it had become 65 and 70 respectively for white men and women and continues to increase in each annual revision.

FIGURE 10–4. Average Life Expectancy and Life Span



Sources: "Longevity in Ancient and Modern Times," *Statistical Bulletin*, Vol. 28 (October, 1947), p. 2. Adapted by permission of the Metropolitan Life Insurance Company. See also: U.S. Census, *Current Population Reports.*

As noted from the association between changes in life expectancy and changing death rates, increases in the average length of life are traced to a number of improvements in public health, the control of epidemics and infectious diseases, and all that is implied by better standards of living. Increases are greatest for white women. They also vary by racial, regional, and economic groups as well as by sex. Future gains will depend mainly on the successful control of the chronic diseases, a fact that is supported by evidences of few changes in life expectancy after ages 40 or 50.

Longevity

Two questions that occur regularly in discussions of aging and old age refer to the greatest attainable age to which humans may aspire and to those individuals who hold the record for longevity. There is also another question as to the prospect that life expectancy may eventually become the same as life span.

At present no exact upper limit can be given for either the average length of life or the potential life span. Some years ago E. L. Fisk reviewed

a number of forecasts of the probable changes in average length of life and reached a peak average age of 82 for the year 2,000. These predictions are cited here because of their agreement with the authentic reports to 1950.

TABLE 10–2. Forecasts of Average Length of Life, 1922–2000

Year	*Average Length of Life*	*Year*	*Average Length of Life*
1922	58	1970	75
1930	61	1980	78
1940	65	1990	80
1950	69	2000	82
1960	72		

SOURCE: Eugene Lyman Fisk, "Possible Extension of the Human Life Cycle," *The Annals of the American Academy of Political and Social Science,* Vol. 145 (September, 1929), p. 165.

Lack of information concerning longevity, and the absence of birth records of people who have claimed to be 100 years of age or older are the prime obstacles to studies of great aging. Raymond Pearl[4] supplied some information about a total of 497 centenarians which indicated that in this country about one person in every 33,000 reaches the century goal. However, he could not be sure of the reliability of his records. As further proof of this difficulty he referred to a study of 800,000 individuals in British life insurance experience among whom only twenty-two cases could be proved to be centenarians.

A. J. Carlson, previously mentioned in the second quotation introducing this chapter, is of the opinion that each species has its own normal life span, varying from the brief life of insects to the lengthy life cycle of several centuries among some reptiles. In each species the life span is correlated with age of its maturity. From this comparative evidence the average duration of human life might become the same as the theoretical span of life, namely, six times the age at maturity or about 150 years.

This extreme upper limit of human life is corroborated in part by the history of a few individuals. Both Pearl and Carlson cite the case of Christian Drakenberg (1626–1772) who according to "reasonably accurate" records lived to be 146. Drakenberg was a Danish sailor. He fought in three wars with Sweden and spent most of his active years as a sailor. At 111 years of age he married and at 130 he was again searching for a wife but without success. As a character type he was described by his biographer as impetuous in temperament and sturdy and robust in health. A more recent claimant to the record, a Russian peasant, Makhmut Aivazov, is a contemporary whose claim to 147 years is not substantiated by a birth record. However, at 147 he is supposed to have worked 270 days

[4] Raymond Pearl, *The Ancestry of the Long-Lived* (Baltimore. The Johns Hopkins Press, 1934).

in 1954 on a collective farm; and he accounted for his length of years by the good clean Russian air and healthy peasant work. Thomas Parr is the real record-holder, and he exceeded Carlson's goal of 150 by two years. According to claims "fairly well established," old Parr was born in 1483, lived through the reigns of ten British sovereigns and died at the age of 152 in 1635. Parr resembled Drakenberg in health, temperament, and matrimonial experiences, and according to the record was brought to trial on a rape charge in his nineties.[5] Although women have better life expectancies in all upper-age groups than men, this trio is a challenge to the durable female among centenarians.

Recent evidence as to the personal and social characteristics of extreme old age has been given in the report of an investigation by Flanders Dunbar, a psychologist of the psychosomatic school.[6] This study, by means of personal interviews, compiled the social histories of 300 Americans who were 100 or more years old, a number that is 20 per cent of all known white centenarians in the United States.

Stability is the one prominent characteristic of successful aging. Most centenarians were found to be living in the highly populated areas of the Atlantic seaboard and in the Mississippi Valley, not in isolated rural areas or in the publicized resorts of California or Florida. Economically they are middle-class individuals, few being poor or wealthy. Nearly all had married (98 per cent) at least once and 30 per cent more than once, but these remarriages followed death of the spouse as a rule and rarely divorce. Their families were large in comparison with the nation's average, since they had a mean of four children—at least two more than the usual marriage in the period of their reproductive years.

Centenarians also have a record of good health in its widest interpretation. They had a minimum record of illnesses at all ages and few or none of the diseases of old age. They enjoyed equally good records of sound emotional health and of successful social adaptability. These oldsters had few sensory impairments of vision or hearing and they retained a good number of their own teeth. In temperament they were easy-going. They had no desire to dominate. They accepted new and changing situations without rancor. They gave little attention to, nor did they want to discuss, the good old days. They had and enjoyed many friendships and they always displayed a keen sense of humor.

In aging, the dangerous years, both physiologically and socially, are the two decades 50 to 70. During these years relatively radical adjustments must be made to declining physical capacities and to revised schedules of work and social life. Centenarians survived these trials and were able to

[5] O. H. P. Pepper, "Geriatrics: Past, Present and Future," *American Journal of Medical Sciences*, Vol. 223 (June, 1952), pp. 589–598. William J. Ford, "Old Parr," *Bulletin of the History of Medicine*, Vol. 24 (May–June, 1950), pp. 219–226.

[6] Reported in *Time*, Aug. 2, 1954, p. 44.

devise effective programs of work and recreation during retirement. This characteristic of effective well-being is the one that Dunbar called the most typical of centenarians, namely, their wholesome, balanced social adjustment. Hence the conclusion: "Retirement and enforced education in leisure defeat their own goal. Those who remain healthy after age 65 wish to work, and they stay healthy because they work."[7]

Methods of prolonging life and of avoiding the disabilities of aging have been sought in numberless cures, elixirs, preventives, and proverbs. No reputable student has endorsed any of the usual, simplified recipes, but as a rule emphasizes a general pattern of living, work, temperament, character, and social outlook. An example of the "miracle" approach is the widely exploited serum known as ACS (a cortisone product, derived from the spleen and bone marrow). It was developed by a Russian scientist and was publicised as a cure-all, as well as a restorative of youth. It proved to be worthless for both purposes. Similarly, the surgical procedures of Voronoff (the transplanting of sex glands) and of Steinach (closing the tubes carrying the male sperm so as to stimulate sexual vigor and hence vigor in general) had no worthwhile permanent results.

As suggested previously, the one source of cure or of prevention that continues to be most hopeful as a means of delaying old age is hormone therapy. Additional preventives include protection from the diseases of childhood, from extremes of climate, from unusual fatigue, stress, and tension, and from vitamin deficiencies. Supplements thereto are proper nutrition, avoidance of obesity especially after age 30, sound mental health, and a busy, active life both before and after retirement.

DISTRIBUTION AND MIGRATION

Old people reside in all regions and states in numbers more or less in their expected proportion to total population. They increase or decrease at about the same rates as the general population. There are, however, certain continuous exceptions that are exaggerated by interregional migrations or by temporary changes of residence between farm and village or city and suburb. Demographic tendencies considered to be fairly constant in the concentration of the aged are: (1) states with high birth rates have a smaller proportion of older people; (2) states with low birth rates commonly have a larger proportion of old people than the national average; (3) states with a rapidly increasing population generally have equally large increases in the upper-age groups. Recent examples of the latter trend are Arizona, California, Florida, and Nevada.

When the distribution of the aged is examined in terms of total numbers, it differs from the distribution observed when these numbers are reduced to percentage gains or losses. In terms of numerical gains, the leading states are New York, Pennsylvania, Ohio, and Illinois, while Delaware, Wyoming,

[7] *Ibid.*, p. 44.

and Nevada had the smallest increase in numbers. In terms of relative or percentage gains, Arizona and Florida led all other states.

Regional distribution is probably a better indicator of primary population changes than the individual experiences of the states. In proportion to total population, upper-age groups are most numerous in New England and in the agricultural states of the Middle West. In these areas, Maine, New Hampshire, Vermont, Massachusetts, Nebraska, Kansas, Iowa, and Missouri have an aged population (65 and over) of 10 per cent or more, in contrast with the national average of 8 per cent. The reason for this excess is the lag in industrial expansion in these states and the consequent migration of young people to areas of greater vocational opportunity. The region with states having the smallest proportions of old people is the South. With the exception of Florida, all southern states have less than 8 per cent, the reason being the reverse of that cited for New England and the Middle West; namely, the recent industrial boom in many southern states and the in-migration of young workers and their families.

Regions with states of variable distribution from the point of view of either numbers or proportions are the Southwest and Mountain States.

Internal migration

Accordingly, internal migration is partly responsible for changes in the distribution of the aged, but not because old people are the migrants. Warren S. Thompson is of the opinion that old people are the least migratory of all age groups. Despite appearances to the contrary in the flocking of the aged to California and Florida, in general old people do not respond to the climatic appeals of southern states; nor are they influenced by assumed lower costs of living or recreational advantages in those places.

Thompson has also concluded that old people do not migrate in proportion to their numbers in any of the contemporary streams of internal shifts of population—that is, between states, regions, farm to village, or suburb to city. It is this tendency to stay put that explains the continued high proportions of the aged in northern and midwestern states.

All reports on internal migration, including Thompson's observations, agree that there is every indication that old people may become more migratory and thus introduce another factor to be reckoned with in judging the age structure of a community. Several recent social and economic changes are cited to support this prospect.

One emerging difference in contemporary society is the apparently waning attachment to a home community or state. This indifference has been cultivated by the repeated changes of employment during a normal work life, changes that often lead to interstate or intercounty migration. Other changes are the small-family system with its fewer domestic ties either to people or place, the growing economic independence of the aged because

of more liberal allowances under social security, cheaper and easier methods of transportation provided by the automobile, and earlier retirement, in addition to the constantly increasing numbers of the aged.

Another probable incentive to this migration may be the advertising campaigns recommending ideal places for life after retirement. These suggestions always appear in the publicity of local chambers of commerce and are also widely broadcast in radio, television, and publishing media. As a result, many havens for the aged become overcrowded—St. Petersburg, Florida, being a leading example.

HEALTH AND ILLNESS

All of the diseases, bodily impairments, and physical or mental liabilities referred to as impediments to the prolongation of life are hazards the aging must seek to avoid. These conditions have received the attention of public health and medical research agencies for the past several decades. In recent years the United States Public Health Service has devoted to chronic diseases four-fifths of its appropriations for research and hospitals (an average total of between $2 and $3 million per year), but has had little success in reducing the number of cases or the death rate from this cause.

As Table 10–3 demonstrates, since 1900, after marked reductions in infant mortality and in deaths from the infectious or communicable diseases, the death rate from chronic disease increases, beginning in the fourth decade of life and continuing to increase thereafter at extremely high rates. These facts account for the failure so far to improve life expectancy after age forty. Chronic diseases are essentially the results of the wearing out of different parts of the body. Carlson noted this declining efficiency of certain organs of the body and of entire physiological systems in this order: (1) the stomach output of gastric juice and of the enzymes that are essential to digestion decreases; (2) degenerative changes take place in the brain; (3) skeletal and muscular debilities interfere with the body's capacity to resist disease; (4) glandular changes cause chemical imbalances and reduce capacity to produce or use energy; (5) the circulatory system begins to fail, with accompanying hardening of the arteries (hypertension and arteriosclerosis); and (6) various diseases of the heart appear. Arthritis, cancer, and nephritis are also associated with parts or entire systems of the body but they cannot be traced to a degenerative sequence as in the above.

Thus the chronic diseases are associated with aging. They reach their highest rates of incidence in upper-age groups. Of the ten leading causes of death, the upper-age groups are most subject to diseases of the heart, cancer, cerebral hemorrhage, nephritis, diabetes, and arteriosclerosis. Pneumonia, tuberculosis, and accidents reach their peak of incidence in the fourth and fifth decades of life, but percentage of mortality from these

causes increases progressively with aging. Only the tenth leading cause of death—that group of illnesses associated with premature birth—is unrelated to aging.

TABLE 10–3. Death Rates by Age, United States, 1950 and 1900
(Rates per 1,000 population)

Age (Years)	*1950*			*1900*
	Male	*Female*	*Total*	*Total*
Under 1 year	37.3	28.5	33.0	162.4 (Age Groups)
20–24	1.9	1.0	1.5	5.9 (15–24)
40–44	5.3	3.5	4.4	10.2 (35–44)
50–54	8.4	7.7	10.4	15.0 (45–54)
60–64	29.1	17.5	23.3	27.2 (55–64)
65–69	41.1	25.9	33.3	
70–74	60.6	43.2	51.5	56.4 (65–74)
75–79	89.6	69.6	78.9	123.3 (75–84)
80–84	133.4	110.7	120.9	
85 and above	216.4	191.9	202.0	260.9

SOURCE: U. S. Dept. of Health, Education, and Welfare.

TABLE 10–4. The Ten Leading Causes of Death, United States, 1950
(Rates per 100,000 Population)

Diseases of the heart	355.5	Pneumonia	31.3
Cancer	139.8	Arteriosclerosis	28.7
Cerebral hemorrhage	104.0	Tuberculosis	22.5
Accidents	60.6	Nephritis	16.4
Premature birth	37.9	Diabetes	16.2

Illnesses or impairments of aging that require hospital treatment but which do not appear as direct causes of death* are:

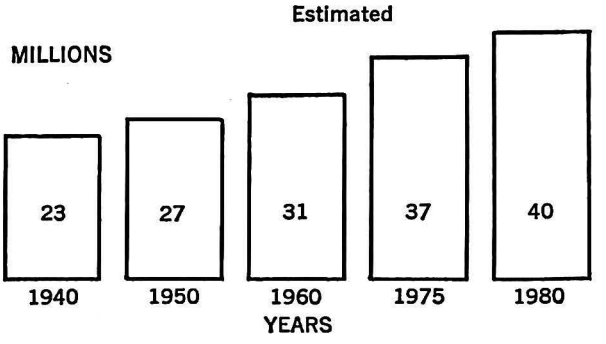
Arthritis	Hypertrophy of prostate
Malnutrition	Coronary occlusion
Mental disorders	Gallstones—pathological
Hypertension	Gallstones—clinical

* SOURCE: See reference to Robert T. Munroe. "The Effect of Aging of Population on General Health Problems," *The New England Journal of Medicine,*" Vol. 219, No. 7 (August 13, 1953), pp. 277–85.

These impairments are listed according to their frequencies among hospital patients 61 years of age and over.

Interest in the control of these conditions starts with the theme: early detection and proper medical care. This point of attack is based on the observation that most chronic diseases can be reduced and partly controlled if treatment of the individual is begun at between 40 and 50 years of age. Other recommendations include: control of overweight; adequate nutrition (especially a balanced protein diet); reduction of communicable diseases in the early years of life, particularly rheumatic fever; education

FIGURE 10–5. Number of Cases of Chronic Diseases, United States, 1940–1980



SOURCE: U.S. Department of Health, Education, and Welfare.

in health habits; and research. Early detection is the only known preventive of many conditions of cardiovascular-renal origin, and of cancer and diabetes. In the case of diabetes, for example, it is known to be extensive in the population but does not ordinarily appear in forms sufficiently injurious to require hospitalization until age 40, when nearly three per cent of the population have become its victims. Likewise, in the case of nutrition, both insurance and hospital records have demonstrated that after age 40 underweights have a death rate less than half that of overweights. For most specific diseases of the heart, mental diseases as a class, and accidents, the recommended course is for each individual to live within the limits of his own constitutional capacity.

As a supplement to this educational and therapeutic program, the tasks of research are concerned with technical and often obscure correlates of aging, illness, and death. Among the more promising research approaches to these, Dr. Nathan W. Shock mentions studies of:

1. Structural changes of the body
2. Metabolism
3. Response of the aged to various drugs
4. Blood chemistry
5. Blood pressure
6. Changes in the functions of the kidneys
7. Calcification of the aorta
8. Endocrine disease
9. Changes in body temperature
10. Aging skin
11. Sensory and mental impairments

In all aspects of health and disease the female continues to be the more durable. There is, however, no sufficient explanation for her resistance to disease and frequent excess of robust health. Since women have this

superiority in all upper-age groups, there may be hints for the prolonging of life and the control of illness in their social history and biological constitution.

FAMILY LIFE AND HOUSING

Most elderly people continue to live in their own homes even when the house is too large for them and the neighborhood has undergone radical changes. Unless the death of one spouse, economic reverses, or physical incapacity force them to accept some other living arrangement, they do not willingly change their domestic status. Since the typical older man is married and the typical older woman is a widow, they want to continue as families and do not voluntarily change residence simply because of aging. In the United States most old people are able to follow this choice, and seven-tenths of those 65 years of age or older now maintain their own households. In a majority of cases they own their own homes.

Old people continue to hold this independent attitude even when their housing has become obsolete and dilapidated. Housing studies show that, in comparison with the average standards of the population, they occupy old houses in old neighborhoods where rents are low, the houses are in need of costly repairs, plumbing is inadequate, and the house itself has little economic value. Many elders prefer this modest, old-fashioned mode of living to public housing and alternatives such as nursing homes or other congregate plans. Whenever units of public housing have been reserved for them, there are reports of an indifference to congregate housing despite physical improvements that aged people usually cannot afford in homes of their own.

TABLE 10–5. Marital Status of the Age Group 65 and over: Per Cent Distribution, 1950
(Comparison of the United States and Pennsylvania)

	Men		*Women*	
	U. S.	*Pa.*	*U. S.*	*Pa.*
Single	8.2	9.1	8.0	11.2
Married	66.1	61.9	36.0	35.2
Widowed	23.6	28.0	55.3	52.9
Divorced	2.1	1.0	0.7	0.7
Total	*100.0*	*100.0*	*100.0*	*100.0*

SOURCE: U. S. Census.

These preferences for independence both in housing and in domestic status stress the importance of the family for old people. They reject changes that depart from their customary ways of living, and they both fear and mistrust institutions or boarding homes. Since their only alternative, often, is to live with a married son or daughter, old people often find housing to be their most critical lack—partly because under the small-

family system they have fewer choices and partly because under urban conditions of living the home of the child is not large enough to provide for a parent. Married couples or the widow or widower with an adequate income are the most fortunate among elders in their domestic situation. These can maintain their own homes and retain established friendships and social contacts. The single woman who also continues to maintain her own home during old age resembles the widow in the social changes of later years. The real victim of aging from the domestic or household point of view is the single man. In the majority of cases he is not a householder and has no fixed residence, and he has few or no relatives or friends with whom he can continue to share a normal social life.

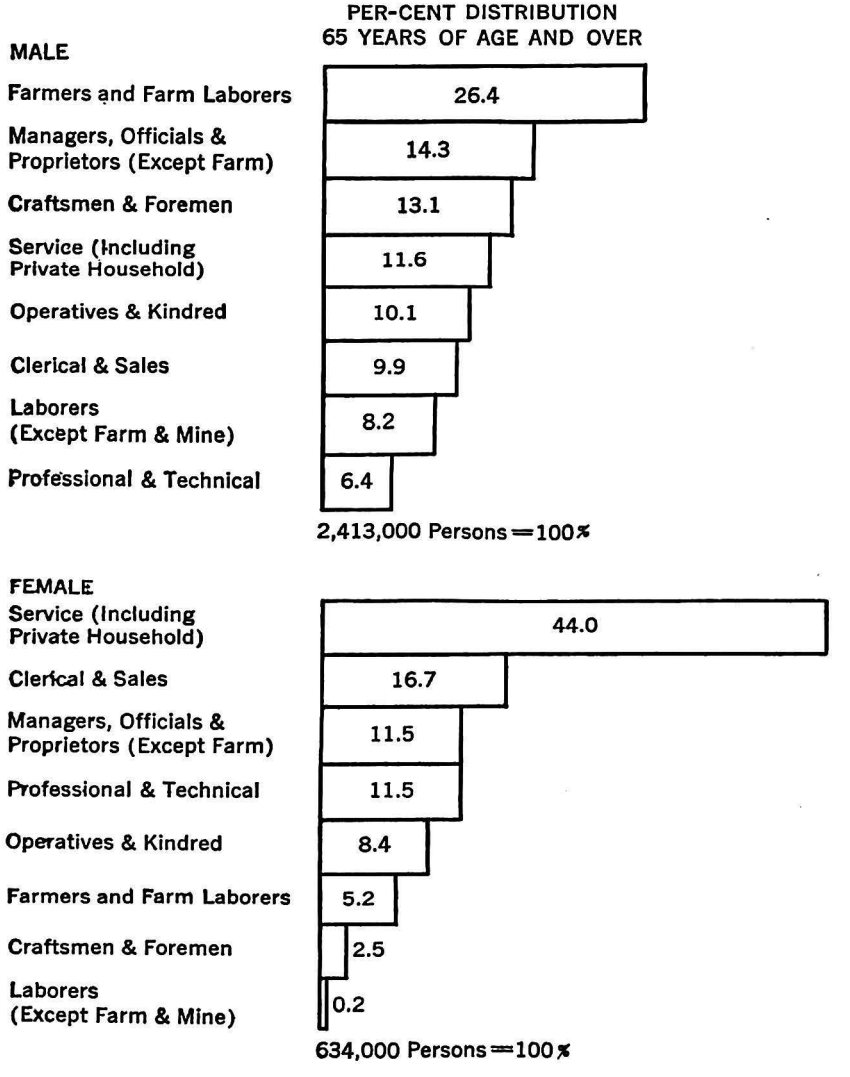
EMPLOYMENT AND ECONOMIC STATUS

A useful index to both the vocational and economic prospects of workers and their families is "work-life expectancy." Since different jobs vary widely in skills and other resources that are essential to competence and efficient production, cycles of superannuation are variable throughout the labor market. The average work-life expectancy for the white industrial employee, for example, is 41.8 years. Every employment has an optimum age or an upper-age limit that has been established by effectiveness of workers. Apparently there are few exceptions to such limits in either handicraft or braincraft operations. The rare instances of a work-life of sixty years for a physician or author, for instance, are newsworthy because of their rarity. At the opposite extreme is the ten-year maximum of the professional ball player, or the fifteen years of productivity that Van Wyck Brooks has allowed to imaginative writing (see page 6 of his *Writer in America,* published by E. P. Dutton and Company in 1953), or the brief work-life of occupations such as those of the theater.

Work-life expectancy statistics serve as a guide to the time of retirement; they can be interpreted to suggest when pensions or the old-age security programs should begin; and they can indicate the probability or improbability of savings or other supplementary income that will insure against economic hardships.

Employment of the elderly involves some undeniable risks. For example, in the accident record, elders contribute one-forth of the victims, a percentage far in excess of their proportion in the population. In the survey of the Metropolitan Life Insurance Company, the conclusions state that: "Physical weakness, impaired motor function, forgetfulness, poor vision, and other infirmities of later life make the aged particularly prone to mishaps. Moreover, when these people are involved in accidents, the results are likely to be serious. At the older ages bones break rather easily and do not join readily; burns, cuts, and other types of injury do not heal rapidly. In addition, serious complications, such as pneumonia, may set in,

FIGURE 10–6. Employment of Older People, United States, 1950–1951



SOURCE: *Road Maps of Industry*, No. 961 (New York. The Conference Board, 1954). Reproduced by permission.

while chronic disease—common among the aged—may have a fatal termination."[8]

For these and other reasons, employment of the old has been declining for many years. Since 1890 the proportion of men 65 years of age and above in the labor force has decreased from seven-tenths to about four-tenths. The same trend is also typical of the employed woman. The current occupational status of both sexes is summarized in the table below.

TABLE 10–6. Employment Status of People 65 Years of Age and Above 1950

	Males		*Females*	
	Number (000 omitted)	*Per Cent*	*Number (000 omitted)*	*Per Cent*
Total	5,760	100.0	6,520	100.0
Employed	2,410	41.8	530	8.1
Not in labor force	3,350	58.2	5,990	91.9
Able to work	*770*	*23.0*		
Not able to work	*2,580*	*77.0*		

SOURCE: Robert Dorfman and others, "Economic Implications of an Aging Population," *American Economic Review*, Vol. 44 (May, 1954), pp. 634–679.

This table is an obvious indication that most old people are not working.

In Figure 10–6 the occupational distribution of both sexes is given. There are three definite trends. One indicates greater possibilities for men in rural work and for women in domestic or service occupations. The second indicates reduced opportunities for both in skilled, clerical, and factory work. The third shows the obviously greater continuity of managerial and the professional and self-employed occupations.

The best chances for a long work life or for re-employment of old people are in agriculture, forestry, animal husbandry, public service, professional service, domestic and personal service, and in special occupations, such as transportation, that have seniority provisions. The most vivid contrast, therefore, is in the declining employability of industrial and mechanical workers whose numbers are reduced through retirement by about 75 per cent. These working classes are precisely those who are least ready to retire from an economic point of view. Their savings are usually negligible and they are wholly dependent upon company pensions or Old Age and Survivors Insurance.

This economic plight of most aged couples has been noted in every investigation. In 1950 more than one-half had incomes of less than $2,000 per year, and one-third had less than $1,000, although the minimum needed as reckoned by the United States Bureau of Labor Statistics for the average

[8] "Accident Toll High among the Aged," *Statistical Bulletin*, Vol. 34 (October, 1953), p. 5. Quoted by permission. Miriam Civic, "Income and Resources of Older People," National Industrial Conference Board, *Studies in Business Economics*, No. 52, New York, (1956), p. 95.

retired couple is now $1,600 to $1,900 varying according to prices and locality. As usual, single individuals, living alone, continue to be submarginal with an average annual income not exceeding $650.

An insecure economic status has always been typical of upper-age groups in all societies. In this country, according to estimates of the Social Security Administration, the current position of the nation's total aged population is as follows:

5 million, or 42 per cent, are entirely without income, but supported primarily by relatives.
4 million, or 33 per cent, are self-supporting.
3 million, or 25 per cent, are dependent on public or private grants.

This situation also stresses major economic hazards of all people. Many workers, for example, do not earn enough to build up an insurance or annuity program or they will not save voluntarily. In addition, there are many vocational classes in which gross lifetime earnings are either so low or are so reduced by inflation that they live on or near the poverty-line throughout their working lives. For them forced retirement is a calamity and hence the much publicized resentment of workers to all upper-age limits for employment.

Associated with the marginal economic status of most elderly couples are two additional handicaps: (1) Prospects of continued employment after age 65 are limited not only in the main vocational fields but they are also unevenly distributed geographically. This is shown in Figure 10–6 and is supported by the experiences of those state populations with high per cents on the rolls of the different assistance programs under Social Security. (2) There is a forced drift of the older worker to the low-pay jobs. Youth shares this experience with the aged, since employment records indicate the decade of highest earnings to be approximately the years from 35 to 45.

Three needs are apparent: (1) a nationwide system of part-time work; (2) a social security program less involved with restrictions and more generously cognizant of the responsibility of the nation to people who have completed their years of productivity; and (3) research in all the aspects of aging as suggested heretofore.

CONCLUDING OBSERVATIONS

Of all the age groups, that of elderly people is the least satisfactory in social status. During the past five or six decades there have been few constructive improvements in any of the social institutions serving these people. Their needs highlight the attention that the geriatric associations are proposing in health, mental hygiene, and social service.

The situation of the aged is an unstable one. Though accompanied by an increase in numbers and proportions, it is by no means the result of

the usual demographic imbalance that such changes involve. The challenge of the aged is a real social instability. As a group they are experiencing a transition resembling the indefinite national or geographical complexity of refugees. They are the socially dispossessed, a consequence primarily of technological, industrial, and urban changes.

G. Stanley Hall was among the first to detect the onset of this American dilemma. He foresaw the need for a coherent research program. Though he was most concerned with aging in its individual and psychological aspects, he pointed out the critical unknowns in physiology and medicine.[9]

At present, geriatric research is largely confined to a few unrelated topics in the chemistry or physiology of aging. Although there are several societies or agencies, now organized nationally, they have not as yet been able to construct a basic program of integrated research. Investigations now under way or in the blueprint stage range over all the questions previously noted: What is the nature of growth, aging, or the conservation of vitality? How may life be prolonged without the risks of increasing physical and mental miseries? What nutritional standards and diets in childhood or in the middle years are best suited to life extension? How do the use of tobacco and alcohol modify health, and do they affect longevity? What stresses and tensions during work-life exact too high a cost in reduced efficiency or early death? How can society best profit from the maturity and experience of old people? These are basic inquiries. Research is also needed to help in solving the immediate problems of economic self-sufficiency, medical and hospital services, nursing homes and care at reasonable costs, and preparation for retirement. Some authorities foresee the possibility that the elderly may become a pressure group complicating the political system by sheer size, dominating organized labor by seniority rights and the economic system by control of property and money, and retarding social progress by conservatism and fixation on old-fashioned standards.

The golden years

One example of basic research is Lehman's report on the correlations of age and achievement.[10] This work is limited, as the title suggests, to the productive years and to creative work. Lehman points out the social obstructions to individual efficiency, the life expectancies of the creative period, and requirements necessary to conserve human resources as a whole. Thus, indirectly, he answers some of the questions on education, retirement, and social security.

[9] *Senescence* (New York. D. Appleton, 1922), pp. 3–4.

[10] Harvey C. Lehman, *Age and Achievement*, Vol. 33, Memoirs of the American Philosophical Society (Princeton, N.J. Princeton University Press, 1953), pp. 327 ff. Adapted by permission.

The golden years for major fields of human production, according to this study, are:

25–29 . . . Chemistry, instrumental music, most forms of poetry.

30–34 . . . Botany, electronics, mathematics, physics, practical inventions, religious poetry, symphonies.

30–39 . . . Entomology, genetics, medical research, oil painting, psychology, surgery, and short-story writing.

35–39 . . . Astronomy, music—chamber, orchestral, and operatic—, educational theory, geology, pathology, physiology, philosophy, the social sciences, sculpture, and the writing of "most influential" books.

40–44 . . . Architecture, best books, best sellers, cantatas, light opera, metaphysics, miscellaneous prose writing, oil paintings by contemporary artists.

1. The average age of greatest average human usefulness is the thirties.
2. In recent years an outstanding trend has been the greater creative ingenuity at younger ages in comparison with leaders in the same fields during past centuries.
3. The curve of productivity rises rapidly and falls slowly.
4. Leaders in business, government, church, or in other social institutions are usually delayed in reaching prominence until they are fifty or older mainly because this type of contribution depends more upon social recognition and less upon creative insight or originality.
5. Work of mediocre quality is less affected by advancing age and continues to be produced into the upper age groups.
6. Increasing longevity apparently would not increase the total of man's original, creative work since this qualitative production occurs in the thirties for both the long- and short-lived producers. Lehman reserves as a supplement to his general explanation of the relation between age and ability that originality may also be a product of certain individual characteristics not markedly diminished by chronological aging.

The most likely explanation of this correlation between youth and creative ability is discovered in a combination of physiological, social, and personal conditions that develop in aging. Physical vigor reaches a definite peak prior to age 40, and fatigability increases. Likewise, motor precision diminishes and handicaps of vision and hearing increase. Illness and physical defects (other than the sensory) become more frequent and serious. Lehman also suggests the possible ill-effects of glandular changes concerning which little is now known. Among prominent social interferences that can reduce work efficiency, Lehman mentions unhappy marriage, family burdens or problems, difficulties in sex adjustment, bereavement, and economic problems of earning a living or striving for recognition. Inadequate motivation because of early achievements may cause a letdown or induce complacency, and non-recognition and criticism may result in a similar reduction of efforts. In addition, there are such obvious explana-

tions as mental disease, alcoholism, narcotic addiction and other types of dissipation.

Retirement

Concern about retirement is recent and largely a result of pension and annuity systems. During all prior historical periods people had to work up to the limits of their physical capacity. With their increase in numbers and the speed-up of industry, most major industries have introduced pensions and a fixed age of retirement, generally 65. In educational institutions, government service (both civilian and military), and many business organizations, retirement may be as late as 70, and it is often optional after a fixed term of years. These latter systems usually operate like annuities to which both employee and employer contribute. They are a decided improvement over pension or the non-contributory plans. The individual annuitant regards the annuity as his own property and generally looks forward to retirement as an opportunity for rest, hobbies, or work of a more personal choice.

As a rule the industrial worker has not favored the pension system. He has not been opposed to the money but he has fought against involuntary retirement at a fixed age. This opposition arises largely because work and its associations have become his life and he knows no other way to pass the time. Supplements to current pensions from the government's security program are beginning to dispel this attitude by making the retired worker's economic life more tolerable. As Old Age and Survivors' Insurance becomes more effective, the opposition to retirement will unquestionably disappear.

Security

Although the social security program began in 1935, it has not yet reached the coverage that its sponsors planned originally. The system, however, as it has developed to date is basically sound, and it is being extended periodically until eventually it will be the same as an annuity plan for everyone. As with most pensions, the insured individual may retire at age 65. If he dies before this age, his family is entitled to an amount of insurance protection that is based on his previous earnings and contributions.

The entire social security plan operates as a supplement to other forms of savings, pensions, insurance, or annuities. It is handicapped at present by not being universal and by numerous and confusing rules, waivers, and exceptions, particularly when a worker is obliged to retire before 65. Unquestionably these objections are temporary and transitional and they will disappear entirely when monthly income begins promptly and is not cheapened by inflation or by administrative haggling as to eligibility.

Both as an economic program and as a guarantee of family social

solidarity, this insurance is an important part of a nation's population program and the best guarantee so far against the liabilities of old age.

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CHAPTER II

Birth Rates

In the long run, birth-rate trends may determine the destinies of a nation.

PAUL H. LANDIS*

THE FERTILITY of a people has long been of vital interest to both individuals and governments. For the individual, the hopes or fears of having children have been prime values; for governments and private groups, concern over fertility has been an important factor in determination of policy. Generally, high birth rates have been the common goal and moderate or low birth rates have been interpreted as evidence of family or national weakness.

These interests have been demonstrated in different expressions of public opinion for both long and short periods of time. Between the 1930's and 1950's the outlook in the United States changed from an acceptance of a possible future stable population to that of unrestrained enthusiasm for high birth rates and their probable effects upon economic progress and national well-being in all social relations.

The United States, like most Western nations, has experienced an unprecedented increase in the crude birth rate since World War II. The rise from the low rates of the depression years has demonstrated the impact that short-run changes can have upon a society. An illustration has been provided of the ability of a population to make rapid adjustments in that behavior which influences and directs changes in marriage and spacing of children. Not only have short-run changes been examined anew, but the long-run trends have been re-examined in the light of this unexpected transition.

This re-examination of trends has resulted in attempts to devise new measures of fertility. The post-war baby boom also produced a reappraisal of the determinants of fertility, and as a result there is a keener awareness of the significance of cultural and psychological factors in fertility. Interest has been reawakened in differential fertility, particularly since the underdeveloped countries of the world are beginning to industrialize and to experience the effects of industrialization on vital rates. Gaps in the existing

* *Population Problems* (New York. American Book, 1943), p. 89.

knowledge have been dramatically exposed and attention is being directed toward the relationship between population trends and economic and social conditions.[1]

Rapid changes in fertility have an immediate effect on all social organizations. Schools and colleges view with increasing alarm the relationship between quantity and quality. Business groups are affected as they plan for increasing markets on the comfortable assumption that the present high levels of economic activity have a solid base in increasing numbers. Administrative units of government are likewise affected in their planning for community facilities. In brief, rapid changes in fertility over relatively short periods of time affect almost every phase of social living. They also indicate the necessity for reasonably accurate prediction in order to ensure standards already achieved against the burden of unexpected numbers and the mounting costs of their support.

Short-term changes and predictions of change, however, are no more important than long-term trends. As Landis indicates, the destiny of a nation is involved in the eventual outcome. For example, labor force and military potentials are inevitably founded on the birth rate. Policy determination in public health, social security, education, and the use of natural resources must be limited and controlled in large measure by basic demographic facts.

As a consequence of the growing awareness of the complexity of factors affecting fertility rates, it has become increasingly apparent that no single set of concepts, no single discipline, is likely to explain the reproductive behavior of man. Economic conditions, religious institutions, the customs of a people as well as the more specific factors of density and composition affect occupational distribution, education, health, and the institution of marriage, which in turn influence or condition birth rates.

Even without assigning cultural values to biological traits, it is evident that varying birth rates are basic in the biological heritage of a people. If biological traits are related to survival and to eugenic character, then changes in birth rates are of paramount importance. However, biological facts cannot stand alone, even if all of the facts were known, for man is a social being and the social and cultural environments are basic to organic survival. Man is an individual, too, and the uniqueness of man expressed in his creativity is his reaction to the socio-cultural environment on a personal level, and this stream of influences is mainly a psychological web of relatively unexplored conditions. Fertility must be understood in terms of all interrelations: the biological, the social, the cultural, and the personal. Knowledge in each is not equal either in fact or in level of generality, and

[1] "Gaps in Existing Knowledge of the Relations Between Population and Economic and Social Conditions," *Population Bulletin of the United Nations*, No. 4 (December, 1954), pp. 1–7.

the interrelationships have not yet been adequately reduced to an understandable formula.

CHANGES IN FERTILITY

It is customary to indicate the meanings that have come to be associated with the terms fertility and fecundity. Fertility is used to indicate the actual reproductive performance of a species. Fecundity means potential ability to reproduce. Primary demographic interest is in fertility, since it is generally recognized that fecundity is less of a limiting factor. Abundant fecundity is presumed to be a constant or evenly distributed biological trait of the human species even though there are individual variations in procreation. However, the fact that fecundity has less influence on fertility than social and psychological factors should not lead to a total disregard of biological factors, for few positive assertions can be made about the nature of fecundity.

Interest in the reproductive behavior of individuals has had a longer history than has the concern over the fertility of groups. Accurate records, however, of individual fertility are rare, but the upper limits are of both scientific and public concern on a "believe it or not" basis. At least one case has been reported of an Austrian woman who had sixty-nine children. This record she achieved by having sixteen sets of twins, seven of triplets, and four of quadruplets. While this is the largest family recorded, the most children at one birth which seems to be authentic is that of sextuplets born in 1866. Interest also centers on the youngest age and the oldest age at which a first birth has occurred. The record of the youngest mother reputedly goes to a five-year-old Peruvian girl, that of the oldest to a woman of sixty-two. While these data may pique the interest, progress in understanding fertility is much more likely to come from the study of the fertility experience of groups.[2]

[2] Crude birth rates are expressed in terms of the number of births per thousand of the population without any refinements for age, sex, occupation, or income. They are useful in indicating general trends of births over relatively short periods. Rates may be refined by providing adjustments which control the influence of age, sex, and other differences between populations. Such rates may be expressed as births per 1,000 of the female population; births per 1,000 women aged 15–20 or 15–49; births per 1,000 married women aged 15–20, or 15–49. Thus successive refinements are made in relating births to women of childbearing age, to married women of childbearing age, and births by age of mother to married women classified by age, to obtain age-specific birth rates. Age-specific birth rates are summarized by various methods to produce a single rate. This is called an age-standardized birth rate. One type of age-standardized birth rate is the gross reproductive rate which shows the size of one generation relative to that of a preceding generation exposed continuously to the age-specific birth rates. The net rate of reproduction shows the number of daughters that would be born to the survivors of a group of 100 female infants during the course of their lifetime if present age-specific birth and death rates should continue unchanged. Recently interest has developed in methods of determining birth rates by order of births related to the age of the mother. See Pascal K. Whelpton, *Cohort Fertility* (Princeton, N.J. Princeton University Press, 1954). Chapters 1, 2, and 3 present an interesting and understandable review of methods of measuring fertility.

Fertility transitions

High stable levels of fertility have been the usual experience of underdeveloped areas of the world and of some classes in all societies. Joseph W. Eaton and Albert J. Mayer have provided a case-study of the pattern of life of a stable group with a record of high fertility.[3] This account of unusually high birth rates is a record of the South Dakota Hutterites, a rural religious group with little or no birth control or migration. The population is homogeneous with respect to education, income, social status, sex ratio, and age profile. Stability is also characteristic of social institutions and few marriages are broken by divorce or desertion. In this setting the population has grown at a rate of about 4 per cent a year, which would double the population every sixteen years. As would be expected, big families are the rule, there being nearly ten children per family and very few childless couples—childless couples compose 1 to 3 per cent of the population and provide a measure of bio-sterility where practically all women marry and there are strong institutional supports to fertility.

This case illustrates the generalizations concerning institutional patterns that support high fertility. In addition to an agricultural society in which religion or sacred values motivate the procreation of large families, the nature of the family system and the cohesive nature of groups provide a support to large families. Quite often the effort and cost of child-raising are not directly borne by the parents and the compulsion to marry at an early age is strong.[4] This case is cited as an illustration of general conditions in all agricultural societies before the Industrial Revolution. The transition from an agricultural to an industrial economy in Western culture is associated with a decline, however measured, in the birth rate. The timing of the decline has varied from country to country, depending on the rate of transition to a new way of life. Within the United States itself, the same varied transition is apparent as different sections of the country experienced differing patterns of change in fertility.

All of the available evidence indicates that with a few exceptional periods the United States as a whole experienced a decline in fertility, from

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The Indianapolis survey on which *Cohort Fertility* is based was begun in 1941 under the direction of P. K. Whelpton and the staff of the Scripps Foundation, Miami University, Oxford, Ohio. In the first household survey only white couples, who were married during the years 1927 to 1929, were interviewed. The first report was published in 1943. Succeeding reports have appeared periodically and the original population has been increased. All completed reports are now collected in four volumes under the general title: *Social and Psychological Factors Affecting Fertility* (New York. Milbank Memorial Fund, 1950–1955).

[3] Joseph W. Eaton and Albert J. Mayer, *Man's Capacity to Reproduce* (Glencoe, Ill. Free Press, 1954).

[4] Kingsley Davis, "Institutional Patterns Favoring High Fertility in Underdeveloped Areas," *Eugenics Quarterly*, Vol. 2 (March, 1955), pp. 33–39. Frank L. Lorimer and others, *Culture and Human Fertility* (Paris. United Nations Educational, Scientific, and Cultural Organization, 1954). George J. Stolnitz, "Population Composition and Fertility Trends," *American Sociological Review*, Vol. 21 (December, 1956), pp. 738–43.

TABLE 11–1. Number of Children Under 5 Years of Age, per 1,000 Women 20–44 Years Old, United States, 1800–1940

Year	White	Negro	Year	White	Negro
1940	419	513	1860	905	1072
1930	506	554	1850	892	1087
1920	604	608	1840	1085	
1910	631	736	1830	1145	
1900	666	845	1820	1295	
1890	685	930	1810	1358	
1880	780	1090	1800	1342	
1870	814	997			

SOURCE: *Historical Statistics of the United States, 1789–1945.* United States Department of Commerce, Washington 25, D.C., p. 45.

1810 to 1935. While there are no birth statistics for the country as a whole until after 1933, the ratio of children under five to women in the child-producing years indicates a decline in fertility during the nineteenth century. In the twentieth century, birth rates showed a postwar rise until 1921, a decline from 1921 to 1927, a rapid decline from 1927 to 1933, small and irregular fluctuations from 1933 to 1939. As economic conditions improved, the birth rate responded by increasing again. The effects of World War II were seen in a decrease in fertility rates from 1943 to 1945 and a large increase with demobilization. This increase has been described as the "great baby boom" and has been illustrated by statistics of the following kinds: In a ten-year period after World War II, 37.4 million babies were born to American families. In 1946, there were 553,000 more children born than in 1945, and 406,000 more in 1947 than in 1946. These figures have given the general public the impression that the long-term downward trend in the birth rate has been reversed. Demographers are not so sure. Information is still needed on the pattern of rates by order of birth over a

TABLE 11–2. Gross and Net Reproduction Rates, United States, 1940–1953

	Gross Reproduction Rates			*Net Reproduction Rates*		
Date	*Total*	*White*	*Non-White*	*Total*	*White*	*Non-White*
1953	1664	1603	2112	1593	1543	1953
1952	1635	1577	2059	1561	1514	1894
1951	1591	1532	2025	1519	1471	1864
1950	1505	1446	1940	1435	1387	1780
1947	1593	1568	1766	1505	1492	1594
1940	1121	1082	1422	1027	1002	1209

SOURCE: *Vital Statistics of the United States,* Vol. 1 (1953), U. S. Department of Health, Education, and Welfare, Public Health Service, p. XXXIX. "The gross rate is a fertility rate standardized for age and sex. . . . This rate is converted into a net rate by multiplying the female fertility frequencies for each age in a given year by the survival rate up to that age in the same year and summing the products in order to estimate the number of daughters who will survive to the age which their mothers gave them birth." Consult: T. J. Woofter, "Generation Reproduction Rates," National Office of Vital Statistics, *Vital Statistics,* Special Reports, (Vol. 33, No. 4, Jan. 30, 1950), p. 65.

longer period of time, and on size of completed families by successive groups of women who pass through the child-bearing years. The influence of economic and social factors on the timing of births must continue to be studied in order to determine if the concentration of births in a short period of time is a result of "making up" births that were postponed by adverse economic conditions, delayed marriage, or a change in a long-term trend. When more of these types of data are available, then perhaps the answer to the question of long-term trends may be given with additional assurance.

Size of family

It is not the short-term fluctuations in the birth rate that determine population replacement, but the total number of children eventually born to the average couple. Undoubtedly the long-term trend in the United States has been a decline in average family size. The first census in 1790 showed more families of five persons than any other number; in 1890 four-person families were the rule and by 1930 there were more two-person families than any other size. Data on the number of children ever born to women in advanced ages confirm the conclusion that the small-family system is still the typical pattern of family size.

TABLE 11–3. Number of Children Ever Born per 1,000 Women 15–59 Years of Age by Age of Women, United States, 1950, 1940, and 1910

Age of Women	*Children Ever Born per 1000 Women*			*Per Cent Increase 1940 to 1950*
	1950	*1940*	*1910*	
Total 15–44	*1395*	*1238*	*1715*	*+ 12.7*
15–19	105	68	69	+ 54.4
20–24	738	522	281	+ 41.4
25–29	1436	1132	1601	+ 26.9
30–34	1871	1678	2446	+ 11.5
35–39	2061	2145	3286	— 3.9
40–44	2170	2490	3904	— 12.9
45–49	2292	2740	4295	— 16.4
50–54	2497	3157	4529	— 20.9
55–59	2728	3017	4816	— 9.6

SOURCE: United States Census of Population, Special Report, P–E, No. 5 C, *Fertility*, 1950.

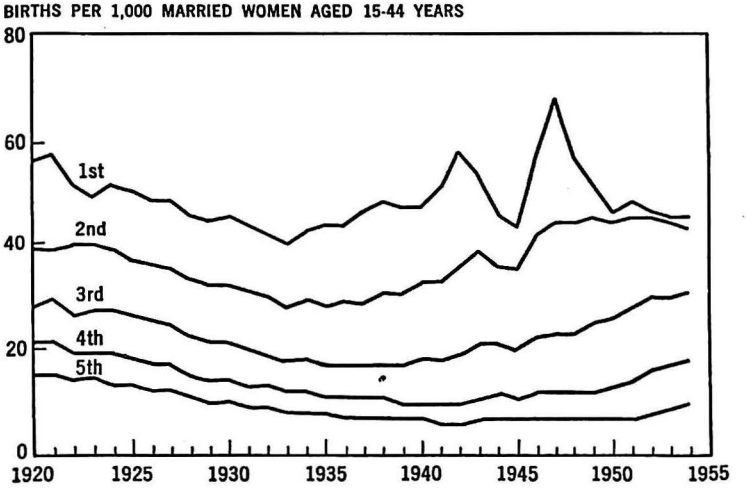
Table 11–3 indicates the general trend of a declining completed-family size in the United States in the nineteenth century. Data from the 1910 and 1940 censuses also indicate that the cumulative birth rate of women reaching the end of the childbearing ages has declined and more recent data by Whelpton confirm the general trend.[5]

The decrease in families of seven or more children has been spectacular

[5] P. K. Whelpton, *op. cit.*, Chapter 5.

as indicated by a decline of 60 per cent in the three decades ending in 1950, and families of this size may virtually disappear in the future. The conditions which brought the baby boom were not influential in persuading couples to have high-order births, since they could control family size. The baby boom began with an increase in first births. At the peak in 1947, first children were born at the rate of 69 per 1,000 married women, aged 15 to 44. Second births also showed sustained high rates during the period 1945 to 1954. Third births have followed the general upswing with a low of 17 per 1000 married women, aged 15 to 44, in the late 1930's to a high of 31 per 1000 in 1954. Third and fourth births are currently increasing

FIGURE 11–1. Birth Rates by Order of Birth, United States 1920–1954



SOURCES: "The Baby Boom Continues," *Statistical Bulletin*, Vol. 36 (April, 1955), p. 4, The latter reproduced by permission of the Metropolitan Life Insurance Company. See also Albert Mayer and Carol Klapprodt, "Fertility Differentials in Detroit, 1920–1950," *Population Studies*, Vol. 9 (November, 1955), pp. 148–58. More recent rates but not exactly comparable to this Figure are reported in *Statistical Abstract*, 1957, p. 57.

while fifth and more births are declining. Present evidence suggests the continued pattern of small-family size in the United States and not a trend toward large families.

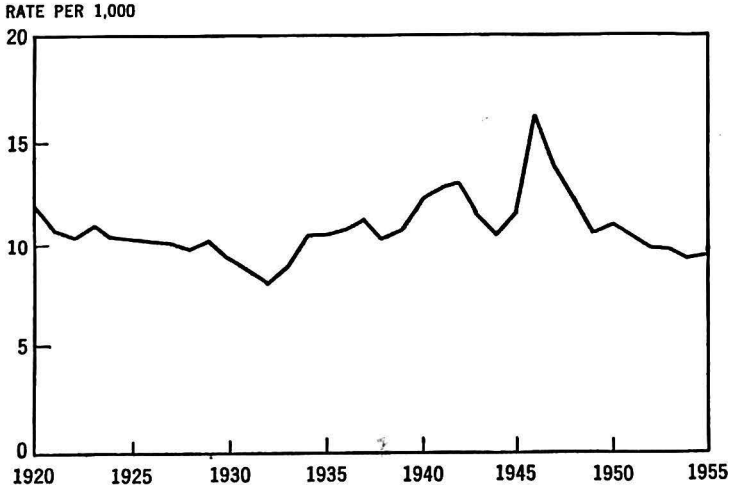
Within the United States there are, however, concentrations of large families in certain regions and economic classes. Large families are concentrated in the South and in the Mountain states, while the Middle Atlantic and Pacific states have fewer large families than other regions. Here are reflected the influence of a way of life upon family size and the numerous changes in social life that have developed to meet this condition

in housing and other functions in which the family rather than the individual is the consuming unit.

Marriage and fertility

An urban society can exhibit rapid fluctuations in birth rates from year to year. Most of the measures of fertility are sensitive to changes in age at marriage, duration of marriage, and the proportion of people who eventually marry, divorce, become separated or widowed. The recent increase in births has shown that a sudden change in marriage rates can affect the first-birth rate of all women of childbearing age. Such changes do not necessarily reflect changes in the total number of children that people will have, but rather reflect the timing of births as young couples react to changing economic, political, and social circumstances. Whelpton's study of *Cohort Fertility*[6] indicates that the fluctuations in low order of births is particularly susceptible to changing attitudes and changing social conditions, while higher order of births have not been influenced as much by such changes. The net effect is that marriage rates produce short-run changes in fertility rates but may have less influence on completed-family rates. During each decade since 1890, the proportion of single persons in the population of the United States has declined. Part of the decline can

FIGURE 11–2. Marriages per 1,000 Population, United States, 1920–1956



SOURCES: "Further Decrease in Marriage Rate," *Statistical Bulletin*, Vol. 35 (December, 1954), p. 4. Reproduced by permission of the Metropolitan Life Insurance Company. Slight increases are reported for 1955 and 1956 in the *Statistical Bulletin*, Vol. 38 (May, 1957), p. 6.

[6] *Ibid*, Chapters 5 and 6.

be attributed to changing age composition, part to the long-run changes in marriage rates.

The fluctuation of marriage rates is of course significant in terms of its influence on birth rates. It reflects the postponement of marriage and the deviation of marriage from expected patterns, and thus alters the expected number of births.

The proportion of persons married during the childbearing years will also have an effect on birth rates. Whenever a high proportion of females is married, the crude birth rate is also likely to be high. The student will recognize that statements of the proportion of a population married must be observed with care, since the age, sex, race, and marital status of the population defined in the proportion will have varied meanings for fertility rates. Between 1940 and 1950 there was a large increase in the proportion of young people who married. The general trend in the United States has been for older women to carry a smaller share of the burden of childbearing. Fertility is a function of age from both a biological and social point of view. From the biological point of view the proportion of sterile women increases with age to reach practically 100 per cent at the age of fifty; from the social point of view, most women attain the desired family size within ten years of marriage. The timing of marriage, therefore, has major implications for trends in the birth rate, for maternal mortality, for the social and psychological adjustments between parents and children, and for the family and other social institutions in the community.

Contraception

While the social scene presents the scholar with a number of limited problems, other problems re-occur and pose constant challenges. Among these challenges are the nature of a society as a system of moral relations, the relation between restraint and liberty, and the role of reason in human affairs. Within this broad framework, contraception as a technique for the control of fertility must be interpreted from the point of view of multiple causes and in terms of the changing moral status of voluntary family limitation.

Demographers are generally in agreement that there has been an increase in the extent and the effectiveness of the use of contraceptives in the Western world and that this fact has been a major circumstance in the decline of family size. There is no evidence that organic reproductive capacity has declined, although explanations for such consequences have been offered in terms of increasing demands on nervous energy because of modern competitive social life. Other authorities have argued for an increase of reproductive capacity in terms of improved health, fewer physical defects, and better diets. Deliberate family limitation has been accepted as a more reasonable explanation than those derived from biological capacity.

The consensus of studies as to the extent of the practice of contraception is that a large proportion of married couples attempt to control the size of family. Demographers are also agreed in their beliefs as to the effectiveness of the practice of limited births. That this increase in the use of contraceptives is related to cultural values is illustrated by the British experience as reflected in the adoption of family limitation practices in a desire to safeguard the rise in standards of living. In Great Britain the size of the family began to diminish about 1880, when the population had increased two and one-half times during the previous seventy years. Between 1850 and 1880 the middle class had experienced in each decade an increasingly rapid expansion in real wealth, while after 1880 a trend in the opposite direction became apparent. In this complex, a mounting fear of overpopulation was expressed and the birth-control publicity of the Bradlaugh-Besant trial is credited with a breakdown of the psychological barriers to the use of birth control in an effort to support the standard of living.[7]

Changing attitudes reflect changing circumstances. Rational attitudes toward family values and decline in traditional religious beliefs have accompanied social and economic changes. In this respect it should be noted that within the Catholic system of values, ethical conduct involves conformity to natural law. While Catholic authorities now recognize, under some conditions, the propriety of planning or child-spacing, an initial intention to limit coitus to "safe periods" in the menstrual cycle is not consistent with the Catholic interpretation. Among other changes leading to the acceptance of contraception as normal have been the steady growth of popular education, the emancipation of women, the growth of high standards of parental care, and the beliefs involved in concern for children as individuals. Modern man searches for purpose in life just as surely as did the Greek or Renaissance man. In this search, faith in intelligence, even if at times sorely tried, is subscribed to by large numbers of people. Intelligence applied to other areas of human achievement has provided control over nature and increasingly faith in intellectual endeavor has been made a basis of moral commitment. The increased use of contraceptive devices to control family size must be understood in terms of the social conditions which encourage the practice. In this connection the development of conditions noted above has provided the setting favorable to the use of contraceptives.

DIFFERENTIAL BIRTH RATES

Probably no concern about birth rates has been so great or has become part of the general knowledge of a people as much as has the recognition that there are considerable differences in the fertility of different social and

[7] Charles Bradlaugh and Mrs. Annie Besant reprinted and distributed a book by Dr. Charles Knowlton, *Fruits of Philosophy*, originally published in the United States in 1834. The sale of the book rose to 200,000 a year and successful propaganda is thus dated from the trial.

economic classes. As already indicated, evidence has accumulated to show that an increasing proportion of married couples are exercising deliberate control over fertility. When fertility control is practiced, the size and timing of a family become the product of a complex of motives that reflect reactions to social and economic standards.

The divisions of social life in which changing fertility occurs and the facts which are thought to influence these differences have been the subject of research over a considerable period of time. The result of this research has been a fairly substantial body of information which has documented the trends in differential fertility. While many questions are yet to be answered, particularly with reference to moral, religious, or biological implications, there does exist a fairly well-developed subject matter whose main outlines will be sketched.

The consensus of most demographers is that social and cultural conditions are of primary importance in understanding differential fertility. The assumptions are that when dealing with groups of people it is the universality of limiting social conditions which prevent reproduction at the maximum of physiological capacity. Groups develop for personal and social reasons. They are rarely formed out of genetic bases, and differential fertility has been studied in terms of categories like occupation, income, and education which are used as a basis for the classification of groups. It is evident that each of these determinants of class composition is in itself a complex of factors which are associated with a variety of social circumstances and personal motives.

Education and fertility

One of the mose useful criteria of socio-economic status of women in so far as fertility is concerned is the amount of formal education. While other criteria may vary in the life of a woman, the amount of education received remains as a stable characteristic useful in its relation to fertility studies. For a number of decades it has been true that there has been a strong inverse correllation between educational levels and lifetime fertility. As indicated in Chapter 13, page 286, women with more formal education have had fewer children than those with less formal education.

College graduates do not marry as early, and a larger proportion remain unmarried, than do other women. As indicated in Chapter 13, women graduates of college have an unmarried rate of 31 per cent in comparison with the national average of 13 per cent, and their age at marriage is five or six years later than the national average. Undoubtedly these facts together with the child-spacing practices which reflect the value systems of the college women are responsible to a considerable degree for the small families of college women. While a college education is a type of insurance against divorce, it is also true that it tends to surbordinate family

orientation to a career orientation. The highly educated wife has other interests than those associated with her home and family—interests which have sometimes been described as a demand for a more personal existence, broader in scope than the bearing and rearing of children.

The explanation of the correlation between education and the small family is traced to a combination of factors including the selection of women for a college education from the social classes having small-family culture norms; age at marriage; occupation; income; standards of living; the cost of rearing children; and social mobility. These factors continue to operate even though the college population has participated in the upswing of the birth rate following World War II. The inverse relationship continues even when the higher educated groups contributed proportionately more births in the period of the baby boom than did the least educated. College graduates do not yet contribute their proportionate share to the quota of the next generation. However, the fertility differential between the educational classes is narrowing and this fact, together with the emphasis on educational opportunity for all at advanced levels, may in the future put the concern over the differential birth rate in a different light. Education and fertility cannot be estimated fairly apart from the historical trends of equality of opportunity, compulsory education, and the whole issue of mobility in an open-class society.

Occupation and fertility

Occupation is one of the favored indexes of social-class position and as such has been used in classifications of fertility statistics. For most persons, the occupation pursued is so pervasive that its effects are almost unlimited. Numerous studies document the effects of occupation on income, on style of life, on class identification and social mobility, on health and welfare, even on life expectancies. When fertility statistics are related to occupation, it is not a simple relationship that is under consideration but in fact a very complex situation all of whose elements and consequences have not been identified.

The manner in which occupations are classified is of considerable import in showing their relationships to the size of family. Most of the census fertility data by occupation refer to nine major occupational groups. This classification in all likelihood obscures specific occupational patterns which promote different fertility patterns, and the fertility patterns of specific occupations remain, for the most part, unknown. When occupations are classified into broad groupings, such as Professional, Business, Skilled workers, and Farmers, which separate the population by a style of life, then a distinct relationship to fertility rates is observed. Dinkel's study of the 1910 and 1940 census data on number of children ever born to native-white women concludes that the data only partially support the general hypothesis that occupation is related to fertility. Most of the other studies, how-

ever, support without reservation the general inverse relation between occupational status and fertility.[8]

The substance of these studies indicates that in general the wives of persons engaged in occupations classified as manual labor have more children than those whose husbands are in the white-collar jobs. Professional persons generally have fewer children than those in any other group, and the data indicate that the small-family system is more typical in the business and professional classes than among farmers and laborers. Comparisons of farm occupations with urban occupations consistently provide evidence of the support given to large families by rural systems.

Numerous qualifications and refinements of the general inverse relationship between socio-economic status and the birth rate have raised questions concerning the changes in the relationship between occupation and fertility. Westoff presents evidence to indicate that differential fertility among occupational groups has recently contracted because of the greater rates of increase in the white-collar class during the baby boom.[9]

It has been observed that in some instances the highest prestige occupations have birth rates higher than those occupations rated immediately beneath them. Kiser's study of data for 1935 indicates that the birth rate of the professional class was higher than that of the business class, and Westoff's analysis of fertility ratios for 1952 shows that the fertility ratios of proprietors, managers, and officials was higher than that for clerical and sales and the skilled occupations.[10] These findings are in harmony with other studies, both in the United States and in Europe, indicating that the inverse relationship between socio-economic status and fertility are reversed at the higher socio-economic levels. Apparently the fertility of professional workers fluctuates more widely than that of other workers in response to changing economic conditions.

Numerous reasons have been suggested for the recurrent differences, among which the spread of birth-control techniques to varied social classes at varied times is regarded by many demographers as the most significant. Initially it was the upper social classes who first were successful users of birth-control techniques. Subsequently the information and the attitudes accompanying them were to be found in the lower socio-economic classes.

[8] Robert M. Dinkel, "Occupation and Fertility in the United States," *American Sociological Review*, Vol. 17 (April, 1952), pp. 178–183. W. F. Ogburn, "Birth Rates and Social Classes," *Social Forces*, Vol. 8 (September, 1929), pp. 1–10. Clyde V. Kiser, "Birth Rates and Socio-Economic Attributes in 1936," *The Milbank Memorial Fund Quarterly*, Vol. 17 (April, 1939), pp. 128–151; *Group Differences in Urban Fertility* (Baltimore. Williams and Wilkins, 1942). Frank W. Notestein, "The Decrease in Size of Families From 1890 to 1910," *The Milbank Memorial Fund Quarterly*, Vol. 9 (October, 1931), pp. 181–188. "Outlook for Population and Family Growth," *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 38 (January, 1957), pp. 5–7.

[9] Charles F. Westoff, "Differential Fertility in The United States: 1900 to 1952," *American Sociological Review*, Vol. 19 (October, 1954), pp. 549–561.

[10] *Ibid.*, p. 557. Kiser, *op. cit.*, p. 136.

Again, the findings of the Indianapolis Study (that there is a direct relationship between socio-economic status and fertility among couples who planned size of family) indicate that deliberate control of family size does not inevitably mean a decline of fertility.

Another set of interpretations is to be found in social mobility, when the aspirations involved in seeking social-class position may be significant variables in helping to explain differential fertility. The United States has experienced a considerable realignment in the distribution of employed persons by occupation. What this change in occupational organization has meant to the pattern of differential fertility has yet to be explored. It seems reasonable to suggest that the shifting and changing occupational alignment, particularly the shift from unskilled to skilled labor and the expansion of service industries, has had implications for the changing fertility differential. Not only has the world of occupations experienced change, but the mobility of workers within and between occupations has been a significant study for the student of social class. While little is known of the fertility of the socially mobile, the hypothesis has been suggested that fertility tends to be inversely related to upward social mobility; and since occupational mobility has been one of the major means of changing social-class position, in all probability occupational mobility is also inversely related to fertility.[11]

Closely related to the changing trends in occupations is the increasing employment of women, particularly married women, with the effects of such change upon fertility. Women who are simultaneously raising children and carrying the responsibilities of a job, experience considerable difficulty. It is not surprising that women in the labor force at any particular time generally have fewer young children than women not in the labor force. Since 1870 women in the labor force have increased both in numbers and proportion, and in recent years there has been an upward trend in the proportion of married women in the labor force. However, the occupational careers of women are not normally continuous. In recent decades the pattern of work-life has been that of a period of employment until children appear, then a withdrawal while children are young, and a subsequent reentry into the labor market when the children no longer need full-time attention of the mother. The significance of the employment of women is whether or not women who join the labor force have as many children at the end of the childbearing years as those women not in the labor force. Data from the 1950 census indicate that, in terms of children ever born,

[11] Charles F. Westoff, "The Changing Focus of Differential Fertility Research; The Social Mobility Hypothesis," *The Milbank Memorial Fund Quarterly*, Vol. 31 (January, 1953), pp. 24–38. Jerzy Berent, "Fertility and Social Mobility," *Population Studies*, Vol. 5 (March, 1952), pp. 244–260. E. Digby Baltzell, "Social Mobility and Fertility Within an Elite Group," *The Milbank Memorial Fund Quarterly*, Vol. 31 (October, 1953), pp. 411–420. Warren Thompson, *Population Problems*, 4th. ed. (New York. McGraw-Hill, 1953), Chapter 3.

young women who are in the labor force are less fertile than those not in the labor force, but the suggestion is made that it is possible that the two groups will not differ very much in size of their completed families.

Income and Fertility

As might be expected, the studies of the relation of income to fertility support the differential fertility so often documented. This means of course that income is least among those having large families and greatest among those with small families.[12]

However, this general relationship needs to be qualified. The large number of births in recent years to high-income groups, and the experience of the Indianapolis Study, prevent the generalization from being accepted as total inverse correlation. Also, the same kind of reversal that was observed in occupational groups has been indicated for income groups. Age is another variable in the negative relationship between income and family size and is most pronounced when the father is less than thirty years of age. Differential fertility in the income classes has tended to become narrower when other correlates are used. It should also be noted that definitions of income and family size need not be indicative of competency, however measured. The problem of remuneration in terms of usefulness to society is complex and to make assumptions regarding the relation between income and family size within this complex is at best a hazardous venture.

Religion and fertility

The relation between religion and fertility is so uncertain that few conclusions can be made which are specific, accurate, or significant to this relationship. As indicated in Chapter 14, there is no conclusive evidence that one religion is outbreeding the others. The fact that the early decline of fertility in Europe occurred in France, and the subsequent decline in Italy, shows that the relationship is not as precise as is often assumed. While religion pervades the life of most so-called primitive societies and has been organized in a more definitive institution in more developed societies, it must not be thought for that reason that the influence of religion is limited to the behavior immediately involved in the institutional pattern. Rather, even in a complex society, religious influences are interwoven with other cultural influences, as indicated by Max Weber in the classical study of the relation between capitalism and the Protestant ethic. In a culture such as that of the United States, the influences of religion on fertility are largely indirect and cannot be stated as precise effects of one condition.

[12] Frank W. Notestein, "Class Differences in Fertility," *The Annals of the American Academy of Political and Social Science*, Vol. 188 (November, 1936), pp. 26–36. Samuel A. Stouffer, "Fertility of Families on Relief," *Journal of the American Statistical Association*, Vol. 29 (September, 1934), pp. 128–151. T. J. Woofter, "Size of Family in Relation to Family Income and Age of Family Head," *American Sociological Review*, Vol. 9 (December, 1944), pp. 678–684.

However, it has been generally recognized that Christianity has exerted a moral force tending to support the sacredness of marriage, the value of the individual, a high regard for children, and the importance of the family in the culture. These moral forces have tended both to support and to depress fertility. Support has developed in the sacredness of marriage and the regard for children, but it is also probable that concern for persons as individuals has been a stimulus to a rational control of fertility.[13]

The point is made in Chapter 14 that liberal religious groups are more responsive to methods of family planning. In this context it should be noted that the studies of Tawney and Max Weber emphasize the individualistic elements, the rational spirit of inquiry, and the social mobility features of the Protestant ethic. In all probability these forces have had an impact on the fertility behavior of large numbers of people in the culture of the United States.

Local community studies reveal that the major religious groups can be ranked by fertility rates in the following order from high to low: Roman Catholics, Protestants, Jews. In general the studies indicate that Catholic families are larger but that the difference in size of family is less in the lower socio-economic levels. Apparently the influence of Catholicism tends to moderate other social-class factors in determining the size of the family. Catholic concepts concerning procreation seemingly motivate a greater percentage of their members than those of other churches. In the Indianapolis Study there was a significant difference in the size of the completed families of Catholics and Protestants. Of the Protestant couples, 67 per cent had two or fewer children while 52 per cent of the Catholic couples were in this group. The fertility rate, standardized for age, for native-white couples with the wife under forty-five, was found to be highest for the Catholic couples and lowest for the Jewish couples. That other than religious influences play their part is testified to by the fact that Protestant couples born in the South had larger families than Catholic couples, practically all of whom were born in the North.

Religious influences have different effects on populations at different educational and social levels. What these influences are is difficult to determine in any manner that is subject to proof.

URBAN AND RURAL FERTILITY

Residence in the city or in the country is associated with differences in fertility that reflect differences in values and ways of life. The classification "rural" and "urban" in itself indicates a classification of occupations that has been shown to be significant for differential fertility. When states are classified as primarily industrial or agricultural, as for example in Chapter 3, great differences in fertility are observed. Moreover, this difference has existed for a considerable period and the traditional rural-urban

[13] Frank Lorimer and others, *op. cit.*, pp. 189–198.

differential is still significant. In the mid-thirties, urban birth rates were below replacement levels, but in subsequent years, urban fertility rates have exhibited the same rise and fluctuating character as the rates for the nation as a whole. At the middle of the present century many urban communities had fertility rates above long-run replacement needs, but opinions differ as to whether there has been any general tendency for the rural-urban fertility differential to diminish. However, as more of the population becomes concentrated in cities, the significance of the differential fertility will assume new and different meanings. Differential fertility prob-

TABLE 11–4. Crude Birth Rates (exclusive of stillbirths), Urban and Rural, United States, 1940, 1947, 1948
(By place of residence. Rate per 1,000 population)

				Per Cent Change	
	1948	*1947*	*1940*	*1947–48*	*1940–48*
Urban	24.7	26.4	17.1	− 6.4	+ 44.4
Rural	23.9	25.5	19.1	− 6.3	+ 25.1

SOURCE: "Births by Race and by Urban and Rural Areas," *Vital Statistics*, Special Reports, Vol. 35 (January 20, 1950).

ably became important only with the growth of a modern industrial, urban culture, and as this culture matures, the differentials are likely not to be so great.

By 1940 regional differences, which are indicative of the rural or urban nature of the state, had become smaller than they were at the beginning of the century. Between 1940 and 1950, increases in fertility were, in general, greatest among groups which had low fertility rates, and the urban rates shared in this general change.

TABLE 11–5. Birth Rates for Urban and Rural Areas, United States and Geographic Divisions. 1950 Definition
(Rates per 1,000 females, adjusted for residence and underregistration)

Area	*Total*	*Urban*	*Rural*
United States	106.2	95.6	123.6
New England	93.5	87.6	112.3
Middle Atlantic	88.2	83.5	104.0
East North Central	105.3	98.1	121.3
West North Central	112.8	103.6	123.9
South Atlantic	112.3	94.5	127.8
East South Central	121.8	101.8	135.3
West South Central	120.1	112.8	130.2
Mountain	131.2	119.1	144.1
Pacific	104.4	97.6	117.0

SOURCE: *Vital Statistics*, Special Reports, Vol. 37 (February 19, 1954).

Rural and urban fertility rates emphasize the importance of a number of conditions thought to be significant in studies of human fertility. Styles of

life as displayed in the type of work, and the intellectual world in which populations exist, are quite different when extremes of urban and rural life are compared. Rural institutions tend to support high fertility attitudes, urban institutions are focused less on traditional cohesive groups and more upon individual or collective values as distinguished from group values.

City populations are likely to be both socially and geographically mobile, conditions which emphasize the small family and which have been shown under some circumstances to be inversely related to fertility. The city provides opportunity for the employment of wives outside of the home and city culture supports the centers of professional opportunity for women. Cities are products of specialization and as specialization matures, the city population is employed more and more in services and other activities producing non-material commodities. Many of these activities demand intensive training in which large-family values do not play a part. Contraceptive information is more widespread in the city and the whole way of life is more inclined to the acceptance of this information than in rural life. As rural and urban become less distinguishable, it is probable that differences in fertility will continue to decline, but because these ways of life are founded on separate occupational and economic bases, it is unlikely that the differential will disappear completely.

SIGNIFICANCE OF DIFFERENTIAL BIRTH RATES

It has been popularly assumed that the lower birth rates of the native born compared to the foreign born, of the upper socio-economic classes compared to the lower socio-economic classes, and of the urban population compared to the rural population imply a deterioration of the biological heritage of the population.

To consider the validity of such an assumption, it is necessary to indicate briefly the significance of problems of quality in the differential birth rates (discussed more fully in Part V, page 345). Concepts like biological superiority or deterioration indicate values which can be approached objectively only as they are put in operational terms or are translated into specific units upon which judgments are made. Since definitions of social class and social stratification present great difficulties, it is little wonder that to superimpose a genetic function upon so variable a definition is wellnigh impossible.

When specific kinds of behavior are defined as either worthy of perpetuation or as in need of control, a number of additional problems are presented. There is little general agreement on the specific traits which should be perpetuated and little agreement on the hereditary basis of such traits as being genetically determined. In the case of mental defectiveness and mental disease, it is just as difficult to determine the precise role of the genes. Until it can be proven that groups of people differ in specific traits which are genetically determined, the geneticist can hardly specify the

expected genetic results of differential fertility.[14] At present there is no conclusive evidence that undesirable defects cluster in any single social class. Particular families seem to contribute disproportionately to the problem areas of a society, but the significance of the environment must be considered in these cases. No longer are questions posed in terms of, "which is more important, heredity or environment?" since the complementary nature of these forces is now generally recognized.

There is a general relationship between measures of intelligence and occupational categories; the higher the status of the occupation, the higher the average intelligence of those in the occupation. Here again, however, there are a number of qualifying considerations. There are numerous questions which have been raised concerning the meaning of intelligence. Intelligence Quotients can be changed. Furthermore, when cultural meanings, and the biases in favor of certain social groups are discounted in intelligence tests, results indicate that there is no significant difference between low- and high-status children in their *ability* to learn. Performance is partly conditioned by motive and when lower-class children are sufficiently motivated their intelligence test ratings improve.[15] Whenever the social barriers to formal education have been lowered, society has benefited from the inclusion of large numbers of capable people.

The major consequences of the differential birth rate are found in the social and economic circumstances associated with high birthrates. Extremes of native ability are to be found in all social classes. What would seem to be the most important consideration is to provide opportunities for maximum development of individuals regardless of the social group into which they happen to be born.

Health and fertility

Among the factors which either sustain or depress fertility those associated with the health of a population have been of special interest. The decline in infant mortality has been a major factor in the decline of the general death rate. Improved mortality has meant fewer widows and a decrease in female mortality rates. Improved general health, the reduction of venereal disease, and the reduction of injuries during childbirth are among the principal factors in sustaining reproduction. The rise in the general level of living, better working conditions, broad social reforms, and progress in medical science and public health during modern times have been major factors in improved health and rate of survival.

[14] Laurence H. Snyder, "Genetic and Social Significance of Differential Fertility: II–A Statement of General Principles and Concepts of Population Genetics," *Milbank Memorial Fund Quarterly*, Vol. 25 (October, 1947), pp. 359–366.

[15] Ernest A. Haggard, "Social-Status and Intelligence: An Experimental Study of Certain Cultural Determinants of Measured Intelligence," *Genetic Psychology Monographs*, Vol. 49 (May, 1954), pp. 141–186.

FETAL AND INFANT MORTALITY

Greater progress has been made in the control of infant mortality than has been made in the saving of life before birth. In fact, major attention is now being directed toward the problem of fetal mortality as the major problem of death in early life. Annually some 75,000 to 80,000 fetal deaths are reported in the United States but other estimates suggest that the number is probably nearer to 500,000.[16] Closely associated with these estimates is the fact that the first month of life is the most hazardous of the first year. Thus it has been suggested that "if the number of deaths on the day of birth were to continue for the first 100 days, no infant would survive beyond that time."[17]

It has often been suggested that the present status of fetal mortality is much like that of infant mortality fifty years ago. Consistent progress has been made in the prevention of death during the first year of life. Until 150 years ago infant mortality rates of 200 or more were common. Recent death rates for infants one to eleven months of age vary from 32.4 per 1,000 to 5.4 per 1,000 depending upon which state of the United States is considered.

TABLE 11–6. Fetal and Neonatal Deaths per 1,000 Total Births; and Death Rates of Children During the First Year of Life for Selected States, 1947

State	*Fetal Death Rate*	*Neonatal Mortality Rate*	*Death Rate for Infants 1–11 Months of Age*
Arkansas	17.5	19.0	10.7
California	16.2	21.1	8.5
Connecticut	14.7	19.9	5.4
Georgia	25.2	23.6	10.9
Idaho	16.2	21.9	7.7
Illinois	18.4	21.6	7.5
Kansas	15.6	20.4	7.9
Louisiana	26.1	25.4	12.0
Minnesota	16.9	21.2	7.6
Mississippi	28.9	24.1	13.0
Montana	15.5	22.1	10.2
New Mexico	21.6	36.7	32.4
New York	23.2	21.5	6.8
North Dakota	17.1	22.2	8.7
Ohio	19.8	21.8	7.8
Rhode Island	16.2	20.9	7.4
South Dakota	15.1	22.4	8.7
Washington	15.4	21.2	7.1
Wisconsin	16.9	22.1	7.5
U. S. Total	*20.6*	*22.8*	*9.6*

SOURCE: Jacob Yerushalmy and Jessie M. Bierman, "Major Problems in Fetal Mortality," *Vital Statistics*, Special Reports–Selected Studies, Vol. 33 (May 22, 1952), p. 221.

[16] J. Yerushalmy and Jessie M. Bierman, "Major Problems in Fetal Mortality," *Vital Statistics*, Special Reports, Selected Studies, Vol. 33 (May 22, 1952), p. 217.

[17] "The Hazardous First Month of Life," *Statistical Bulletin*, Vol. 33 (February, 1952).

The death rate for school-aged children has shown a comparable decline as many diseases such as smallpox, typhoid, and diptheria have been practically eliminated. Currently, accidents kill more children than any disease and malignant neoplasm now outranks other diseases as causes of death during the school years. While the general trend in infant mortality has been downward, it should be recognized that not all groups in the population have benefited in exactly the same way. Numerous studies have shown that infant mortality rates vary with socio-economic levels as life expectancies become greater in the upper socio-economic groups. Infant mortality is generally higher among Negroes, a fact that indicates the importance of social circumstances such as diets, medical care, and other criteria of a high standard of living. These same conditions are highlighted by the increased infant mortality in large families and among illegitimate children. However the general tendency toward continuous decline of infant mortality rates has been spectacular and the health professions are now turning their attention to control of fetal mortality.

The lack of uniformity and completeness in registration, confusion in classification, and variations in the definition of terms have been major problems in the study of fetal mortality. The terms "stillbirth, miscarriage, and abortion," have not been specifically defined and there are considerable variations in the definition of each. Many states of the United States define a stillborn child as one that is born after twenty weeks of gestation and shows no evidence of life, such as heart action, breathing, or movement. The World Health Organization defines a fetal death as death prior to the complete expulsion or extraction from its mother irrespective of the duration of pregnancy.

While knowledge of fetal and neonatal mortality is limited, the following relationships have been suggested as significant first steps toward understanding. Fetal and neonatal mortality rates among nonwhite are higher, by nearly 40 per cent, than the white rates. Environmental factors are regarded as important in this respect, particularly since more than 90 per cent of the white babies are now born in hospitals compared to a little more than half of nonwhite babies. The environmental emphasis is basic to the assumption that two-thirds of the deaths from prematurity could be prevented. Stillbirths increase with the age of the mother beyond twenty-five. Multiple births have higher stillbirth rates than single births and women who have had a previous loss are more likely than those who have not to experience another loss. Illegitimate births are more likely to be stillbirths than are legitimate births. High stillbirth rates are associated with low standards of living, poor nutrition, and the quality of prenatal care. One approach to reduce the stillbirth rate would be to support standards of living, nutrition education, and high levels of prenatal and obstetrical care.

MATERNAL MORTALITY

Like the infant mortality rate, the maternal mortality rate in the United States has declined in a spectacular way. In 1950, the maternal mortality rate was 8.3 per 10,000 live births, a seventh of the rate at the turn of the century. Between 1929 and 1936 the rate declined almost 3 per cent per year and since 1936 the rate has been dropping almost twice as fast. Again social and economic conditions become important explanations when rates are compared for social groups. The maternal mortality rate for nonwhite women is about three and a half times the rate for white women. The rate is highest in the rural sections of non-metropolitan areas and lowest for the suburban fringe. On a regional basis, rates are highest in the Southern states and lowest in the Pacific states and in the New England, Middle Atlantic, and West North Central regions. Rates are high at the extremes of the childbearing ages, being lowest in the age group, twenty to twenty-four years of age. The current tendency to complete the family in a shorter length of time has been a factor in decreasing the risk of death in childbirth.

TABLE 11–7. Maternal Mortality by Race: Birth Registration States, 1915–1950
(Rate per 10,000 live births)

Year	*All Races*	*White*	*Nonwhite*
1915	60.8	60.1	105.6
1920	79.9	76.0	128.1
1930	67.3	60.9	117.4
1940	37.6	32.0	77.3
1950	8.3	6.1	22.2

SOURCE: "Maternal Mortality Statistics," *Vital Statistics Report*, Vol. 37 (December 3, 1953), p. 368.

MULTIPLE BIRTHS AND CHILDLESSNESS

World-wide interest in quintuplet births indicates the rarity of the occurrence. In fact, the Dionnes of Canada and the Diligenti children of Argentina are the only two authenticated cases in all medical history of quintuplets who survived the first year of life. As the number of children involved in a multiple birth decreases, the frequency of occurrence increases. In the United States, quadruplets occur in 1.6 cases per 1,000,000 confinements; triplets occur once in 9,600 confinements and twins once in every 92 confinements.[18]

Age and race factors seem to be primary in the frequency of multiple births. Plural births increase among mothers up to ages thirty-five to

[18] "The Frequency of Plural Births," *Statistical Bulletin*, Vol. 31 (April, 1950), pp. 6–7. "How Often Do Multiple Births Occur?" *Statistical Bulletin*, Vol. 35 (April, 1954), pp. 7–8. J. B. Nichols, "Quintuplet and Sextuplet Births in the United States," *Acta Geneticae Medicae et Gemellologiae*, Vol. 3 (1954), pp. 143–152.

thirty-nine and then decrease. Nonwhite mothers have a greater probability of plural births than do white mothers. Female twins outnumber male twins. Plural births seem to run in families, as do family size, vitality, longevity, and occasionally some of the chronic diseases.

Sterility

From both an individual and a demographic point of view, childlessness is more significant than multiple births. However, data on sterile marriages are limited and conclusions from current evidence must be interpreted with caution. About 10 per cent of all marriages in the United States is the accepted proportion of biological sterility. Community studies present estimates of sterility from 3 to 5 per cent of all married women. Whelpton and Kiser indicate that among the white Protestant couples of the Indianapolis Studies, between 10 and 13 per cent were found to be childless because of sterility.[19]

Clinical and medical records are probably not representative of the total population but they do indicate the nature of the search for causes of sterility. Besides physiological factors such as blocked Fallopian tubes and retroversion of the uterus in the woman, or, defective volume, count, and motility in male secretion, psychological conditions are also blamed. The suggestion has been made that the very strength of the desire to have children may become cause of the inability to have them. Other possible causes are malnutrition, inadequate sex education, and habits of sexual intercourse.

Whether or not sterility is increasing in the United States cannot be adequately determined. If there is an increase, particularly in the urban population, as a number of demographers and medical men believe, then the whole problem of adjustment to a way of life and to measures of control becomes important.

SUMMARY

A brief summary of some of the findings of the Indianapolis Study provides both a review and a challenge to further study of a large number of social and psychological factors affecting fertility. The Study formulated and tested twenty-three hypotheses dealing with the relation of social and psychological factors to contraceptive practice and to size of planned families. Because of the interest in voluntary planning, most of the hypotheses were tested in a restricted population of native-white, urban, Protestant, couples who had completed a grammar-school education.

Probably the most publicized finding is the direct relation of fertility to socio-economic status within the "number and spacing planned" group,

[19] P. K. Whelpton and Clyde V. Kiser, "Social and Psychological Factors Affecting Fertility, VIII: The Comparative Influence on Fertility of Contraception and Impairments of Fecundity," *Milbank Memorial Fund Quarterly*, Vol. 26 (April, 1948), p. 214.

that is, within the group who were successful in preventing conception or having a child only when planned. Furthermore the effects of socio-economic status were such that they influenced other findings. When socio-economic influences were held constant, interrelations between social and psychological factors and fertility became less precise and sometimes virtually disappeared. Other findings relating to economic status include the following: (1) There appears to be little relation of fecundity to socio-economic class (2) Families in the higher socio-economic status groups have a higher proportion of couples practicing contraception effectively. (3) The size of "planned families" and particularly the size of the "number and spacing planned" families is directly associated with economic security. (4) Socioeconomic status is the most dominant factor of those studied in relation to fertility planning.

Many of the hypotheses were confirmed, with qualifications, and are suggestive of general trends which need to be studied using more refined concepts and techniques. Included in the hypotheses which have been partially supported are the following: (1) Marital adjustment shows a broad inverse relationship with family size. (2) There is a slight relationship between interest in religion and the effective practice of contraception and the size of planned families. Actually, denomination is more closely related to effective planning than any other index of religious interest. (3) There is a significant relation between general planning and fertility planning if the sample is taken as a whole. However, when controls are applied, general planning is not particularly suggestive of fertility planning. (4) The data support the hypothesis that preferences regarding the sex of children affect the size of the family, but this fact is not a major determinant of family size. Most couples are satisfied with the sex of the children they have. (5) Adherence to tradition has a slight relationship to planned fertility. The traditionalism of the wife is more significant than that of the husband. (6) Mobility is only partially related to fertility planning, although the size of the community of residence after marriage is positively related to fertility planning. (7) Among the "number and spacing planned" families there is a slight direct relationship between feeling of personal inadequacy and small planned families.

While the bulk of the studies were limited to the sample noted above, the Household Survey included virtually every white household in Indianapolis. The Household Survey yielded some interesting results. The fertility rate for the native-white couples, standardized for age, was found to be highest for Catholic families and lowest for Jewish. Mixed Protestant-Catholic marriages were less fertile than Protestant marriages. The distribution of couples in the community according to the number of live births was as follows: 18.8 per cent were childless; 46.8 per cent had one or two children; 15 per cent had three and 20 per cent had four or more children. The later the marriage the higher the proportion of childless

couples and the lower the proportion with five or more children. Protestant couples born in the South had the lowest proportion of childless couples and the highest proportion of five or more children. Education also was related to fertility. Among Protestant couples the education of the wife was more associated with small families than was that of the husband.

The Indianapolis Study is a landmark in fertility research. The experience of this study may now be applied to research designs which will explore the underlying psychological characteristics of social-class orientation. Certainly the stimulus derived from this series of studies will spark a variety of research in many disciplines and the resulting knowledge will increase our understanding of many problems of fertility for which at present there exists little or no reliable information.

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CHAPTER 12

Families

Marriage, though it be in itself one of the smallest societies, is the original fountain from whence the greatest and the most extensive governments have derived their beings.

BENJAMIN FRANKLIN°

I will therefore that the younger women marry, bear children, guide the house, give none occasion to the adversary to speak reproachfully.

ST. PAUL°°

OF THE 116.2 million persons fourteen years of age and over in the civilian population of the United States in April 1955, approximately 21 per cent were single, 65 per cent were married persons living with their spouse, 4 per cent were married persons living apart from their spouse, 9 per cent were widowed, and 2 per cent were divorced at the time of the Census survey. Statistics such as these indicate the importance of marriage and family for people of our society. The family as a unit of persons joined in mutual love and respect has been used as a symbol of the dignity of man and as the ideal of man's social relationships.

For this reason the family is often considered to be a source of government and the seed of civilization. A decline in the vitality of this source is viewed as both symptom and cause of decline in the larger society. No wonder that Milosz, as he described the process of conversion to Russian dialectic materialism, paid tribute to the sight of a human group, a refugee family, as a poetic reminder of a means of salvation.[1]

Irrespective of the manner in which society is viewed, whether it be in philosophical terms, through the discipline of a social science, or by means of the various art forms, the family as a symbol, as a social institution, and as a way of life is necessary to the perspective. Throughout this volume

° *Reflections on Courtship and Marriage* (Edinburgh, 1750).
°° I Timothy, 5, 14.
[1] Czeslaw Milosz, *The Captive Mind* (New York. Knopf, 1953), p. 249.

there is hardly a chapter where the family influence on the demographic character selected for review has not been of vital importance.

The peopling of the world has been accomplished primarily through the family group, viewed in a generic sense. Although the family form may differ in specific societies, all human societies have some conception of the legitimate attachment between sexual partners and their children. An understanding of differing forms of family structure and dynamics of family living, as well as the differing relationships between the family as a social institution and other social institutions, help to explain the conditions which either support or diminish high fertility rates.

The function of propagation is characteristically a family function. Other functions such as the economic, protective, recreational, educational, religious, and affectional functions have varied in significance. However, even when the implications of kinship are reduced and the individual is primarily viewed as a non-family person, as a worker, or as a scholar, the family continues to be an important social institution. For this reason, the chapters dealing with education and with the demography of the working population indicate the part that the family plays in the preparation and motivation of the individual to perform his social roles. Demographic aspects of physical and mental health highlight the importance of the family as a factor in illness, as well as indicating its significance in the child's development into a mature person. Variations in rural and urban family patterns, the differences among immigrant family systems, and the diversity of social-class family values illustrate characteristics differing from those of the majority family.

The upper middle-class family is frequently regarded as the typical American family and is used as a standard by which deviations from other class groups may be viewed. Sometimes major historical themes, such as large size, freedom in the choice of a mate, separate living arrangements, the authority of the male head, are used as a standard of comparison. In this introduction, the major domestic characteristics of the population in mid-twentieth century are noted as a preview.[2]

Marriage is a major goal of young people and few persons remain unmarried. While more marriages are broken than formerly, nevertheless the majority of people have been married only once. Partly because of economic circumstances, but certainly also as a reflection of majority attitudes, nine-tenths of the population are in family groups in their own private homes. A similar high proportion of children under eighteen years of age live with their parents in their own homes. In fact, only about one per cent of children are either in institutions or live with non-related persons.

[2] Major domestic characteristics may be found in a large number of volumes which deal with the American family. The characteristics indicated here are those noted by Hazel Kyrk, *The Family in the American Economy* (Chicago. University of Chicago Press, 1953), Chapter 2.

Raising families while parents are young minimizes the chances of disruption of the family by death. The first death is likely to be that of the husband, a condition which emphasizes the importance of insurance and government assistance to widows. Less-favored groups are illustrated by the data on Negro families. These have more childless couples in spite of high birth rates, more broken homes, and more families with lodgers or relatives in the home.

MARRIAGE

The marriage ceremony initiates a new stage, both in the life of the person and in the family cycle. For the individual, marriage involves a new status in the community. In American culture the beginning of a new family normally involves the establishment of a new home which is in itself a reaffirmation of the individualistic, personal-choice aspects of that culture. Marriage defines a socially approved sexual relationship, indicates the group responsible for procreation, and provides for the legitimate status of children. In these personal, social, and cultural relations a matrix is provided which, for some students, represents an ideal circumstance fusing the study of man into a single perspective.

Society sets many limits to the familial relationship in decreeing who may marry, when they may marry, and under what conditions marriage may take place legally. Historical circumstances, derived primarily through English family law, defined marriage as a civil contract subject to the control of the state. In the United States each state has its own family laws and this multiplicity of law is a major circumstance in determining the domestic character of state populations. States with unusually high marriage rates are those that attract migrant marriages. Those with low rates reflect a tendency of their population to marry outside of the state. While marriage occurs within a system of law, the cultural heritage is a dynamic factor in determining many demographic characteristics, such as choice of a mate, age at marriage, and ideal family size. In harmony with the individualistic theme of the American culture, marriage is regarded as a personal affair, although it can readily be indicated that propinquity, social class, and other social and cultural limits are present.

Young people are exercising this fundamental prerogative in increasing numbers. The proportion of single persons in the United States has fallen below any recorded since 1890. Only 19 out of every 100 females 14 years of age and over were single in 1951, compared to 34 in 1890 when tabulations by marital status were first made. The corresponding figures for single males are 26 out of every 100 in 1951 and 44 in 1890.[3] This long-range decrease in the proportion of the single has been due in part to rising marriage rates and in part to an increasing proportion of the population in the

[3] "Changes in Marital Status and in Number of Households: 1890 to 1951," *Current Population Reports, Series P–20, No. 35,* November 28, 1951. Bureau of the Census.

marriageable ages. The marriage boom after World War II can be explained largely in terms of the expanding economic conditions and the increasing marriage rate which normally attends a war situation. Illustrative of the marriage boom is the fact that the number of married couples and the number of families increased by about one-fourth from 1940 to 1950. The creation of families and new households increased so rapidly that the decline of the average size of households continued despite the baby boom. The increasing number of families and households is due to a number of factors including the increasing survival of parents after children establish their own families and the improved economic circumstances which have permitted families and individuals to maintain their own households.

The pattern of family life is changing not only in the United States but also in most of the Western world. Among the demographic changes which have been significant in this trend are a sharp rise in the marriage rates, a rise in the birth rates, and a drop in the death rates. For many nations the increase in marriage rates has been particularly pronounced in those social groups such as the urban population and the more educated population which previously had low marriage rates. The increase in marriage rates in the urban population and in the more educated groups has produced some narrowing of the differentials in marital composition, a condition which is in harmony with the declining differential in birth rates among those groups.

The demographic significance of changes in marital composition lies, as Thompson has indicated, in the effects produced on natality and mortality rates.[4] These effects are produced because marriage is a selective process and because life in a state of marriage is essentially different from that outside of marriage.

Persons who are physically ill or have great difficulty in adapting socially are not likely to marry and the probability is that a large proportion of the men and women who do not marry refrain because of physical and mental health reasons. At every age death rates for single men exceed those for married men. Not only are mortality rates higher for those not married but so also are the sickness rates, as illustrated by the high rate of tuberculosis, syphilis, influenza, and pneumonia among the single. Low mortality and morbidity rates for married men and women are assumed to result from the concern and care for the married partner in a marriage system which emphasizes companionship and mutual respect as prominent aspects of the function of family life. There are those who maintain that the marriage state is the normal, healthy state of mature persons. Irrespective of this judgment, there is little doubt that the regularity of married life is a major fact in explaining the differentials in mortality and morbidity.

[4] Warren S. Thompson, *Population Problems*, 4th edition (New York. McGraw-Hill, 1953), p. 103.

In a population where a high proportion of females is married, the crude birth rate is likely to be high. However, the fact that the decline in the birth rate continued in the early years of the twentieth century, when the proportion of married women was increasing, indicates that other conditions such as social and psychological factors and child-spacing practices are important determinants of natality. Only in recent decades has the boom in marriage been closely identified with the baby boom. For large numbers of Americans, with the exception of devout religious groups, sexual intercourse has been separated from the primary purpose of procreation and pleasure has become a predominant motive.

Courtship and marriage

Marriage is a selective process and the techniques of this selection in Western culture take place in courtship. It has been emphasized that romantic self-choice is the basis of marriage in our society. However, attention has been directed to the social and cultural limits within which self-choice is manifested. The literature on courtship and marriage provides testimony to the fact that most marriages take place between people in like circumstances. Interracial marriages are infrequent, and as indicated in Chapter 14, interfaith marriages are opposed by most organized religions. More than 95 per cent of Jewish marriages and a lesser proportion of Catholic marriages are within the faith. Protestants as individuals are also opposed to mixed marriage even though there are fewer official church statements deploring the practice. The same general opposition to intermarriage is expressed when the marriage is across national background lines although the opposition to this type is less vehement than to interracial or interfaith marriage. When marriage does take place outside of these restrictions, demographic conditions of size, sex ratio, or unbalanced class structure can usually be observed and the couples usually are similar in economic, social, and educational status.

Most American marriages are between couples of the same socio-economic classes. Considerable social pressure is placed on young couples not to marry "beneath them." Moreover, the social contacts which lead to marriage are generally between couples of similar residential area, employment, and education—factors which normally define social class. It might be expected that, because of an increasing mobility of population and a corresponding increase in ease of movement, residential nearness would be less important than formerly in determining the groups within which marriage occurs. Nevertheless recent studies suggest that propinquity as a factor in marriage plays as vital a role as ever.

The majority of men and women marry within a relatively narrow age period. It is estimated that half of the men enter their first marriage between the ages of twenty-two to twenty-eight with as many marrying

before twenty-two as after twenty-eight.[5] Because of the custom of women marrying men a little older than themselves, the peak marriage years for women are from eighteen to twenty-one. Opinion is divided as to whether or not the population is marrying at younger ages than formerly. Some community studies and studies of the age-specific proportion of the "ever married" have indicated that the age at marriage is declining. Other studies indicate that there is no consistent demonstrable trend toward earlier marriage. Whether or not there has been a decline in age at marriage, the United States has had a tradition of early marriage and most American wives are relatively young. In 1954 almost two-fifths of American wives were under thirty-five years of age, a condition which has implications for other stages of the family cycle.

THE FAMILY CYCLE

From the standpoint of family size and changes in population, the study of the family cycle is important. This cycle is usually divided into seven periods: (1) the originating marriage, (2) the birth of the first child, (3) the birth of the last child, (4) the marriage of the first child, (5) the marriage of the last child, (6) the death of husband or wife. (7) the death of the survivor—indicating the termination of the cycle. This cycle necessarily omits or fails to cover adequately such classifications as childless families, broken families, remarriage, or the number of workers and earners per family. However, it is of value in showing the relationship of cycles of family formation and growth to cycles of dependency, migration, and social participation.

The family is defined by the United States census as a group of two or more persons living together and related to each other by blood, marriage, or adoption. In the Canadian definition, a family consists of a husband and wife with or without children, or a parent with an unmarried child or children living together in the same dwelling. Both definitions include the concept of a sexually cohabiting couple although the United States definition includes other relationships. The mores prohibit sexual intercourse before marriage but there is some evidence that the prohibition is challenged by actual behavior.[6] Furthermore this behavior is class-linked, be-

[5] Paul C. Glick and Emanuel Landau, "Age as a Factor in Marriage," *American Sociological Review*, Vol. 15 (August, 1950), pp. 517–529. Albert J. Mayer and Sue Marx, "Social Change, Religion, and Birth Rates," *American Journal of Sociology*, Vol. 62 (January, 1957), pp. 383–90. Thomas P. Monahan, "One Hundred Years of Marriage in Massachusetts," *American Journal of Sociology*, Vol. 56 (May, 1951), pp. 534–545. Philip A. Sundal and Thomas C. McCormick, "Age at Marriage and Mate Selection: Madison, Wisconsin, 1937–1943," *American Sociological Review*, Vol. 16 (February, 1951), pp. 37–48. Thomas P. Monahan, *The Pattern of Age at Marriage in the United States* (Philadelphia. Stephenson, 1951).

[6] Alfred C. Kinsey, Wardell B. Pomeroy, and Clyde E. Martin, *Sexual Behavior in the Human Male* (Philadelphia. Saunders, 1948).

ing more evident in lower socio-economic classes. The class nature of sexual behavior carries over into marital sex relations with respect to factors such as concern over the sexual response of the mate and the elaboration of the amatory approach to sex.

In one to three years after marriage the average young wife bears her first child. According to the 1950 census, nearly 80 per cent of the families in which the wife is in the age group 25–34 have at least one child in their care, indicating that women under 35 are bearing a larger proportion of the child population than before. Earlier ages of motherhood together with a decreasing size of the family have shortened the span of the childbearing period which is now about one-half that of two or three generations ago. Early motherhood presents fewer medical problems, a condition reflected in low maternal mortality rates. Because mothers generally have the major responsibility for bringing up children, the early years of marriage are especially demanding on the young mother. The stage of family life at which children leave to found their own families now occurs while parents are still relatively young. As a consequence, the American family of today has added years without children before the marriage is broken by the death of a husband or a wife.

A major implication of the time and duration of responsibility for children is that marriage and children are dominating factors in determining the employment of women. Employment of women follows a family and age cycle. Single women are expected to work and to retire from employment with marriage and particularly with the coming of the first child. Recently more and more wives have been returning to the labor market after their children grow up. In 1900, of all women workers, 15 per cent were married, but by 1940 this had increased to 35.5 per cent and by 1950 almost half of all employed women were married. In 1955, about one-third of all wives at ages 35 to 44 were employed outside of the home. Although the majority of husbands bear the responsibility for supporting the family an increasing number of wives work either part or full time. Thus both husband and wife are employed in nearly a fifth of all families. The working wife has been condemned so vigorously that it may be somewhat surprising to find a number of studies suggesting the consequences are not always pernicious. In liking and interest for children as well as in adjustment to husbands, working wives often are given a clean bill of health.[7]

[7] C. T. LaFollette, *A Study of the Problems of 652 Gainfully Employed Women Homemakers,* Contributions to Education, No. 619 (Teachers College, Columbia University, 1934). Harvey Locke and Muriel Mackeprang, "Marital Adjustment and the Employed Wife," *American Journal of Sociology,* Vol. 54 (May, 1949), pp. 536–538. Lois Pratt and P. K. Whelpton, "Social and Psychological Factors Affecting Fertility, Part XXX Extra-Familial Participation of Wives in Relation to Interest and Liking for Children, Fertility Planning, and Actual and Desired Family Size," *Milbank Memorial Fund Quarterly,* Vol. 34 (January, 1956), pp. 44–78.

Family interests are likely to be dominated by concern for the child's welfare, particularly as parents become aware of children's playmates, the kind of school the children will attend, and the space requirements of the home. Such considerations have been shown to be major conditions contributing to the suburban movement and are likely also to be significant in explaining other types of family mobility. Peter Rossi has indicated that the major characteristics distinguishing mobile from stable families are factors related to the family-life cycle.[8] Space requirements attendant to the coming of children are primary stimulants to family mobility—large families are more mobile than small; young families more mobile than old families. Lack of mobility at the end of the childbearing period is interpreted as an indication that space requirements are not crucial to family adjustment after children marry and leave the home. Additional adjustments in the life cycle of the family are to be found in economic circumstances, because young families are likely to meet the most pressing money problems when children are young and income has not reached its peak. At the other end of the cycle, when parents are left alone in their declining years, financial problems are again likely to become acute, a condition portrayed in a great number of studies of the aged.

Many families that begin the cycle with expectations of carrying through to completion are unable to do so. Divorce exacts its toll in the early years of marriage—the third year of marriage is the most frequent year in which divorce occurs—and death often eliminates the last stages of the cycle. The dissolution of a family by death is of course an expected occurrence, but termination by divorce is regarded as a major threat to family stability.

DIVORCE

Statistics of divorce reflect changing attitudes of society toward marriage. In earlier years divorce was invested with a moral meaning, as indeed it is today among some segments of the population. Furthermore, the personal happiness of the individuals involved was likely to be subordinated to the institutional functions of marriage and family life. Divorce statistics for the United States as a whole were first collected in 1867 when 9,937 divorces were granted representing a rate of 0.3 per 1,000 population. This rate remained relatively constant until 1880 when it began to increase gradually. In the years after the Civil War, the rate rose steadily, with peaks occurring during war years and troughs during depression years. Social conditions, particularly the effects of war, have altered the function of the family and have been reflected in the rising trend. The rate reached 1.0 divorce per 1,000 population in 1914, 1.7 per thousand in 1929, and 4.4 per 1,000 population in 1946. Since 1946 the rate has tapered off and the

[8] Peter H. Rossi, *Why Families Move* (Glencoe, Ill. Free Press, 1955).

present picture is one of continuing long-term increase but at a decreasing rate.

TABLE 12–1. Divorce Rate per 1,000 Married Females Aged 15 and Over, United States, 1920–1955

Year	*Per Cent*	*Year*	*Per Cent*
1920	8.0	1946	17.8
1930	7.5	1947	13.7
1940	8.8	1948	11.3
1941	9.4	1949	10.8
1942	10.1	1950	10.3
1943	11.0	1951	10.0
1944	12.1	1952	10.1
1945	14.5	1955	9.3

SOURCE: *Vital Statistics*, Special Reports—National Summaries, Vol. 40 (December 6, 1954); Vol. 46 (July 23, 1957).

While these general trends are based upon comparatively reliable estimates, divorce statistics must be used with care. There is no well-developed system for collecting divorce statistics in the United States. About three-fifths of the states provide for the central collection of divorce and annulment records. Many of the states send annual reports to the National Office of Vital Statistics indicating the number of children reported in divorce, the number of years that elapse between the date of marriage and the date of divorce, and the legal grounds for divorce. Summaries of divorce data, collected from state and independent registration areas with central files of divorce records, are published by the National Office of Vital Statistics.

Another source of difficulty in interpreting the frequency of divorce is the use that is made of different indices. One index is the number of divorces granted in any single year per 1,000 marriages in the same year. Obviously the divorces for any one year are granted for marriages which occurred during preceeding years and therefore statements such as "one-fourth of American marriages are ending in divorce," must be interpreted carefully. Other more-refined indices are often difficult to determine because the necessary information is not available.

The large number of divorces granted to out-of-state residents in some states further confuses the situation. The frequency of divorce is not uniform throughout the country but varies from region to region. Most of the Mountain States and California, Texas, Arizona, Oklahoma, and Florida have high rates, while the Eastern states and the Dakotas, Minnesota, Wisconsin, and North Carolina have low rates. Migratory divorce is quite obviously a factor in regional rates because states with high rates often have minimum residence requirements for divorce. The legal confusion in the variety of grounds for divorce also contributes to the regional and state variation in divorce rates. If migratory divorces, separations, and desertions

are accounted for, the low recorded rate of marital disruption within a state may be raised to national averages.[9]

Stress situations and divorce

It is generally agreed that war intensifies the normal reasons for tension between married persons as well as adding new tensions peculiar to the war situation. Hastily contracted marriages flourish under the stimulus of war when many young people marry virtual strangers. The very fact of separation for a long period and the return to a family situation where often a child has been added to the family has its own tensions in an admittedly crucial period of marriage. The end of war brings on a rising tide of marriages postponed during the war. Since the divorce rate is subject to the same fluctuations as the marriage rate, an increase in divorce can be expected as a result of an increase in marriage. In addition to the expected increase, the number of marriages contracted without recognition of the changes in the lives of the persons involved swell the number of divorces. That families in wartime are subject to stress not normally imposed on them in peace time is well documented. From 1941 to 1946 the upswing in divorce was very high not only for the first five years of marriage but the rate also increased among couples who had survived those early critical years. The increase in divorce during and after a war has been observed for every major war and the stress on the family must be added to the long list of debits counted among the costs of war.

Depression and divorce

Periods of stress do not always produce an increase in divorce. This is evident as divorce declines in frequency during periods of economic depression. Presumably the high financial cost of divorce is a factor but certainly the economic deterrent to hasty marriage also plays a major part. Just as increasing divorces follow an increasing marriage rate after a war so the decreasing divorce rate follows a declining marriage rate during a depression. Nevertheless, the specific conditions associated with the decline in divorce during depression are generally conceded to be economic. Divorce costs are high for families already financially pinched and relief from economic distress is more readily available to family units than to single individuals.

Tensions and the seeds of discord are inherent in all family situations. That so many are able to reconcile differences and often to make them a source of strength is a testimony to the adaptability of man and the balance of family life.

[9] Paul H. Jacobson, "Marital Dissolutions in New York State in Relation to their Trend in the United States," *Milbank Memorial Fund Quarterly*, Vol. 28 (January, 1950), pp. 25–42.

Divorce and children

It has been asserted that children are a major deterrent to divorce. Such an assertion originally grew out of the belief that parents would hesitate to seek a divorce while childless couples would not be influenced by that deterrent. Furthermore, early statistical evidence indicated that a minority of couples with children secured divorces.[10] However, a number of recent studies[11] point out that divorce is fairly common in families where there are children. The National Office of Vital Statistics, reporting on twenty-two states, indicated that children were concerned in almost 45 per cent of the cases—one child in 22.5 per cent and two or more children in 22.1 per cent of the cases. In 1948, 42 per cent of the couples divorced had children compared to 38 per cent in the period 1922 to 1932.

The proportion of divorces involving children increases with the duration of marriage. Divorces incurred during the first five years of marriage are more likely to be childless, but as the years go by a divorce is more likely to involve a child until a peak is reached at about the tenth year of marriage. After this year the proportion drops steadily as children grow up and leave their families. However, because most divorces occur in the early years of marriage, children of divorce are likely to be young and particularly susceptible to the adverse effects of a broken home. It would appear likely that the greater susceptibility of childless marriage to divorce lies in the same tensions which cause these couples to postpone children. Thus both childlessness and divorce in these cases may be due to the same combinations of factors.

Factors in divorce

Tensions are related to a variety of factors, complex and interrelated, personal and social. Excessive family mobility, age at marriage, economic status, residence and level of education are among the social factors most often associated with demographic conditions. Families that contribute to high mobility rates tend to contribute more to the divorce rate than do more stable families. Early marriages are more likely to end in divorce than those marriages contracted by more mature persons. While economic status is in itself a complex of factors and happy marriages are not economically determined, nevertheless low levels of education, employment in low-status jobs, and residence in disadvantaged areas are factors shown to be related to high divorce rates.

[10] Alfred Cahen, *Statistical Analysis of American Divorce* (New York. Columbia University Press, 1932), p. 113.

[11] Paul H. Jacobson, "Differentials in Divorce by Duration of Marriage and Size of Family," *American Sociological Review*, Vol. 15 (April, 1950), pp. 235–244. "Divorce and Size of Family," *Statistical Bulletin*, Vol. 31 (February, 1950), pp. 1–3. "Divorce and Annulment Statistics," *Vital Statistics*, Special Reports—National Summaries, Vol. 40 (January 7, 1955).

More significant and more difficult to determine are broad social and cultural conditions including urbanization, changing values, changing social functions of the family, and the varying expectations that are brought to marriage. Each divorce is a result of personal disagreement between two persons. There is, however, no conflict in recognizing the individualistic nature of a divorce and at the same time acknowledging the cultural and social background in which personal relations occur.

WIDOWHOOD

Divorce alone does not give a complete pattern of the disruptions of the American family. While divorce has been increasing in frequency, the importance of death as a factor in dissolution has been decreasing. In fact, ". . . the combined rate of marital dissolutions resulting from divorce and from death is somewhat lower now than it was sixty years ago."[12] In spite of the improvement noted in the rate of dissolutions of the family by death, the number of widows is steadily increasing. There were seven and a half million widows in the United States in 1953, about seven million in 1950, and less than six million in 1940. Widowhood is explained by the fact that there is a basic difference in the length of life of males and females as well as by the fact that most women marry men older than themselves and older men have higher remarriage rates than older women. The male has a higher death rate at almost all ages than the female. Beginning with the first year of life the death rate of the male is higher than the female, and later hazards of occupation and general environment of the male are regarded as important factors in the differential death rate.

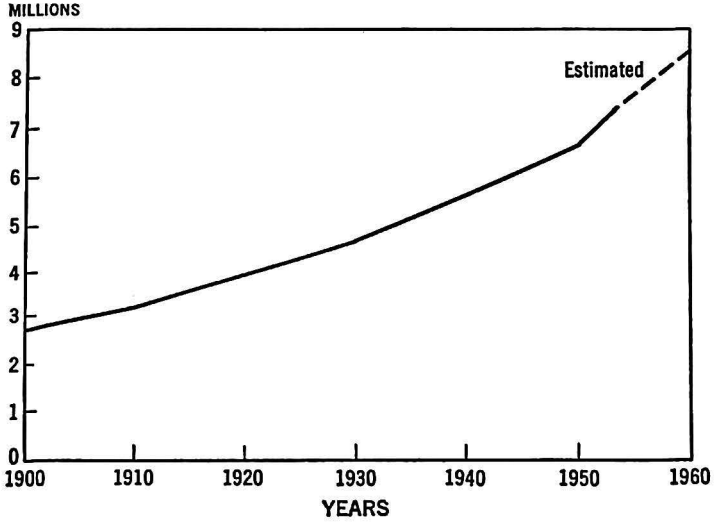
At mid-twentieth century more than half of the widows of the United States were sixty-five or older and only about a tenth were under forty-five years of age. It is evident that widowhood is a liability that comes with age. A Metropolitan Life Insurance survey[13] indicates that widows are primarily urban dwellers and that they maintain their own homes. However, the proportion having their own homes decreases with increasing age as widows give up their homes and move in with their married children. A small proportion of widows—about 5 per cent—live as lodgers or as resident employees; 2½ per cent reside in hotels and a little over 2 per cent are in institutions. In 1950 one-third of all widows in the age group fifty-five to sixty-four, and more than one-tenth of those aged sixty-five to seventy-four were in the labor force.

Widowhood also reflects the shift in mortality to older ages. The increasing concentration of death in the older years is due to the rising proportion of older persons in the population, a condition made possible by lowered

[12] "Have Broken Families Increased?" *Statistical Bulletin,* Metropolitan Life Insurance Co., Vol. 30 (November, 1949), pp. 1–3.

[13] "Widows and Their Living Arrangements," *Statistical Bulletin,* Metropolitan Life Insurance Co., Vol. 35 (January, 1954), pp. 8–10.

FIGURE 12–1. Number of Widows in the United States, 1900–1960



SOURCE: *Statistical Bulletin*, Vol. 35 (January, 1954), p. 9. Reproduced by permission of the Metropolitan Life Insurance Company.

mortality from infectious diseases of childhood and early adult life. The death of a spouse is of course an inevitable occurrence and is a tragedy whenever it occurs. An early death, however, has more social consequences than when death occurs later in life. The situation is particularly acute when young children are left with the surviving partner and when little or no economic provision has been made for the family. In two-thirds of the families broken by death the wife is the surviving member and the increasing provisions of federal survivors insurance indicate a social awareness of the plight of this group in the population. Remarriage of the survivor of a family broken by death is becoming increasingly accepted but remarriage is of course conditioned by the presence of dependent children and by the age of the surviving spouse.

FAMILY FUNCTIONS

Despite hazards to family living and the possible breaking of the family cycle, marriage and the family still represent security and fulfillment of life goals. As a social institution and as a primary group of persons, the family fulfills functions necessary to personal and group survival. Among the functions listed as the responsibility of the family, the economic, reproductive, status, and socializing functions are generally included together with recreational, educational, affectional, and cultural.

Social change is a persistent theme of research and study of the family, a theme which emphasizes the varying significance of the functions. With the development of other institutions some functions such as the educational are diminished as family functions while new functions are assumed by the family as new needs are recognized. In this changing pattern of social organization, population characteristics of the family indicate the variety and extent of change. The size, distribution, and quality of the family are directly related to the changing reproductive, economic, and socializing functions of the family.

Economic function of the family

If the individual, possessed of marketable knowledge and skills, is the only unit of economic classification and the only source from which economic theory must develop, then the population attributes of economic behavior must be defined in terms of individual skills and in terms of the individual's work in the economy. However, while the individual cannot be ignored in the processes of production, distribution, and consumption, it must be recognized that the structure and function of the family as an entity is also a significant economic unit in terms of the society and culture in which the individual operates. The economic is universally included in the functions performed by the family, and the family in all cultures defines the rights and duties, the privileges and responsibilities which may be stated in economic terms. Therefore, while the Western family has been transformed from a producing unit to a consuming unit as changes have occurred in industrialization, technology, and other social and economic institutions, the necessity remains to consider the family as a unit of the economy. In fact, Kyrk suggests that the proper name for the small-family economic system in which families are supposed to be self-supporting and where adult members are responsible for the needs of children is not "individualism" but "familism."[14] Symbolic of this duality of unit construction is the fact that the primary statistical unit in demography is the individual; the second is the family.

Families are important economic units and a brief review of a few of their economic characteristics may illuminate the manner in which their economic functions are performed. Because adults are responsible for their own support and that of their children, and because the great majority of the population live in family groups, it is not surprising that the prime supporters of the family are males in the productive years. These husbands are likely to be the full-time earners and their incomes to be the major source of family support. Therefore, the economic condition of the family is dependent upon the occupational status of the husband, which in turn is de-

[14] Kyrk, *op. cit.*, p. 13. Melville J. Herskovits, *Economic Anthropology: A Study in Comparative Economics* (New York. Knopf, 1952), Chapter 1.

pendent upon the area of the country in which the family lives and the general state of the economy.

Changes occurring in the size of the family, in the corresponding demands of the family, and in the economic state of the nation often exert pressure on the family to supplement the husband's income. A common technique of supplementing family income is for the wife to work. Indicative of this is the fact that in 1950 over 30 per cent of the married women living with their husbands were supplementing family income with their own earnings. A variety of conditions influence the number of wives who are able to give this support. Crucial among these conditions are the presence of children and the age of the wife. Young children are a deterrent to employment and it is usually only under conditions of extreme need that wives with young children enter the labor market. Women who are at the end of the childbearing period are also likely not to be in the labor market, although as mentioned on page 259, many of these women are returning to economic employment. At this age children probably are self-supporting and in addition the husbands of these women are probably at the crest of their earning capacity and the economic pressures on the family are not so great as formerly.

From the foregoing it can be seen that changes in the economy outside of the family and changing circumstances within the family demand family adjustments. In the early stages of the family both husband and wife are likely to be employed. As children are born, the husband is in all probability the only earner at a time when economic demands are heavy. When children no longer demand the physical energy of the wife, she may re-enter the labor market, and if the family income is low, the children may contribute their part-time work. In the late stages of the family cycle, when the husband's potential for income is low, when the children are experiencing their own difficulties in the early stages of a new family cycle, the support of the old family may be from sources other than income and no member of the family will be employed. Family size and the family cycle, therefore, contribute to the conditions which define the economic duties and responsibilities of members of the family. The number of persons that a family income must support is a function of the size of the family and the length of time that children are dependent.

Dependent status of children is regarded primarily as a social value since childhood has come to be regarded as a time for play and for development. Compulsory education laws and laws limiting the employment of children maintain this age group as an economically dependent element in the population. Like children, the aged and the handicapped are also elements of the dependent population. However, the attitudes toward these segments of the population primarily reflect negative values. For example, the care of the aged has come to be defined as a social problem. The ratio between the dependent population and the economically productive pop-

ulation has obvious implications when the productive group must provide for the needs of all. In times of emergency, such as war, many persons in the dependent group leave this category, and children, women, and retired persons enter the labor market and contribute to the economy.

Not only may individuals be considered dependent but so also may family groups. In the St. Paul study reported in Chapter 18, 7 per cent of the total families in this community were dependent primarily for economic reasons. In this poor-relief group of families, health and social needs, in addition to basic economic requirements, monopolized 68 per cent of all relief services, 55 per cent of all adjustment services, and 46 per cent of all health services. As a rule, the social pattern of dependency is the same the world over; it is made up of unskilled workers, low income, inadequate education, and too many dependents for the family income under full employment. When low-income families are compared with upper-income families the latter are characterized as containing a larger share of persons in the productive years, their members have more formal education, and the males are likely to be in business or professional pursuits. Upper-income families tend also to be small and to live in metropolitan areas.[15]

Hazel Kyrk, summarizing the assets, liabilities, and net worth of American families,[16] indicates that assets vary not only with income but with the age of the family head. Fewer heads in the age group 25 to 34 report high assets, and debt is more frequent in this age group which is involved in buying, furnishing, and equipping their homes. While all families are subject to income cycles due to age, the bulk of low-income families are to be found under conditions where the head has been disabled by poor health; where the family is dependent on the earnings of a woman because of widowhood, desertion, or divorce; or where the main supporter of the family is an old person. Other families with low income are those dependent on persons who cannot hold a job because of incompetence or other personal deficiencies.

Also affecting family response to the demands of the economy are such factors as rural or urban residence—the rural economy generally has not provided as well for economic needs; the state of residence—the state population composition and the economic bases produce variations in per capita income; and the general fluctuations in the nation's economy.

The socializing function of the family

We have become increasingly aware that basic patterns of personality are laid during childhood and that there is a fundamental relationship between childhood conditions of learning and adult neurotic behavior. The work of Freud, George Herbert Mead, Harry Stack Sullivan, and others has

[15] Simon Kuznets, *Shares of Upper Income Groups in Income and Savings* (New York. National Bureau of Economic Research, 1950), p. 161.
[16] Kyrk, *op. cit.*, pp. 187–189.

emphasized the important role of the family in the developing consciousness of self and the importance of the emotional content within the personal relationships of a family.

Associated with this increasing awareness of the importance of the family as a major setting for personality growth is the recognition of the significance of the small family. From one point of view parents have been able to concentrate their affection on children and to recognize the contribution of each child to the family welfare. From another point of view the impact of persons on each other is likely to be intense and the intensity of this relationship can be viewed either as a positive or negative value.

Bossard has devoted considerable attention to the effects of family demographic factors such as size, age, sex, and differences in order of birth upon childrens' personalities.[17] The relationship between brothers and sisters in a family is a uniquely inclusive and very intimate one which in effect creates a special society in which children live. Each addition to this society complicates the number of personal relationships. Bossard describes a law of family interaction in the following way: "With the addition of each person to a family or primary group, the number of persons increase in the simplest arithmetical progression in whole numbers, and the number of personal interrelationships within the group increase in the order of triangular numbers."[18]

Because the only child lacks the sibling relationships described above, he has commonly been regarded as a problem child. Being alone, he is likely to be the emotional center of the parents' demands. The only child is frequently viewed as being involved too much with his parents, who are apt to be too solicitious of his welfare. The last child in a family supposedly shares many of the characteristics of the only child. First children and middle children have their own particular relationships in the family system. However, few positive statements can be made concerning the effects of differences in order of birth or of the effects of age and sex of sibling upon the personality development of brothers and sisters. A fusing of demographic and social-psychological research upon family populations as social entities might answer some of the questions posed in considering the effects of child spacing upon social-psychological relationships.

Additional evidence of the social influence of home life is available from studies of adjusting and unadjusting personality traits when the social origin of such traits may be traced to different types of supervision, punishment, and affection. Many behavior problems of children can be traced to social relations in the home and specifically to different kinds of bad management. Their most frequent domestic causes are associated with the degree of supervision, dominance, over-protection, and over-indulgence.

[17] James H. S. Bossard, *The Sociology of Child Development*, rev. ed. (New York. Harper, 1954).

[18] *Ibid.*, p. 146.

A parent-child relationship may be effective, ineffective, or demoralizing. Of all social contacts, that between parents and children has the most influence on the child's conduct, attitudes, and adjustments. In the small-family system the parents' attitude and the economic status of the home are the most effective socializing influences of family life.

SUMMARY: FAMILY AND LIFE CHANCES

The statement that the family limits and conditions the life chances of the individual is just as significant in terms of its categories as are more abstract attempts at resolving the relation of the personal and the social. Included in the meaning of this statement is the impact of the family on the attitudes and behavior of the person, and the family conditioning of economic and social status. While not unmindful of other influences on the person, and certainly not attempting to make the family deterministic, nevertheless the conditioning of the person by the family unit suggests the probabilities as to extent of formal education, choice of occupation, success or failure in marriage, and even the length of life.

In a very real sense the chances of being born alive, of living through childhood, and of achieving a ripe old age are conditioned by the family situation into which the individual is born. As indicated in other contexts, infant mortality rates are high among low-income families. An illustration of this relationship is provided in a comparative study of low-income and high-income groups which revealed the following differences:[19] The low-income groups were described in terms of poor health and poor physique, their knowledge of hygienic practice was limited, poor housing conditions compounded the problems of health and repeated pregnancies took their toll of the mothers in premature aging. The high-income group, in contrast, exhibited opposite characteristics.

While there is little evidence that diseases are familial in a hereditary mode of transmission, nevertheless studies of family illness and the "chronic disease family" suggest the following conclusions: Certain families have more illnesses than the average and these luckless families are likely to be found in the lowest economic levels. Furthermore the tendency has been noted for certain diseases to be associated with each other. These conditions, as well as the susceptibility of husbands and wives to the same disease and the variations in sickness and mortality according to marital status, suggest the importance of the family group in its protective function.

The protective function of the family has implications for mental as well as physical health. On one level of investigation it has been noted that schizophrenia and those psychoses associated with anxiety and depression conditions seem to run in families. Another level of investigation into the bases for security laid in infancy and early childhood gives evidence of the

[19] Dugald Baird, "Social and Economic Factors Affecting the Mother and Child," *American Journal of Public Health*, Vol. 42 (May, 1952), pp. 516–520.

importance of conditions of insecurity within the home as a source of mental breakdown. These conditions of insecurity include broken homes, mental illness of parents or siblings, and unadjusting personal relations of rejection, over-protection, and domineering parental behavior.

In summary, when different types of families are compared for marital and parental relationships, certain characteristics stand out clearly as being more efficient in establishing the foundations both of successful family life and of normal personal growth. Some of these characteristics are the physical and economic resources of the family. Others are social and personal characteristics of parents and children which make possible the greatest number of stimulating social contacts.

These essential factors in successful family life are:

1. *Physical and economic resources:*
   a. The family lives preferably in a single house.
   b. The neighborhood is good, and neighboring families are more or less on the same economic and cultural level.
   c. Economic status is secure.
   d. The family is not too large.
2. *Personal characteristics:*
   a. Both parents are healthy.
   b. The intelligence of the children is high in relation to the average intelligence of school companions. They have a good school record.
   c. Parents are well educated and report a happy childhood.
3. *Social relations:*
   a. Parents have a variety of social interests outside of the home.
   b. Children have a variety of interests, hobbies, and social contacts.
   c. Family relations are congenial. There is no favoritism, and parents are the children's chief social influence.

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CHAPTER 13

Education

It is surely a great national disgrace that the education of the lowest classes in England should be left to a few Sunday Schools, supported by a subscription from individuals who can give to the course of instruction in them any kind of bias which they please.

THOMAS R. MALTHUS°

. . . American education has reflected American Society, and almost every singular and striking merit that it possesses is likely to have its corresponding deficiency. . . . Americans have shown an intense, almost touching, faith in both the personal and civic uses *of education; but this faith has not been accompanied by an equally profound understanding of the cultural* content *of education.*

RICHARD HOFSTADTER AND C. DE WITT HARDY°°

IN 1778 when the provisions of the Articles of Confederation were formulated, one declaration held that "schools and the maintenance of education shall be forever encouraged."[1] This resolution is one of the earliest historical admissions by any people that the school is necessary for good government and a sound economy. During the nineteenth century, state systems of graded schools were introduced, especially after Indiana authorized this type of program in its constitution of 1816. With the extension of public elementary and secondary schools and of privately supported colleges, the difficulty of maintaining an even distribution of educational opportunities became apparent to school au-

° *Essay on the Principle of Population,* 9th ed. (London. Reeves and Turner, 1888), p. 439. A statement added to the 6th edition published in 1803.

°° *The Development and Scope of Higher Education in the United States* (New York. Columbia University Press, 1952), pp. 102–103.

[1] Federal Security Agency, *Education in the United States of America* (Washington. U. S. Office of Education, 1951), Special Series, No. 3, p. 3. This publication is revised periodically, thus providing an up-to-date review of the nation's educational resources and needs. For historical backgrounds, consult: Ellwood P. Cubberley, *The History of Education* (Boston. Houghton Mifflin, 1920), Chapters 25 and 26. For the institution of the Office of Education and the National Education Association, consult: Frederick E. Bolton and John E. Corbally, *Educational Sociology* (New York. American Book, 1941), Chapters 7 and 8.

thorities. This was especially evident in the reports of the Office of Education, established after the Civil War as a national clearinghouse of information about schools, personnel, and courses of study.

The need for records about the educational composition of the population was brought to the attention of the United States Census in 1840. It appeared in a proposed schedule of social statistics with such other items as religion, libraries, and newspapers. However, no reliable estimates of school enrollments appeared until 1870, and Census reports were limited to an accounting of enrollments and illiteracy until 1940 when the education, or the school grades completed, of the population (ages 25 and over) were added and sample inventories of advanced education were introduced. Such reports as we have indicate that educational resources have been unevenly distributed regionally and especially among different social classes. Also, in spite of constant trends toward declining illiteracy and a higher median number of grades completed, the American system has been accused of minimum standards and of failure to meet national requirements for trained personnel.[2]

Either as a major component element in demographic inventories or as an indispensable requirement for human welfare, education is ranked among a society's chief concerns. It is a basic social institution[3] in terms of (1) actual or potential contributions to the stability of a nation; (2) the number of people directly involved in its educational operations; (3) its financial requirements in capital investment or annual expenditures; and (4) its usefulness as an index of social inefficiencies or liabilities, or as a base for the comparison of various real and presumed benefits within or between nations.

As a stabilizing agency, educational status is employed as a relatively sure proof of the quality of a population. It is used as an index of cultural position, achievements, and of needed improvements. Educational status is joined with other criteria of balance within and between social classes. Whenever information is available correlation can be established between educational class alignments and such social conditions as life expectancy, birth rates, family unity, occupations, income, health, and the presence or absence of gross personal or social disorders.

[2] These defects are reviewed in most of the references in the bibliography of this chapter. The U. S. Census now reports on school enrollments, subdivided to indicate distributions by age, sex, race, state, and region, and urban or rural residence. In addition, the Office of Education (now a division of the U. S. Dept. of Health, Education, and Welfare) has biennial reports on costs, value of school property, the number and salaries of teachers, length of school term, curriculum, standards, degrees, libraries, adult education, school leavers (sometimes computed as rates of survival), Federal funds available to the states, and occasionally such miscellaneous items as particular administrative requirements or temporary supplemental educational services. Most of these items are summarized annually in the *Statistical Abstract of the United States*. The illiteracy record with some international comparisons is given in Chapter 18, p. 397.

[3] Luke Ebersole, *American Society* (New York. McGraw-Hill, 1955), Chapter 17.

Education is also a major occupation. In addition to the number of children and adults who are full-time pupils or students, the national educational establishment requires more than a million teachers and administrators. Indirectly it depends upon the part-time services of many agencies in local, county, state, and Federal governments and upon business and other community organizations and non-teaching personnel.

As a system of operations involving money, it is a leading commercial enterprise. According to comparisons of costs and income in recent years educational expenditures are the largest item in any state budget, amounting to about one-fourth of all state expenses. It is also a top outlay in the Federal budget, and is increasing at a rate that is greater than the per cent of population growth. In the fiscal year, 1950, the total expenditure for education was $10.5 billion; an additional $1.9 billion was spent for educational literature and recreation, and the total capital investment was $16.2 billion. These expenses represent nearly 3 per cent of net national income.[4]

Education is viewed as a critical index of the effectiveness of all other social institutions. In international developments, populations are compared by rates of literacy and by other indexes of the distribution of learning, such as use of libraries, subscription to magazines, publication of books and newspapers, and whenever possible the time spent in reading or the literary taste of the public. Most international comparisons are invalid, however, when the merits of different systems of education are assessed. Thompson has found a close relationship between the educational and industrial status of the population in his Class 1, 2, and 3 countries.

TABLE 13–1. Annual Costs of Education, United States, 1950

$ 9.1 billions	for schools and colleges
1.1 billion	for individual expenses
0.3 billion	for libraries and research
$10.5 billions	

SOURCE: J. Frederick Dewhurst and Associates, *op. cit.*, p. 378.

Education is also used critically to point out its own deficiencies—notably in its threefold failure (1) to distribute adequate services geographically, which interferes with equal opportunities for the schooling of many children in the marginal or submarginal and mobile groups; (2) to act with sufficient anticipation to meet the needs of gross population movements (as illustrated by the growing demands for schools during recent decades of rapid population growth or mass transfers to new communities); and (3) to discover and to meet the needs of talented children. The general

[4] J. Frederick Dewhurst and Associates, *America's Needs and Resources* (New York. Twentieth Century Fund, 1955), p. 378.

inadequacies that can be deduced from these omissions are uneven standards of education in various states, lagging reorganization of school districts for economic and well-planned schools, variable and often grossly insufficient expenditures per pupil, and low requirements for teaching personnel. These demerits justify in part the frequent accusation that schools often serve merely as detention institutions.[5]

EDUCATIONAL COMPOSITION OF THE POPULATION

The level of school achievement is poorly represented by rates of illiteracy in per cents of population enrolled or not enrolled in school. However, the recent addition of "grades completed" in the census supplies a much more accurate account of changes in the educational composition of the adult population. The reason for this improvement is that the current status of the population can be compared with previous generations, and the prospects of substantial gains in future generations are clearly indicated. These gains, moreover, are much more rapid than the older or revised definitions of literacy, or the record of school-leavers, are able to demonstrate. Increases in median grade completed, as presented in both Tables 13–3 and 13–4, suggest qualitative as well as quantitative gains. Furthermore, the newer directions of educational advancement in the upper-school brackets supply a partial index at least of future sources of industrial and professional skills and talents.

Both tables also show that the rising level of schooling began long before World War II. These trends, however, are apt to be obscured by the current stress on such immediate school problems as increasing enrollments in the lower schools and the needs for more buildings and appropriations. Prior to World War II, college enrollments equalled the high-school enrollments of the preceding generation, and the latter had increased seven-fold. Other comparisons that are most vividly indicated in Table 13–4 show that median school-grade achievement has advanced from a predominantly grade-school public (an average of 8.1 grades) to an average slightly higher than a high-school record for the age group 25 to 29 years of the adult population.

These trends toward a minimum average of high-school achievement are matched by marked reductions of individuals with less than five years of formal schooling and by a constantly increasing proportion of adults with four or more years of college training. Although there are wide differences in average grade achievements, the gains are widely distributed among rural and urban, male and female, and white and nonwhite groups. As

[5] Clyde B. Moore and William E. Cole, *Sociology in Educational Practice* (Boston. Houghton Mifflin, 1952), Chapter 10, "Implication of Population Trends for Education." Educational Policies Commission, *The Effect of Population Changes on American Education* (Washington. National Education Association, January, 1938).

Table 13–4 shows, the most rapid improvement is among young adults and especially among those groups, such as rural farm and nonwhite populations, that previously had been most neglected.

The probability is that these trends will continue at least at the same rate as during the last five decades. As the present younger generation moves up into older age groups, the prospects are that by 1975 one-half of the population will have a high school education and the proportion of college graduates will be 6 or possibly 8 per cent of the total population. As these gains take place the number with less than five years of schooling will continue to decrease and by 1975 will reach its lowest possible level of about 3 per cent, a figure considered to be irreducible because it includes the mentally deficient and individuals of borderline intelligence.

TABLE 13–2. Average Percentages of Entrants

	High School	*College*		*High School*	*College*
United States	80	22	France	46	10
European countries as a whole	15	5	Germany	—	2
Great Britain	15	3	Italy	7	5

SOURCE: *U. S. News and World Report*, Oct. 21, 1955, p. v. and p. 50.

Similarly, current and expected future enrollments closely approximate universal education, or a national system of education that is available to every child. This system differs radically from the provisions of most European countries where the coverage of the potential high-school and college youth is much less. The European practice is based upon a deliberate plan to keep enrollments low by stress on formal academic courses (mathematics, Latin, Greek, a modern foreign language, and courses in the natural sciences), and by rigid examination requirements. The American system is essentially the opposite of the European both in curriculum and academic standards—a difference that makes comparisons difficult and creates envy among some critics on both sides of this educational philosophy.

PUBLIC-SCHOOL ENROLLMENTS

Changes in school enrollments during the present century are the most direct explanation of this increasing median-grade achievement. As shown by Table 13–5 and Figure 13–1, a steady growth in enrollments occurred between 1880 and 1890. These increases continued until 1930, at high rates for the lower school grades and even higher for secondary schools and colleges. This growth at all levels is accounted for by improved incomes and family standards of living, the decreasing size of families, and the

TABLE 13–3. School Grades Completed, Population 25 Years Old and Over, United States, 1940 and 1950

Years or Grades	1940 Grade School				1950 Grade School			
	Males		Females		Males		Females	
	Number 000 omitted	Per Cent	Number 000 omitted	Per Cent	Number 000 omitted	Per Cent	Number 000 omitted	Per Cent
Less than 5 years	5,550	15.1	4,554	12.4	5,052	11.9	4,392	9.9
5–7 years	7.007	19.0	6,648	18.0	6,994	16.4	6,916	15.4
8 years	10,631	28.0	10,125	27.5	8,822	20.7	8,883	19.8
Total	*23,188*	*62.9*	*23,327*	*57.9*	*20,868*	*49.0*	*20,191*	*45.1*
	High School				*High School*			
1–3 years	5,332	14.5	5,849	15.8	6,976	16.4	7,824	17.5
4 years	4,507	12.2	6,044	16.4	7,510	17.6	10,152	22.6
Total	*9,839*	*26.7*	*11,893*	*32.2*	*14,486*	*34.0*	*47,976*	*40.1*
	College				*College*			
1–3 years	1,823	4.9	2,251	6.1	2,902	6.9	3,355	7.4
4 years or more	2,021	5.5	1,386	3.8	3,026	7.1	2,257	5.0
Total	*3,844*	*10.4*	*3,637*	*9.9*	*5,928*	*14.0*	*5,612*	*12.4*
Unreported					*1,366*	*3.0*	*1,176*	*2.4*
Total	*36,871*	*100.0*	*36,857*	*100.0*	*42,628*	*100.0*	*44,855*	*100.0*

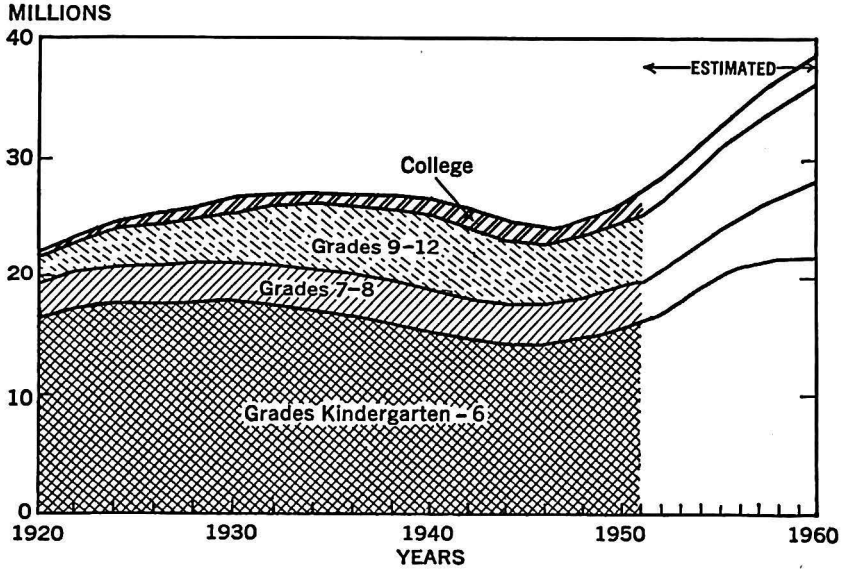
SOURCE: *Statistical Abstract of the United States*, 1955. Adapted from Table No. 129, p. 112.

TABLE 13–4. Median School Years Completed, Population 25 Years of Age and Over by Age Groups, School Grades Completed, United States, 1950

Age Group	Total Population	Males			
		White	Nonwhite	Urban	Rural Farm
25–29	12.1	12.4	7.4	12.2	8.9
30–34	11.6	11.9	7.8	12.1	8.7
35–39	10.7	10.7	7.1	11.1	8.5
40–44	9.8	9.9	6.5	10.3	8.3
45–49	8.9	8.9	6.0	9.1	8.2
50–54	8.7	8.7	5.6	8.8	8.1
55–59	8.5	8.5	5.1	8.6	8.0
60–64	8.4	8.3	4.7	8.4	7.8
65–69	8.2	8.2	4.0	8.3	7.3
70–74	8.2	8.1	3.9	8.2	7.1
75 years and over	8.1	8.1	3.1	8.1	6.8
Median of the Total Group	9.3	*10.0*	*6.4*	*10.2*	*8.6*

SOURCE: U. S. Census, *Characteristics of the Population*, Vol. II, 1950, Table 115, pp. 1–236 ff.

FIGURE 13–1. Public School and College Enrollments, United States, 1920–1960



SOURCE: *Road Maps of Industry*, No. 953 (New York. The Conference Board, 1954). Adapted by permission.

lengthening of the period of compulsory schooling. All these conditions proved to be advantageous in raising the educational level of the population quantitatively.

Declining birth rates introduced a decrease in these proportions of the school-age population after 1930. For a period of fifteen years or more the number of elementary-school children not only stopped increasing but began to decrease, a change that did not affect secondary and college enrollments until 1940, after which the war also became a complicating factor. After World War II college enrollments were the first to recover and exceed their pre-war levels, as they did in 1947–1948. Elementary and secondary schools overtook their pre-war top enrollments by 1950–1951. These speedy recoveries were due to the baby boom, which began about 1940, and to the increasing popularity of high schools and colleges. Together, these have had their highest proportionate increase since 1890—from about 4 per cent to more than 27 per cent of total enrollments.

Enrollments in lower schools are uniformly high and increasing in all sections of the country. Current high-pressure demands on existing school facilities are most numerous in the Pacific States and in suburban regions in general. This growth is expected to continue until 1960. Future estimates

hold that the same trends of growth will occur as is indicated by the proportions of increase and regional distribution of the lower grade-school population.

TABLE 13–5. Enrollments in Elementary and Secondary Schools and Colleges, United States, 1870–1965

Years	*Elementary Schools*	*Secondary Schools* (*000 omitted*)	*Colleges*
1870	6,792	80	54
1880	9,758	110	62
1890	12,520	203	156
1900	16,261	699	237
1910	18,528	1,115	355
1920	20,963	2,500	597
1930	23,717	4,804	1,100
1940	21,106	7,123	1,555
1950	22,201	6,427	2,659
1960	30,489	9,105	2,950
1965	30,886	12,145	3,500

SOURCES: *Reports of the Commissioner of Education* (Washington. U. S. Government Printing Office, 1870), p. 72 and 1182, p. cxxx for the years 1870 and 1880. U. S. Office of Education, *Biennial Report* (Washington. Federal Security Agency, 1949–1950), pp. 16–17, and 35 for the years 1890–1950. For the projections of the school population, *Current Population Reports* (Bureau of the Census, Series P–25, No. 85, December 7, 1953), p. 4. Median projections. For the projections of the college population, *Higher Education in the United States* (Chicago. Council of State Governments, 1952), pp. 31–32.

Expenditures per pupil

Costs of education per pupil in the different states are given in Table 13–6. In these comparisons of costs and median school grades completed, the same variations between regions and states are partially indicated as have been noted in other reviews of economic and social status and the availability of public services, such as the improved opportunities of industrial and wealthy states and the lower records of rural states. One discovery of the recent census is that women have a higher record of formal education than men in every state except New Jersey and New York, where their achievements are about the same. As usual, nonwhites lag behind, especially in some of the southern states where the average of school grades completed by Negroes is only slightly more than half that of whites. When allowance is made for inflation, the expenditures for education have not increased very much during the last thirty years. As a result, the states lack resources for new school construction and improved payment of teachers. This is the chief reason for the widespread demand by the states for Federal aid.

TABLE 13–6. Median School Years Completed by Adults 25 Years of Age and Above and Average Expenditures per Pupil, for Selected States, 1950–1953

States	*Average Annual Expenditure per Pupil 1952–1953*	*Median School Years Completed 1950*
New York	$335	9.6
Minnesota	294	9.0
California	284	11.6
Montana	284	10.1
Illinois	278	9.3
Wisconsin	260	8.9
Washington	260	11.2
Rhode Island	254	9.3
Connecticut	251	9.8
Kansas	250	10.2
Louisiana	235	7.6
North Dakota	233	8.7
New Mexico	230	9.3
South Dakota	225	8.9
Ohio	207	9.9
Idaho	200	10.6
Georgia	162	7.8
Arkansas	110	8.3
Mississippi	97	8.1
Average Expenditure $228.40	*Median Grade*	9.3 for all states

SOURCES: Median grades completed are U. S. Census figures, the same source as for Table 13–4. Expenditures are found in *The Book of the States* (Chicago. Council of State Governments, 1954–55), Vol. 10, Table 3, p. 245. For city expenditures, consult, *Expenditures in City School Systems* (Washington. Office of Education, May, 1952), Circular No. 337. These nineteen states are the same as those selected in other comparisons—*see* Table 11–6 in Chapter 11 and Table 15–3 in Chapter 15.

HIGHER EDUCATION AND ITS FUTURE

In addition to the prospects of higher education as noted in the foregoing pages, there are several other basic considerations that concern both educational, economic, and population policies. One that has already been suggested is the fact that the trend of college enrollments is larger by far than recent proportional growth of either secondary or elementary education. During the last century the college population has grown thirty-five times more rapidly than the rate of population increase. Since 1900, the increase of college enrollments has been tenfold. By 1970, the expected college population will be two to three times that of 1940 with a similar increase of students in the postgraduate schools.

These numbers are derived from the increasing proportion of the population in the college-age group and from the increasing percentage of youth who continue in school. Hence, from a total 1.1 million enrollment in 1940, a peak of 3.9 million to 4.2 million is anticipated by 1970. This estimate is based upon a total population of youth, between the ages of 18 and 22, of 9.2 million in 1960, 11.6 million in 1965, and 13.6 million in 1970.

TABLE 13–7. Basic Trends in School Survival Rates

Per Cent	In recent years the per cent leaving school has been
20	by the end of the eighth grade
40	by the end of the tenth grade
45	at the end of high school
	Of the remaining 55 per cent
20	enter college, of whom
10	completes the four-year course
2	receive the master's degree
1	receives a higher degree

SOURCE: Byron S. Hollinshead, pp. 11 and 12. *See* the bibliographical note of this chapter.

The challenge of numbers that is now anticipated for the colleges in all advanced fields of study not only distinguishes the educational composition of the population from that of other countries but is a source of debate and conflicting judgments as to the role and responsibility of higher education. Solely from the point of view of a stable or balanced population, there are serious misgivings as to the ability of the colleges to operate efficiently under the pressure of this increasing load. This question involves the training and competency of teaching personnel in addition to financial considerations or the adequacy of physical plant and equipment. Another question is concerned with the employment prospects of a large and increasing proportion of college graduates for the several reasons that follow.

When attention is given to the mental and academic qualifications of entering students, there is a different order of suspected deficiencies. One criticism applies to that class of youth who goes to college but who has neither the talent, training, nor interest to undertake an academic curriculum. A second is directed to the failure of society to provide for the college training of talented youth who do not enter college because of lack of financial resources, or because they have not been interested, or do not know about the vocational and professional prospects for which a college education is required. In either instance there is unnecessary waste of talent.

TABLE 13–8. Some National Comparisons of College Students Enrolled Per 10,000 Population, 1946–1949

United States	167	Belgium	21
Canada	74	Peru	18
New Zealand	61	Great Britain	17
Czechoslovakia	52	Germany	12
Australia	40	Brazil	5
Switzerland	35	India	5
Netherlands	33	China	3

SOURCE: Pedro T. Orata, p. 24. See the bibliography of this chapter.

In the 1948 report of the President's Commission the suggested numerical standard for the encouragement of youth to undertake advanced training was stated in the following proportions:

> At least 49 per cent of our population has the mental ability to complete 14 years of schooling with a curriculum of general and vocational studies that should lead either to gainful employment or to further study at a more advanced level.
>
> At least 32 per cent of our population has the mental ability to complete an advanced liberal or specialized professional education.[6]

This standard, in addition to the fact that in recent years fully 50 per cent of the students who enter college leave before graduation, emphasizes the importance of more careful guidance and selection and especially the need to recruit high-school graduates. In his studies of enrollments and of resources of talent for the future, Wolfle has made the following observations concerning "exceptionally capable" high-school graduates:

"If we take the ability of the average college graduate of today as a point of reference, this seems to be the situation: of high-school graduates who are as bright or brighter than the average college graduate, about 40 per cent earn college degrees, about 20 per cent start to college but do not finish, about 40 per cent never enter college."

"Fewer than half of the best 25 per cent of all high-school graduates graduate from college. Only six out of ten of the potentially most promising 5 per cent of high-school graduates earn college degrees."[7]

The vocational and professional prospects of future college graduates have been analyzed by Seymour Harris. In his opinion there are definite limits to the labor market's capacity to employ their services. Comparing the market's requirements in 1870 and in 1940 with the potential supply of graduates in 1965 or 1970, he looks upon this "big wave" of college graduates as a revolution in education that could become a critical source of economic, social, and political instability. Since the professions in recent decades have not been able to absorb more than one-half of the graduates, he believes that their future numbers will be excessive and will create a labor reserve beyond the needs of professional, managerial, or industrial employment.

CORRELATES OF EDUCATIONAL STATUS

Education has been accepted as a quality index of population and also as a necessity for almost every improvement in the personal and social characteristics of people. More often than not, however, it is scarcely possible to collect exact evidence of the social values that depend solely upon the quality and extension of education. It is generally so closely associated

[6] President's Commission on Higher Education, *Higher Education for American Democracy* (New York. Harper, 1948), p. 41.

[7] See references to Dael Wolfle in the bibliography of this chapter.

with other changes in the social-class composition of a people that a separate analysis of the distinctive contributions of different grades of education cannot be made—the other equally dependent aspects of social-class status being occupation, income, family type and traditions, religion, and ethnic background. Nevertheless, education continues to be regarded as a factor of high priority and it is assigned credits on the favorable side of a demographic balance-sheet, generally because societies with little or no formal education or with widely varied educational achievements are usually unstable in all of the other institutional developments.

Although the way by which education affects people and institutions is as yet undetermined, demographers, as well as professional educators and analysts of the components of stable and unstable social-class organization, agree that education is an essential in contemporary society. It is associated with economic prosperity and with all political or social trends that depend upon special talents and the gradual and peaceful elimination of traditional obstructions. As sociological interpreters of social-class organizations have observed for a long time, there is no single item that is a better indicator of group achievements or of national human resources than education.[8] Specific correlates of recent educational trends suggest the validity of their positive contributions to a demographic or social optimum.

Birth rates and educational grades completed

No correlate of population growth has been more widely endorsed than the difference in the birth rate of families according to their social-class position. This observation can be found in writings of historians or travelers long before census records were available. It has appeared among the laws of population and is cited among the explanations or principles of population growth. Although no contemporary writer insists that this correlation is sufficiently uniform to merit classification as a social law, all accept it as a well-supported current fact. As already noted in Chapter 11 above, birth rates vary according to social-class position, are invariably highest in the lower classes, and decrease in each higher group. This inverse correlation is found for all specific indexes of social class, and the only exceptions are rare, isolated, and generally for unusual or temporary social groups.

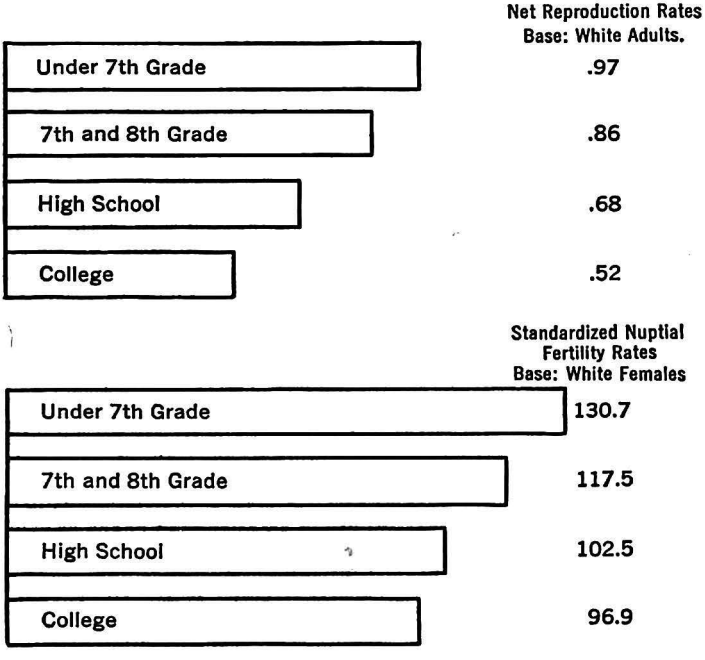
The relationship between birth rates and educational grades completed is a perfect illustration of this trend. Accordingly, the families of college graduates are smaller than those of high-school graduates, and families in both of these educational grades are much smaller than those of individuals whose formal education stopped at the eighth grade. This condition is one

[8] This approach has been developed by John Cuber, Allison Davis, Paul K. Hatt, Stanley Hetzler, Joseph Kahl, Harold Pfautz and other recent writers in systematic tests of sociological and demographic theories previously emphasized by most of the older generations, as noted in the writings of Comte, Spencer, Ward, Sumner, Small, and Cooley. All of the specific references of this section will be cited in the appended bibliography.

of the explanations for high birth rates in certain states or regions or among certain nativity groups where high birth rates tend to stress such other inequalities as income, economic opportunity, and school facilities. Altogether they are the source of the eugenists' objections to "differential" social-class fertility rates, or family size, and of the belief that this country is not producing enough children in its upper classes to supply the talents required by a technological industry.

Evidence supporting this correlation between birth rate and educational status, as reported in the studies by Karpinos, Whelpton, Kiser, and associates, is given in considerable detail by Clarence Gamble in his historical studies of the family size of college graduates, and in his series of contemporary analyses of the fertility and replacement rates of recent graduates of more than sixty colleges. In spite of recently reported higher fertility rates in cities, in upper income, or educational groups, and a trend toward more families with three or more children—all of which have been accompaniments of the baby-boom of the 1940's and 1950's—the decrease

FIGURE 13–2. Fertility Rates According to School Grades



SOURCE: B. D. Karpinos and C. V. Kiser, "The Differential Fertility and Potential Rates of Various Income and Education Classes," *The Milbank Memorial Fund Quarterly*, Vol. 17 (October, 1939), pp. 376 and 378.

in the size of college families has progressed in each generation and there is no evidence of a reversed trend. Gamble has compared his findings in this manner: graduates of men's colleges have averaged 1.4 children in comparison with the average of 4.3 children for families of parents with four years of schooling or less. This rate of fertility for college grades is about 25 per cent less than the number of children necessary for replacement.

An explanation of this correlation is traced to a combination of such circumstances as age at marriage, occupation, income, standards of living and the cost of rearing children, and social mobility. Other conditions will be cited below in the studies of college graduates.[9]

Income

Earnings, occupational status, and education are also related directly in the general comparisons of social and economic class differences. These relationships show that both the occupations and professions with the greatest prestige and opportunity for advancement are open only to the higher educated groups. A similar positive relationship is clearly established between average income and education. Averages obscure most of the extremes of high and low income, and all these figures are subject to varying amounts of inflation, steadiness of employment, and work-life expectancy.

TABLE 13–9. Median Income, by School Grades Completed, United States, 1950

No schooling	$1,108
Grade school	
1–4 years	1,365
5–7 years	2,035
8 years	2,533
High school	
1–3 years	2,917
4 years	3,285
College	
1–3 years	3,522
4 or more years	4,407
Average	$2,699

SOURCE: *Statistical Abstract*, 1955, Table 126, p. 110.

Another educational and economic comparison is the estimated total of life-time earnings. This figure is of interest in planning annuities for retirement and it is a crude reckoning of the money value of different grades of formal schooling. According to average expectations (as prepared by

[9] In the Census records, *Current Population Reports*, Series P–20, there are periodical analyses of birth rates according to educational status, as for example, Series P–20 (February 3, 1950), No. 27, pp. 10–11.

the 1950 Census report), a college graduate will probably earn about $300,000; a worker with a full high-school education may earn about $200,000, and the top for elementary schooling is $100,000 or less. Life-time earnings are the least reliable in all income comparisons because of rapidly changing labor markets, variations in work and life expectancies, and the wide discrepancies in the costs of living. Nevertheless, such comparisons do emphasize the desirability for great care in the education and training of all school-age groups, and especially the need for encouragement of all children of high ability to prolong their education in correspondence with their mental and social capacities. As the national inventories of resources repeatedly point out, children of high potential ability from the lower economic classes do not enjoy this opportunity, sometimes because they cannot afford to meet the financial costs and occasionally because of geographical isolation, parents' opposition or group discrimination, and the failure of the lower schools to motivate them.

Characteristics of college graduates

What the cream of the educational system does and thinks is of more than general interest as background to confirm the foregoing correlates. In specific demographic connections, their occupations, marriage and family life, and their freedom from, or susceptibility to, the social and personal disorders offer important testimony for programs to be endorsed in a population policy. These qualitative differences are also tests of the merits of a college education and could be helpful in revitalizing the curricula of lower schools, or could suggest educational techniques that would help the schools to train high-school pupils more realistically. They are also indispensable in judging the likelihood of increasing the number of trained personnel in a national inventory of talented personnel.

Information concerning the life histories of college graduates now appear in several extensive surveys and specifically in the analysis of different college classes. Most college graduates do not enter occupations or return later to occupations that are related to their courses of study. This observation is not particularly novel but it re-emphasizes the role of the college as a training center of individuals who can adjust themselves to changing occupational and technical requirements. Graduates who have this adaptability become executives, and eight of every ten are either in this class or are listed as managers or professional people. In general, they represent the best-adjusted occupational classes.

A similar ratio (8.5 out of ten) are married and have no desire to change. This ratio applies only to male graduates. Women graduates have an unmarried rate of 31 per cent in comparison with the national average of 13 per cent of unmarried women of marriageable ages. Their age at marriage is five or six years older than the national average, which may explain in part their smaller families (the number of children is the same as that

reported by Gamble) and the 10 per cent of marriages that are childless. The children in these marriages have a much higher survival rate than children in the general population. This direct evidence of high standards is also equalled by records of good health, little physical or mental instability, better than average life expectancies, and few of the other disorders, such as divorce, separation, unemployment, or annoying emotional maladjustments. In a majority of cases, these families reported efforts to maintain these standards by the control of child-spacing.

General social adjustment of college graduates reflects an equally high order of achievement and peace of mind. By their accomplishments they are able to acquire recognition (as in *Who's Who in America*) by a ratio of 49 to 1 who is not a college graduate. They are not conspicuous as joiners of voluntary group associations. They are moderate in their opinions as to the value of a college education, conservative in politics, and do not harbor judgments against groups with lesser training or support discriminatory practices against minority groups. Their first choice for leisure-time activity is reading and their choice of life's greatest satisfactions favors the family, home, work, and friends.

Education of women in the labor force

The educational status of women is rising for both the single and married. This trend has been going on for many years. Single women have more formal education than married women, and childless married women have more formal education than those who have children. The amount of formal education completed also increases as marriage is delayed to the age group, 25 to 29. This improved education of women is favorable to their employment both in the quality and duration of their occupational category. Of all women workers 25 years of age and over in the labor force, more than one-half have ten years of schooling and one-tenth are college graduates. At all ages college-graduate women are more likely to remain in the labor force than are women with less formal education and they enjoy occupational preference (as do male graduates) in the professions and in executive and managerial positions.

Mobility and migrations

The manner by which the education of an individual affects his social mobility, meaning up or down the social-class gradations, has not been definitely determined. And the same conclusion applies to his tendency to migration. The reasons for this indecision are the same as those already given in the analysis of the connections between mobility and birth rates: education is too intimately associated with income, occupation, family status, or temperament to be given a specific weight as one factor in this combination. Currently, therefore, the most definite statements as to the

effects of education must depend upon such generalizations as: "Education in the United States is by far the most important avenue of upward occupational and social movement," and in the case of migration, "Ph. D. scientists are one of the most geographically mobile segments of the population."

Proof of these statements is derived from the personal characteristics of the mobile or migratory person and family. In his studies Havighurst describes the favorable combination as talent, professional or technical skills, and social accomplishments; the barriers or unfavorable combination he describes as lack of money, low ability, sex and color disadvantages, low social-class status, and lack of motivation. Since the largest proportion of students attending college up to the present have come from the upper and middle class, Havighurst anticipates a radical upheaval in social-class relationships when youth from the lower classes become a greater proportion of the population with higher education.

TABLE 13–10. College Attendance of Various Social Classes, United States, 1940 and 1960

Social Class	*Per Cent of Children*	
	1940	*1960*
Upper and middle upper	80	80
Lower middle	20	50
Lower	5	50

SOURCE: Adapted from Table 8, p. 289, Robert J. Havighurst. *See* bibliography of this chapter, page 297.

Studies of migration, within or between cities, interstate or interregional, and overseas, are uncertain as to the specific causal role of educational status. Education appears to be no more selective than income, occupation, or fluctuating regional demands for different types of skilled personnel.

Sources of talent

Modern higher education diverges from the classical, among other ways, in responsibility for the selection and education of technical personnel. Five decades ago, around the turn of the century, most of the advanced training was given to three groups—clergymen, physicians, and lawyers. Now competing for their share of advanced training are potential specialists in engineering, in public health, in teaching, in the natural and pure sciences, in government, and in business. The critical nature of the shortages in these areas is apparent, statistically, from their increasing numbers in recent years—teachers having increased 1.25 times more rapidly than population, health workers 2.5 times, engineers 5 times, and scientists 10 times.

Challenges to the colleges and universities because of these changing

and larger demands raise the question of their capacity to provide adequate training, both from the point of view of physical facilities and of competent teachers, to ever-increasing numbers of students. There is also the difficulty of recruiting and motivating young people to occupations that may not have traditional prestige, as well as the need to recruit from social classes that have contributed in only small proportions to the college population heretofore. The dilemma of the colleges stems, essentially, from the two following conditions: (1) Up to the present, the majority of college graduates have come from the upper economic quarter or third of the general population; (2) also up to the present, most of the money devoted to education has been directed toward the traditional (classical) studies rather than to the selection and education of technical specialists.

In the quest to resolve these complex issues, specific answers to the following questions must be found:

Can the one-third of the population that, according to Army tests, has the intelligence necessary to complete a four-year college course, be persuaded to undertake this program?

If so, will a sufficient number be willing to persevere through the professional schools and subsequent training that is required by current standards of technical proficiency?

Will society be willing and able to pay the costs of this education and the salaries necessary to attract the talent?

Is formal education itself an interference, discouraging some youth of high ability? Can provision be made for such youth to enter professional schools and to qualify for active practice at younger ages than is possible under present academic requirements?

To date, neither studies in human resources as to the supply of talented youth, nor inventories of such records as *American Men of Science* have succeeded in solving these basic problems of identifying, encouraging, and developing the personnel that will be required in the next few decades.

Miscellaneous developments and trends

Many supplements to formal schooling are introduced to meet the needs of those who leave school early (as noted on page 283) and who later want to complete their unfinished training. This number is a source of candidates for adult education, since a majority of pupils leave school before they are sixteen years old. Other adult education courses supply vocational rehabilitation for the ill or disabled, as well as change-of-job-training and avocational instruction.

The modern movement for adult education began in 1924 and since that time has grown to include special programs and classes in such institutions as libraries, churches, trade unions, and social settlements, as well as in schools. Although this program is not organized sufficiently well to

systematize its offerings, it has grown in the number served, in monetary appropriations, and in variety of curriculum. Originally co-ordinated by the American Association for Adult Education, it is now aided by the United States Office of Education. The prospects are that these trends will continue, and some of its supporters anticipate a time when nearly half of the adult population will be enrolled and total expenditures will exceed those for childhood education.

TABLE 13–11. Operations of Public Libraries, United States, 1950

Total population served	114,965,730
Number of volumes *per capita*	1.2
Circulation *per capita*	3.4
Annual operating costs	$109,776,824
Costs *per capita*	$0.96

SOURCE: U. S. Office of Education.

Probably the one best example of informal adult education is the public library. Its chief handicap, as is true of all programs in adult education, is its restricted use. As the record now stands, most individuals who use the library are of the upper occupational and educational classes, and of these users women exceed men, and young people in the age group 10 to 19 are the most frequent users.

SUMMARY

The functions of education are limited and definite. They are (1) to provide abundant opportunity and resources by which each new generation can learn about, and acquire the skills of, contemporary society; (2) to produce the makers of culture. Each of these obligations is significant for social planning; they are important aspects in the social trends of population and necessary phases in the growth and policies of population.

The limited scope of education

Education can teach but it cannot force or compel learning. It is not particularly well adapted to short cuts or to the presumed miracles of technical accessories. Schools are no more able to undertake a dissimilar range of duties than any other social institution. If they have to become a transportation system, operate restaurants, maintain recreational programs, and engage in rebuilding personality or administer to health and other welfare needs, specific educational functions are usually neglected or at least become of secondary importance.

Likewise, education cannot solve the problems or compensate for the failures of the other institutions. Even though people in the upper educational levels contribute far less to the kingdom of evils or to social dis-

orders in general, they cannot eliminate such disturbances any more effectively than the military services can prevent war or ensure peace. The function of education is to select and train personnel for the other social institutions and not to assume their tasks.

Education has often been proposed as the universal solvent of individual and public difficulties. However, it has no magic formula. It cannot educate individuals who are unadapted either by intelligence, emotional constitution, or social interests. As illustrated by the adult education movement, education or specialized training is of considerably less value to society when it begins at the wrong end of the age-span or is necessarily designed to suit a wide range of immaturities. When an educational system does try to adapt its programs to these ends, it is costly, a conspicuous form of waste, and a typical example of institutional instability and disorderly social change.

A composite test of education's merits

In the quotation introducing this group of chapters that deal with population in terms of its institutional composition and balance, Porterfield describes the goals of the several social institutions. Altogether these aims indicate a basic concern for a good population. From the many available tests of a competent group or society, he invented a composite index in order to provide an easily available standard and to supply the proof of an institution's efficiency. In this composite there are standards of economic welfare, of education and culture, of living conditions and housing, and of health. The indicators of education and of educational achievement are a blending of eight classes of statistical facts: (1) *per capita* school appropriations; (2) teachers' salaries; (3) length of the school year; (4) the proportion of children of school age in school; (5) average attendance; (6) the proportion of persons, 25 years of age or above, who have gone beyond the fourth grade; (7) the proportion of children in high school; and (8) the number of professional people in an average 100,000 population.[10]

In the ranking of the states, this comparison suggests that one measure of a society's well-being is its identical rating in each of the social indicators. States and cities with high indexes of economic achievement are also leaders in health, housing, and educational status. Similarly, in the specific rank of education, the efficiency of a community's school system as a whole is almost exactly that which is shown by its *per capita* expenditures for education.

[10] Austin L. Porterfield and others, *Crime, Suicide and Social Well-Being in Your State and City* (Fort Worth, Texas. Texas Christian University, Leo Potishman Foundation, 1948), p. 3, and Table 1, p. 9. Thorndike has a similar composite list of social indexes in his ranking of cities. Therein he combined 297 items under the same general classification as Porterfield's. Edward L. Thorndike, *Your City* (New York. Harcourt, Brace, 1939). Consult p. 189 for his summary.

The composite index of education, accordingly, is a practical measure of its needs and services. It suggests the potential reservoir of a community's human resources in skills and talents, and indicates what services must be supplied or rehabilitated in order to increase this supply or to reduce the load of unskilled, dependent, inefficient, or predatory people. It is therefore an objective answer to the age-old questions: who are the educated? and how may they be found? One brief answer to both questions has been given by Herbert Wood, former secretary of the British Ministry of Education, in his observations: a person is educated when he can entertain himself, when he can entertain some other person, and when he can entertain a new idea.

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CHAPTER 14

Religion

Religion is the great dynamic force in social life, and the vital changes in civilization are always linked with changes in religious beliefs and ideals.
CHRISTOPHER HENRY DAWSON*

RELIGION IS a worldwide institution. It is found among all people and it usually acts as a powerful system of social control. Occasionally religion has been identified as practically the equivalent of an ethnic, linguistic, or national culture. In all of its forms there are close connections with cultural developments. It joins or opposes science in the search for "natural laws." Like the social sciences religion is concerned with human relationships and their guidance by social policies; like the humanities its stress is on values, ideals, and the ways of the "good life." Notwithstanding opposition on the basis of its subjectivity, religion has always appeared among the major social institutions.

Religion, therefore, is usually considered as basic to the foundation of society—a source of balance and stability that no other social institution can supply. Thus, its contributions become important components in demographic analysis and are recognized as significant social characteristics in the composition of a people.

These combinations of social and religious influences are often exaggerated, misunderstood, and weakened by dogma and controversy. Sects, denominations, and churches unite and dis-unite large and small groups of people. They create and modify other institutions. They operate among the mysteries in the changing mores and attitudes that govern human conduct for no easily discovered reasons. In its most subjective form, as Lévy-Bruhl observed when he defined religion as a dream "Le rêve est le vrai dieu des primitifs"), and in all of its developments, religion has always had a major part in the cohesion and survival of historical societies. Religion consequently is recognized as implementing influential pressure groups, as an index of status and prestige, a channel of social mobility, a refuge or source of security during periods of rapid and chaotic social

* *Progress and Religion* (New York. Sheed and Ward, Inc., 1934), p. 234.

change, and an obvious reactor to such demographic factors as migration, sectionalism, and rural, urban, or ethnic distributions of a population. Likewise, religion has operated as a constant determinant of marriage, family character, human reproduction, the rearing and education of children. Through moral codes it has exercised restraining as well as directing effects on government, business, and all other policy-making agencies, not omitting the policies of eugenics or of general demography. As many historians before and since Ranke have concluded, ". . . . in most periods of world history, nations were held together by religious ties alone."[1]

Although religion is granted institutional status with power, many research scholars have paid no attention to it as a significant correlate of changes in population. This omission is typical of writers in the seventeenth and eighteenth centuries who established the basic theories of population on a foundation of agricultural or more general economic bases. And the same limited interpretations have been continued particularly among the most publicized authors who usually view the recent trends in population growth with alarm from such positions as the capacity of the earth to produce enough food, "standing-room only," and the strength or weakness of nations as judged by manpower for military service, or in terms of overpopulation and the consequent tension that threatens the destruction of civilization. Even in those aspects of demographic research that are concerned with policies, quality, and eugenic improvement, religious composition is rarely included with the single exception of its association with the morals and practices of contraception.[2]

[1] Leopold von Ranke, *Dissertations and Essays* (Leipzig. Duncker and Humbolt, 1872), p. 38. In addition to the contributions of Arnold Toynbee, *A Study of History* (London. Oxford University Press, 1946) which describe the effects of religion in world history, this social approach is well established in the following: Clifford Kirkpatrick, *Religion in Human Affairs* (New York. Wiley, 1929), Chapters 10, 14, and 15. Elizabeth Nottingham, *Religion and Society* (Garden City, N.Y. Doubleday, 1954), Chapter 1; Chapter 2, pp. 24–25; Chapter 7. "Religion in American Society," especially pp. 79 ff. T. Lynn Smith and Homer Hitt, *The People of Louisiana* (Baton Rouge. Louisiana State University Press, 1952); on page 128 these writers have stated: "There can be no doubt that the religious composition of the population is among the most significant determinants of human behavior and therefore constitutes one of the most important aspects of the study of population."

[2] Typical of these omissions of religion in human affairs are the works by Marston Bates, *The Prevalence of People* (New York. Scribner's, 1955); Ian Bowen, *Population* (London. Nisbet, 1954); Hope T. Eldridge, *Population Policies* (Washington. American University, 1954); Karl Sax, *Standing Room Only: The Challenge of Overpopulation* (Boston. Beacon, 1955); William Vogt, *Road to Survival* (New York. William Sloane, 1948), and others whose massive attacks on demographic issues occasionally refer to nationalism, sentiment, culture, or to specific religious groups when they compare birth or death rates as between Jews and Moslems or India (Hindu) and a Western culture. For the handicaps to research in population that these omissions have introduced, especially from the standpoint of the United States, consult: T. Lynn Smith, *Population Analysis* (New York. McGraw-Hill, 1948), Chapter 9.

COMPARATIVE RELIGIONS

One serious consequence of the demographer's exclusive concern with the economics of population is that religious composition and characteristics were omitted from the census. It is not hard to understand why a student of population would overlook the possibility of religious influences because he was dealing with what he assumed to be a uniform ethnic, religious, or cultural national group. However, he must share some of the guilt in failing to recognize that none of these social characteristics is uniform for any people and that variations in religious attitude and status can be as demographically causal as economic, family, or educational classes. The latter, however, were traditionally associated with tax systems, production, poor-relief policies, or causes of social unrest, and as a result were more obvious than religious aspects of the politics and economics of the growth, distribution, or distress of different classes within the population.

It remained, oddly enough, for the statistician to introduce religion as essential to a comprehensive report on a country's demographic status. Thus, the first attention to religion was given by the eighteenth-century collectors of human statistics as a supplement to their "bills of mortality," genealogical summaries, birth rates, and tables of life expectancy. Demographic statisticians did not ignore a classification by religion if such material were considered necessary to establish some broad conclusion. A good example is the division and distribution of world population among major religions. This account or census has resulted from the joint computations of many scholars. It is available for many decades and is subdivided by continents. Actually this inventory of world religions relies on no census; it illustrates human statistics in their most imaginative forms, and curiously enough shows that the demographer can demonstrate a faith that equals

TABLE 14–1. An Inventory of World Population and Religions
(Estimates in millions)

	Prior to World War II	*For the 1950's*
Christian	601	787
Confucianist	300	300
Hindu	230	304
Islam	220	316
Buddhist	150	150
Primitive	121	121
Taoist	50	50
Shinto	25	25
Judaist	15	12
All Others	441	344
Total	*2153*	*2409*

SOURCE: See almost any fact book or encyclopaedia based on original estimates of Walter F. Willcox, *Studies in American Demography* (Ithaca, N.Y. Cornell University Press, 1940), Chapter 2.

the mystical or sacred professions of the theologian. The chief usefulness of these estimates, therefore, is to show a broad interest in distribution of religion and at the same time to point out its other potential contribution of social significance in a world that is by no means "one."

The census of religious composition

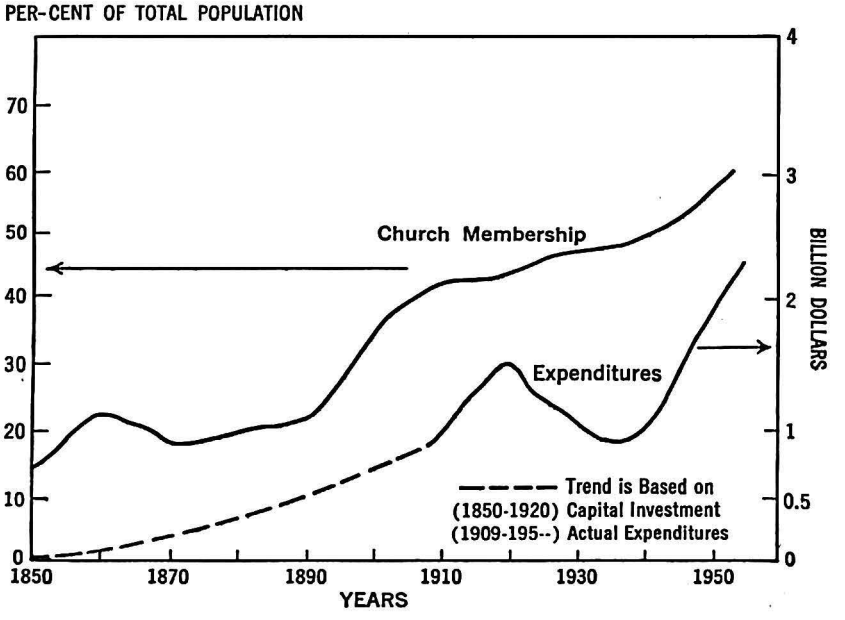
As a characteristic of population worthy of attention by the United States census, religion appeared in the schedule of social statistics in 1840. From 1850 to 1890 there were official reports on a few numerical aspects of religion, but they were always limited in coverage, incomplete, and not comparable. As such they illustrate well the non-homogeneous character of many statistics of population as noted in the preface to this book. Official census statistics of religion, as well as all other national inventories under private direction, prevent both analysis and interpretation. Their greatest contribution is their indication of the need for such basic social resources and their limited usefulness in suggesting trends.

After the discontinuation of religion in the official decennial census (for reasons as mentioned by Smith, see footnote 2, page 299), a special *Census of Religious Bodies* was authorized and was to be taken every ten years beginning in 1906. This census was continued in 1916, 1926, and 1936, and then stopped, probably because it served no useful purpose in supplying the evidences of religious composition in forms that could be related to other census materials of residence, occupation, income, migration, or birth rates. At present the only available source of religious statistics is the *Yearbook* of the National Council of the Churches of Christ in America which endeavors to represent all religious bodies.[3]

Other sources of religious information are community surveys and research studies by voluntary agencies and the official census of a few foreign governments. Most of the material on religious trends and social correlates concerning the United States can be found only in the publications of the voluntary agencies. The churches and their federations are not equipped to manage or to finance the type of general survey that is ex-

[3] In the *Census of Religious Bodies*, the chief items are (1) the number, types, and location of denominations; (2) the number of clergymen; (3) the number of members (total, by sex, and by age—those under and over 13); (4) church buildings, value, and debts; (5) receipts and expenditures; (6) educational provisions (Sunday Schools) and other church benevolences, missions, and social services. Occasionally there are summaries of religious questions in the general census in such reports as income, expenditures, family expenditures for religion, and the annual value of church construction. In the *Yearbook* of the National Council of the Churches of Christ in America, there are annual statements on (1) the number of sects, churches, members, and clergy; (2) programs for religious education; (3) financial summaries; (4) religious periodicals and social agencies; and (5) in so far as possible there are summaries as to the sectional concentration of different denominational groups, church attendance, the income of the clergy, and annual *per capita* or per member financial contributions. The *Yearbook* is also a directory of religious bodies, and of the schools and colleges that are supported by the different denominations.

FIGURE 14–1. Growth of Religions As Shown by Trends in Membership and Financial Resources, United States, 1850–1950



SOURCES: *Yearbook of American Churches* (New York. National Council of Churches of Christ in America). *U.S. Census of Religious Bodies* (Washington, 1916), Part I, p. 48. *Statistical Abstract* for membership, church construction, and consumer expenditures.

pected of an official census. A few good sources of general demographic religious information are to be found in the official census of such countries as Australia, Canada, Denmark, India, Mexico, and New Zealand. Recently the demographic program of Unesco has become interested in extending this coverage and the prospects are that the statistical significance of religion will soon have an improved background of authentic data.[4]

HISTORICAL BACKGROUNDS

During the first several decades of colonial settlement in this country the religious groups of English origin were dominant, as was English culture in general. Gradually, with the arrival of different sects from Europe and the separation of new denominations from the older theologies, such groups as the Congregationalists, Quakers, Scotch-Irish Presbyterians, Baptists, Unitarians, and various German sects became about as important

[4] For this program and other countries with an official religious census, consult: *Information Service*, Vol. 34 (April 9, 1955), a weekly publication of the National Council of the Churches of Christ in America, which supplies current notes on the statistics of the religious groups in addition to the educational or theological developments among the denominations.

as the earlier Puritans, Episcopalians, or Calvinists. This early shift in the development of numerous sects occurred primarily because of competing secular interests that were indications not only of the changing religious composition but also of changes in religious values and interests under the dynamic and often disorganized conditions of frontier life.

As early as the 1730's the alignment of religion with the different social classes was apparent. The older, more theological religions continued among the dominant groups. The newer sects and denominations were stimulated by various ideological and revolutionary movements in Europe, such as the influence of industrialism, the "new enlightenment," and the impending separation of church and state, as well as by the continuous arrival of new settlers who were both economically and religiously dispossessed. These early social transitions are now recognized as the source, also, of the evangelistic movements in religion.

Although Protestantism continued to have a numerical majority of church members as well as a dominant position in social institutions, there were Roman Catholics and Jews distributed throughout the Colonies. They were more readily identified by their national derivation than by church membership, however. Since no effort was made to supply any body of religious statistics before 1850, religious composition and trends are wholly estimates. These backward prophecies have reckoned that church members were a small proportion of the population at any time—no more than 4 per cent in the early 1700's, 10 per cent by 1800, and 16 per cent in 1850 when the first census was taken. In conjunction with this minority of numbers, historians hold that there is sound evidence that Protestantism had already begun to decrease in social as well as in religious influence as early as 1800. Or in demographic language Protestantism had reached that stage in the typical logistic cycle of increase at a decreasing rate. The reasons for this conclusion are based partly on the small percentage of church members but mainly on the further evidence that only a small percentage of these members ever attended church regularly.

Religious composition and trends

Religious composition and trends are thus interpreted partly in terms of European influences and partly in relation to the fact that the chief religions of nine of the original colonies were those of an established church. Since most of the settlers came to this country to escape "the shackles" of European economic, social, and political systems, they continued to be dissenters and included in the dissent the churches that such systems supported. Other responsible factors were the apparent lack of interest of the churches in recruiting members from these newcomers, and their tendency toward segregation because of their distribution and isolation in sparsely occupied frontier regions. As one historian described this situation up to

1830, the United States had a higher proportion of unchurched people than any other Christian nation.

This trend was reversed by the relatively new religions of the Methodists, Baptists, Presbyterians, Disciples, and Congregationalists. These denominations and their many splinter sects operated on a basis of a minimum of theological dogma and organization and a maximum of evangelistic zeal. They adapted systems of worship to popular needs; they directed their attention to critical social issues of the period; they made deliberate efforts to evangelize the unchurched, namely, the lower economic classes; and most important of all they followed the movement of the population into the South and the West. They introduced a system of mass conversion through revivals and established denominational schools and colleges in every state. As a result, by the end of the nineteenth century, the United States had a greater variety of religious denominations and sects and "a more complicated religious pattern than exists among any other people."[5]

ORGANIZED RELIGIONS: TYPES AND DISTRIBUTION

By 1900 this pattern of religious heterogeneity had been exposed to the competition of Roman Catholics, Jews, and Eastern Orthodox denominations as each of these religions responded to changes in the sources of immigrants. Each in turn was obliged to adjust its teaching and organization to trends in settlement, to the peculiar internal migrations, to urbanism and industrialism (with their inevitable modification of the social classes), and to secularism. These influences combined to increase the number of minor sects, to support liberal or fundamentalist revivals, and to lay the foundations for unification through mergers, federations, and councils.

TABLE 14–2. Distribution of the Major Religions, United States (Average of the 1950's)

	Number (in Millions)	*Per Cent*
Protestantism	57.1	58.5
Catholicism	32.4	33.2
Judaism	5.5	5.6
Eastern Orthodox	2.0	2.1
All others	0.5	0.6
Total	*97.5*	*100.0*

SOURCE: Yearbooks of the National Council of the Churches of Christ in America.

Protestantism

Protestantism continues to be dominant numerically, culturally and in the number of its denominations or churches. Although this denomina-

[5] William W. Sweet, *The Story of Religions in America* (New York. Harper, 1930), p. 1.

tionalism can be interpreted as a weakness in organization, Protestantism remains a powerful and unified group, in part because a few large denominations (about 30 of the total 200) have more than 90 per cent of the membership. Another strength is its control in rural regions and its annual record of regular increase since the first census in 1850. A disadvantage to Protestantism is its surplus of church buildings and underpaid clergy—two correlates of its original "protesting" that handicap efficiency in finance and administration. As recent percentage distributions show, nearly 60 per cent of all church members are in the Protestant denominations (Protestant churches as a rule count all individual members thirteen years of age and above).

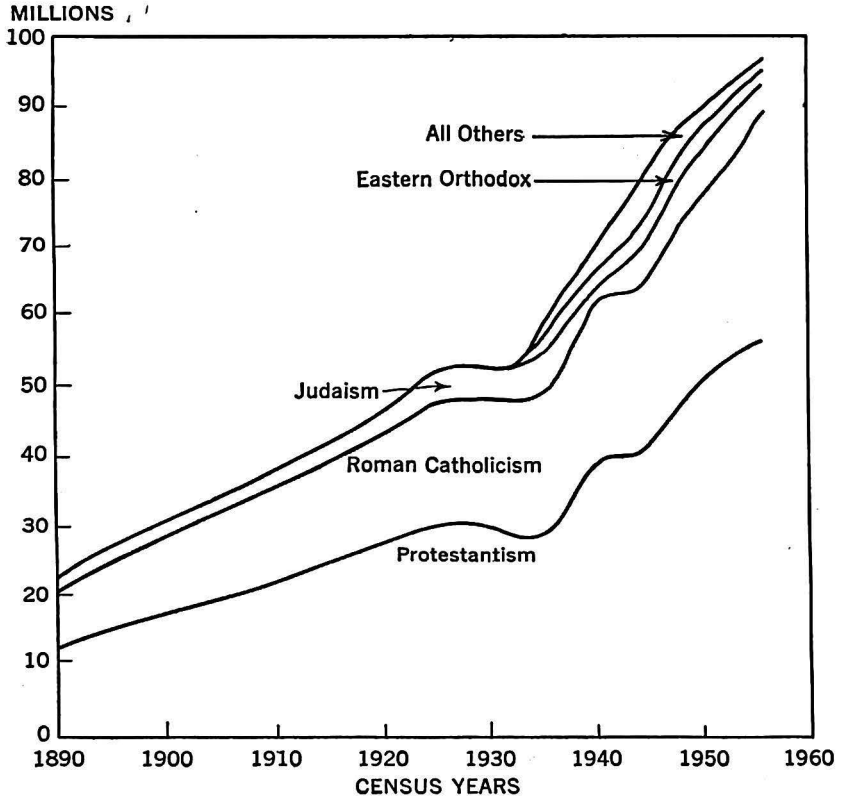
Roman Catholicism

The largest single church or denomination is that of the Roman Catholics, which has about one-third of the total of church members. This membership was achieved during the latter half of the nineteenth century largely because Roman Catholics were in the majority in all post-Revolutionary mass migrations—the Irish, the German, and finally the migrants from southern and eastern Europe. In recent years this growth has been maintained by the tradition of large families and high birth rates, although current rates of growth are probably not much larger than those of the Protestants. Precise rates cannot be determined because Roman Catholics report only baptized persons.

The original Roman Catholic settlers and each later group of immigrants tended to locate in particular regions. Most pre-Revolutionary Catholics lived in Maryland, Pennsylvania, and Virginia. Succeeding patterns of distribution led to concentrations in New England which is the present-day stronghold of Catholicism, and to a few Middle Western and Pacific Coast States. This distribution is a combined result of economic opportunities for employment and urbanism. Another concentration of Catholics is in the Southwest, due to Spanish and Mexican residents. At one time this design of settlement may have been abetted in part by religious discrimination, by restrictions on citizenship which occurred before the adoption of the Constitution, and by the Anti-Catholic movements during the middle years of the nineteenth century which were presumably based upon the opposition to cheap labor.

Although the Roman Catholic Church has been one in organization, it too has had to contend with serious obstructions from within as well as from the common enemy of all religion, the growing secularism. These internal sources of friction are nationality, language, social class, and cultural differences that require the most prudent administration until assimilation can be achieved. In this record the Catholic Church has been recognized for its contributions, as well as for its support of education,

FIGURE 14–2. Church Membership by Denominations, United States, 1890–1960



SOURCES: *U.S. Census of Religious Bodies* (Washington, 1916) and *Yearbook of American Churches* (New York. National Council of Churches of Christ in America).

hospitals, and other forms of social service, and its consistent co-operation for improvements in law observance and public morality.

Judaism

Jews, like Catholics, were among the earliest settlers; they tended to concentrate in a few settlements; and they did not begin to grow until the large immigrant groups of the middle and late 1800's had their share of Central, Southern, and Eastern newcomers of this faith. Like Catholicism too, Judaism has been confronted with nationality, linguistic, and social-class differences, and in addition with a tendency to greater diversity of religious interpretation. In numbers, Judaism is the second ranking religion, a status that is usually ignored when the question of minority groups and

anti-Semitism are discussed. Actually, however, this classification is probably not justified, because it assumes church membership for the entire group.

Judaism is split three ways on the basis of strict observance of its religious laws. These divisions are: the Conservative congregations, whose members are nearly 50 per cent of the total; the Reform group, which is about one-half this number; and the Orthodox, which is about one-tenth. Partly to correct erroneous interpretations of the relative rank of the churches in terms of membership, the Canadian figures, based on official records, are cited (page 308). This comparison is particularly helpful in estimating the membership strength of both Judaism and the Eastern Orthodox faiths. If attendance at church is a good evidence of religious affiliation, less than 50 per cent of the Jews in the United States are religious.

Members of Judaism (either ethnic or religious) can be identified by several characteristic tendencies as a population. They are an urban people, outranking all other groups by their residence in cities, and most often in large metropolitan centers. This distribution explains their occupational preferences—or it can be accounted for by their customary employment which is consumer goods and services. Jews have also made outstanding contributions to basic industries and they have promoted new industries. On the whole, Jewish occupational distribution is just about the same as that of the general urban population. As already stated, the Jewish population has a low birth rate, an unusual record of family solidarity, and has contributed as have other religions to education, social service, and good government.

Eastern Orthodox Churches

The most recent addition to the roster of religious sects in the United States are the Eastern Orthodox Churches. They represent about twenty-one different religious organizations and include as members the immigrants of these different faiths from Eastern and Southern Europe. With a total membership of fewer than 1,000 prior to 1900, the membership has grown at the most rapid rate and is now reported to be more than two million. This number, however, must be adjusted, as noted above, because of the tendency to include all nationals as church members whether or not they are officially members or even attend church. The Canadian percentages help to correct this inflated count. This group has settled chiefly in the eastern and western urban communities of Pennsylvania, and in the large cities from New York to Chicago.

Growth

Since all religious statistics are unofficial and all reports are voluntary, the trends in growth and comparison between the sects are subject to vari-

TABLE 14–3. The Religious Composition of the Canadian Population, 1951

	Number (000 omitted)	*Per Cent*
Roman Catholic	6,069	43.3
United Church of Canada	2,867	20.5
Church of England	2,060	14.7
Presbyterian	782	5.6
Baptist	520	3.7
Lutheran	445	3.2
Jewish	205	1.4
Greek Catholic	191	1.3
Greek Orthodox	172	1.2
Mennonite	126	0.8
No religion	60	0.4
All others	312	3.9
Total population	*14,009*	*100.0*

SOURCE: *Information Service,* National Council of the Churches of Christ in America (February 14, 1953).

ous adjustments. In Figures 14–1 and 14–2 these trends and comparisons are derived from the sources that were cited above in the section on the census of religious composition. Figure 14–1 shows growth by two indexes —total membership as a percentage of total population, and annual financial expenditures. The membership curve is one of fairly constant increase from 16 per cent in 1850 to 60 per cent in the 1950's. The financial trend is also upward at about the same rate if allowance is made for deflation during the years of depression and for the succeeding years of inflation. This financial curve is a rough composite index and does not follow any of the accepted statistical rules relative to index numbers. Figure 14–2 shows the constant upward growth for the major religious bodies.

Both Figures confirm the generalization that religious memberships are increasing at a rate slightly in excess of the general rate of population growth. The most rapidly growing churches are the newer sects and the evangelical churches. There is no evidence that people are "streaming back to the church," as some religious zealots like to say, partly because they were never in church and partly because of the evidence of attendance.

Community studies of a population's religious needs indicate that one church per 1,000 population is the most acceptable distribution. Such a distribution rarely occurs. For the nation as a whole there is one church for every 643 people with an average membership of 280. This faulty distribution is responsible for low-paid and poorly trained clergy and the monotonous repetition of indebtedness and unbusinesslike fiscal operations in the support of religion. The number of ordained clergymen is about 200,000, or about the same as the number of lawyers and judges, musicians, physicians, or policemen. A comparison of these occupational numerical

equivalents and annual average income suggests one of the major financial dilemmas in religious administration. The same result will be observed in the public's expenditures for the services of these and other occupational groups under similar conditions of competition.

In membership and church attendance, women outnumber men. Judaism may be an exception to this national sex ratio; it is so asserted but there is no numerical proof. Except for the Jews, churches with the best male representation in the order of rank are the Mormons, Norwegian Lutherans, and Roman Catholics. Religious administration continues to be a special privilege of males. Although a few women have been ordained since permission was first granted them in 1851, women ministers continue to be few and there is no enthusiastic welcome to them in this vocation.

Age (of individuals 13 and above) has little to do with membership or attendance. Families with young children are the best church prospects, which may or may not be related to age. The most unexpected age trend is the gradual loss of church members and attendants in each upper-age group, the highest proportion of the unchurched being 65 years and over.

Church attendance for the nation as a whole is about 30 per cent. This total is scarcely suggestive of a massive flocking to religion. Small communities have the best attendance records. Rural areas have the poorest. In a poll to determine the regularity of church attendance, conducted by a Chicago research organization, Catholics won first prize with a total percentage of 62 for weekly attendance; Protestants were a poor second—a percentage of 25—and the Jews had 12 per cent.[6]

Finances

For the support of all religious activities, the churches receive about one per cent of national income. In order to appreciate the significance of this expenditure, or the relative value of religion according to the public's spending habits or benevolence, one per cent is also the expenditure for drugs, hospitalization, books and magazines, toys and sports equipment, and foreign travel. By contrast religion is worth a little more than private education, while the services of physicians require twice the cost of religion; alcoholic beverages, four times as much, and recreation, five times as much.

Annual contributions per church member are not well or completely reported. In a review of the experience of sixteen Protestant Churches, the National Council has reported a trend from an annual $16.10 in 1921 to $45.36 in 1954. In comparisons of giving by different income classes (concerning which the evidence is fragmentary), 60 per cent of all contributions are given by families with an annual income under $3,000 per year, and 82 per cent from families with income below $5,000 per year. (These are incomes according to the value of the dollar in 1943.) Although many

[6] "Do Americans Go to Church?" *Catholic Digest*, Vol. 17 (December, 1952), p. 5.

churches have a few large givers, low-income families continue to be their main source of support. Occasionally there are reports of much higher per-member contributions, such as those of the Seventh-day Adventists who reached the top with an average annual contribution (in 1954) of $173.35 per member.[7]

SOCIAL-CLASS AFFILIATIONS

In this country religions are distributed among the several social classes in many different combinations with the other measures of class and status. Religious social status, as a result, is employed to help in the understanding of economic, occupational, family, educational, and occasionally political status. It is used to explain social-class mobility as well as stratification, and is examined in particular combinations, such as those that can be identified with residence (urban, rural, suburban) and with ethnic, color, or nationality composition. As in other countries, religion is often statistically synonymous with nationality, ethnic group, or caste.

The most clear-cut relationships between religious and social-class position can be seen in the experience of the Protestant denominations. However, they are also evident in Roman Catholicism and Judaism with their degrees of high and low orders of religious service or of close orthodox or liberal adherence to traditional religious organization and custom. Proof of these relationships is derived generally from the class status of occupations or economic groups. They are also shown by trends in religious intermarriage and in conversion. By way of contrast, the Eastern Orthodox sects are illustrations of identity or equivalence in nationality, social status, and religion.

Occasionally, the connections between social class, and religions are apparent in the names of churches or of entire denominations and movements. Holiness religions, both as separate churches or as movements, are examples; also the Church of Divine Science, The Four-Square Gospel, Jehovah's Witnesses, and the Plain People. The Oxford Movement is a religious development at the other extreme of the rankings of the social classes and it corresponds in this respect to the various ethical-culture substitutes for the established churches. Of the four new or native religions (so-called because they were not associated with origins in Europe or elsewhere), Christian Science and Mormonism developed from and with definite social-class interests. The other two, Negro spiritualism and the Indian religions are ethnic, more or less inclusive, and less subject to changes in class or social mobility. Some religions, as most of the above demonstrate, are conceived in frustration or social disorganization. Like

[7] See the occasional reports on church finance in the National Council's weekly leaflet, *Information Service;* for example, "Trends in Giving to Fourteen Religious Bodies," October 2, 1954. Further historical trends are given in F. Emerson Andrews, *Philanthropic Giving* (New York. Russell Sage Foundation, 1950); Edward C. Jenkins, *Philanthropy in America* (New York. Association Press, 1950).

the separation of some of the denominations during the Civil War, they reflect the power of secular influences which are as mysterious, sacred, and untouchable as any of the loyalties or beliefs of the typical religions.

Variables in the social-class composition of the churches have already been mentioned in the exclusiveness of the churched population prior to the Revolution, in the evangelical denominational movements to the frontier and in rural communities, and in the growth of the Roman Catholic church among the immigrants. These differences have survived in the present-day religious and social-class affinities. As found in all the community surveys and polls,[8] the middle and lower classes populate and support the churches. Upper and middle classes are represented in the Jewish and Protestant Congregations. These classes are composed chiefly of professional, business, managerial, and service vocations, Roman Catholic parishes have the highest proportion of industrial workers in the lower occupational classes. Protestant denominations have the highest proportion of agricultural workers; Jews (being an urban people) have the lowest. Jews and Protestants have higher percentages among the educated groups than do the Catholics.

TABLE 14–4. Social Class Affiliations of Religious Groups, United States, 1945–1946

Classes—Per Cent Distribution

	Upper	*Middle*	*Lower*	*Total*
Jewish	22	32	46	100
Protestant	17	35	48	100
Episcopal	24	Congregationalist 43	Baptist 68	
Congregationalist	24	Presbyterian 40	Lutheran 53	
Presbyterian	22	Methodist 35	Methodist 52	
Catholic	9	26	66	100
Average	*13*	*31*	*56*	*100*

SOURCE: See first reference in footnote 8. The per cents are derived from polls conducted by the Office of Public Opinion Research, Princeton University.

Of the Protestant denominations, Episcopalians and Congregationalists are most frequently represented in business and professional occupations; Congregationalists, Presbyterians, and Methodists have the strongest middle-class complexion; Baptists, Lutherans, and Methodists, the largest representation among the lower classes. Jews and Episcopalians have the

[8] This summary and Table 14–4 are based on the research by Liston Pope, "Religion and the Class Structure," *Annals of the American Academy of Political and Social Science*, Vol. 256 (March, 1948), pp. 84–91. Table 14–4 is a condensation of Pope's Table 2 (p. 86). Other sources are reviewed in Kurt B. Mayer, *Class and Society* (Garden City, N.Y. Doubleday, 1955): Chapter 5 and bibliography (pp. 82–84) give a representative list of American writers on class and stratification. See also for special developments: Erdman Beynon, "The Voodoo Cult among Negro Migrants in Detroit," *American Journal of Sociology*, Vol. 43 (May, 1938), pp. 894–907. E. T. Krueger, "Negro Religious Expression," *American Journal of Sociology*, Vol. 38 (July, 1932), pp. 22–30. Liston Pope, *Millhands and Preachers* (New Haven. Yale University Press, 1942), Willard L. Sperry, *Religion in America* (New York. Macmillan, 1946).

highest white-collar membership. Catholic, Baptist, and Lutherans are the primary church preferences of urban manual workers. Farmers and the rural population in general are found most frequently among Lutherans, Methodists, Baptists, and Congregationalists, and least frequently among Episcopalians. The highest proportion of trade unionists are in Catholic and Jewish congregations; of the Protestant denominations the rank order is Lutheran, Baptist, and Methodist.

The classification of Table 14–4 is too general to point out most of the sectional differences in religious preferences or prestige. No attention is paid, for example, to the effects of such combinations of class organization as religion and education, or religion and political party affiliation. Negro church membership is about the same proportion of the total Negro population (60 per cent) as is white membership of the total white population. Of the total 6.8 million Negro church members, most belong to the Methodist and Baptist denominations in separate churches of their own. The number of Negro members in white churches is insignificant (less than one per cent), a generalization which also includes Negro Roman Catholics. In spite of Roman Catholicism's policy of non-segregation, the percentage of Negro Catholics is less than one-half of 1 per cent, and the majority of this small group is in segregated churches.

A classification of churches by prestige is necessarily temporary and decidedly a matter of sectional historical antecedents. Of the large denominations that are not ethnic or sectional, Unitarians and Episcopalians enjoy the greatest prestige in New England; in the Middle West the Methodists have achieved their highest status; in the South, Baptists and Methodists are about equal in their prestige as power groups, while the Presbyterians enjoy the top position in social prestige. Catholicism is achieving a position of prestige outside of its original numerical strongholds in New England and the West Coast.

RELIGIOUS-CLASS BIRTH RATES

There is no substantial or consistent evidence that any one religion is outbreeding the others. Historically, high birth rates and intensity of religious beliefs have always been associated. The most durable examples of this generalization are the teeming populations of the Orient with their paternalistic or familistic pressures to multiply, and the high birth-rate records of pre-industrial Europe. Exceptions to this correlation are always about as frequent as the rule, however, as is illustrated by Ireland's demographic cycle.

Since there are no sufficient census records to uphold, refute, or justify that any trend in religious-class birth rates has been changed or reversed, the only temporary conclusions that can now be accepted are those of local community samples. These studies of general and specific birth rates, size of families, and replacement rates are unanimous in showing that

religious teachings are too important to be omitted, but that they have no more permanent effects than any of the other indexes of social-class position. Both Figures 14–1 and 14–2 are crude indications that all the religions are growing at about the same rate, in spite of the fact that some of them make no pretense of advocating large families or of opposing methods of regulating the birth rate.

To date the comparisons of birth rates and religious class indicate that the major religions can be ranked in an order that has probably prevailed for several decades. All the different measures of fertility suggest the order: (1) Roman Catholics; (2) Protestants; (3) Mixed Catholic-Protestant families: (4) Jews. One reason why Catholics are not increasing in the total population more rapidly than other religious groups is the greater distribution of Protestants in rural areas where large families are the rule. In addition to this difference in residence and occupation, there are also variations in age-specific rates, and in educational and economic status to which some attention is given. It is interesting to note that the Jews, who

TABLE 14–5. Number of Births per 100 Wives

Catholics	173	Jewish	110
Protestants	147	All others	138
Mixed Catholic-Protestant	133		

SOURCE: See footnote 9. These rates are based on the groups of the Indianapolis surveys, 1941–1950.

are usually not mentioned in these comparisons (partly because they are small enough as a group not to attract attention in this competition), have always had a low birth rate, approaching a stationary level, yet they continue to maintain their numbers in the general population. At the other extreme, Negroes, with perhaps the highest birth rate of any large group continue to hold a position in the general population of increase at a decreasing rate.[9]

Other religious-class differences are apparent in the proportion of childless families, use of contraception (especially effective use), and the spacing of births. Protestant denominations ordinarily report the highest rates in each of these comparisons. In general, the evidence can scarcely justify a more specific conclusion than that the liberal religious groups are most responsive to methods of family planning, but this correlation (according to the analyses) is mainly the result of economic rather than of religious status.

[9] Ronald Freedman and P. K. Whelpton, "Social and Psychological Factors Affecting Fertility," *The Milbank Memorial Fund Quarterly*, Vol. 28 (July, 1950), pp. 417–466. See footnotes 2–5 for a bibliography on these topics; footnote 2 is the source of the above ranking of the religious groups.

INTERMARRIAGE

Inter-religious marriages, in terms of their frequency and social acceptability, are supposed to be less popular than inter-nationality marriages but considerably more approved than inter-racial marriages. The most exact knowledge comes from Canadian experience where the census includes this information, and from local surveys. Both of these sources report an incidence of about 15 per cent as the total proportion of intermarriages between Catholics and Protestants. There is no evidence that religious intermarriages have ever been much higher or that the current trend is liable to be upward. The per cent of frequency here given and the conclusion as to trend are subject to considerable regional variations, partly because of the demographic differences to be mentioned and partly because of a generally acknowledged change in the public's attitude (especially the attitude of many young people) about mixed marriages.[10]

The persistence of inmarriage, as these studies interpret the relative stability of the intermarriage trend, is explained by the opposition of most organized religions. If intermarriage between members of the Protestant denominations is omitted as not being a mixed religious marriage, the usual types are Protestant-Catholic intermarriage, with comparatively few marriages of Eastern Orthodox or of Jews outside of their own faith. Jews are most opposed to intermarriage as demonstrated by all recent reports. Eastern Orthodox sects are not particularly opposed on religious grounds but their rate is at a minimum because such intermarriages would also be inter-nationality, inter-class, and inter-language mixtures. Roman Catholics have sustained religious inmarriage by crossing the nationality barrier in order to preserve homogeneity.

This conclusion is partly modified by the demographic observation that individuals of either sex will marry outside of their own religion when they are on the unfavorable side of the sex ratio. The higher proportion of Catholic females partly accounts, therefore, for outmarriage of Protestant males. Other demographic conditions that account for religious mixed marriages are the same as those found in inter-nationality or inter-racial marriages; namely, the group is small as well as being unbalanced in its sex ratio, or its social classes are unbalanced (the highest rate of outmarriage being in the upper classes and decreasing to the lowest class where it is least frequent). Two other social-class correlates confirm this latter trend

[10] The source of Canadian experience is: Claris E. Silcox and Galen M. Fisher, *Catholics, Jews, and Protestants* (New York. Harper, 1934), Chapter 7. See also Chapter 8, "Conversion." Other estimates of trend are given by Milton L. Barron, "Research on Intermarriage," *American Journal of Sociology*, Vol. 57 (November, 1951), pp. 249–55. Judson T. Landis, "Marriages of Mixed and Non-Mixed Religious Faith," *American Sociological Review*, Vol. 14 (June, 1949), pp. 401–407. Ruby J. R. Reeves, "Single or Triple Melting Pot?" *American Journal of Sociology*, Vol. 58 (July, 1952), pp. 56–59. John L. Thomas, "The Factor of Religion in the Selection of Marriage Mates," *American Sociological Review*, Vol. 16 (August, 1951), pp. 487–491. In this investigation, 30 per cent of all Catholic marriages were mixed.

in that intermarriage is most frequent among individuals who are unusually socially mobile, emancipated, and marginal, and who have enough similarities in economic, social, and educational status to offset the influence of religious differences.

Inter-religious marriages have not been notoriously demoralizing. Although they have been accused of being more subject to incompatibility, divorce, and child neglect than the average of religious inmarriages, there is no sure proof. Professor Leiffer, in a summary of his own research on this aspect of intermarriage, has admitted that he found few broken homes and few instances of long-continued tension, but he added: "It is abundantly clear that interfaith marriages have unfortunate results for organized religion."[11]

Conversion

Conversion often accompanies mixed religious marriages and it is probably the chief incentive to this change in church membership among adults. Otherwise, the tendency of children to follow the mother's religion is the prime objection of most organized churches to mixed marriages. Of real conversion that occurs independently of these sources there is much less than there is of intermarriage. Conversion is not promoted or endorsed by any of the large religious groups, but is more than likely to be regarded with suspicion as the muddled behavior of the "split-personality" type of individual. Judaism and the Eastern Orthodox sects not only discourage conversion but do not participate in evangelism, and as a result they have few converts or losses to other faiths. The chief inter-religious transfers are, therefore, between Catholics and Protestants. So far as local statistics are kept, and all the handbooks of the federations or councils report from time to time on conversion, this exchange of members is about even. These characteristics of conversion agree with Canadian experience where statistics are both more representative and more regularly collected.

OTHER SOCIAL CORRELATES

Other meaningful relationships between religion and demography are constantly being publicized because of religious developments and attitudes that occur outside of the organized religions or unite with broad social trends to which churches must adjust. In addition to numerous specific sociodemographic correlates, there are the ever-present contest between religion and secularism, the aim of churches to extend their social and spiritual influences to the unchurched and to other social institutions, the liability of the church to its own cycle of growth and decay, and the

[11] Murray H. Leiffer, "Mixed Marriages and Church Loyalties," *Christian Century*, Vol. 66 (January, 1949), pp. 78–80. Bossard, James H. S., and Boll, Eleanor, *One Marriage, Two Faiths* (New York. Ronald, 1957).

long history of efforts to strengthen the position of the church through mergers or federations.

Since all churches have the same low proportion of regular membership and participation, they are equally concerned with the "rising tide of secularism" and their apparent inability to interest, or to offer services of value to, the majority of the people. Yet all the religious polls have demonstrated that most people accept the approved theologies and beliefs of religion.[12] The result is that both the critics of the churches and outstanding church leaders believe that organized religion is losing its social influence. Its two traditional reactions of fundamentalism and liberalism have been unequal to modern challenges. Nearly all nationwide issues or changes, as illustrated by business recessions, war, urbanization, the rise of the industrial working classes, the extension of technologies and science, and commercialized recreation, are creating a non-religious culture, or barriers to the church, that the spiritual, theological, or social programs of the churches cannot cope with.

The need for revival is recognized widely in social science literature. There is extensive evidence of religious ineffectiveness among children and the aged, and in the several indexes of social well-being that were given in Chapter 13 (page 293) to test the effectiveness of education, their correlation with any measure of religion is nearly always negative. That is, the number of churches, church members, clergy, or expenditures per community is of little apparent consequence in promoting either improvements in other institutions or in personal qualities of good citizenship.[13]

The life cycle of churches

All communities that are growing or are experiencing other rapid changes in number or composition of the people present severe risks to the orderly development of churches. The result is a typical institutional cycle that resembles the life cycle of the community or the family life cycle. In the history of most urban churches, the cycle is somewhat similar to the family cycle in years of duration but is generally longer than the cycle of commercial institutions. Its period of continuous growth and prosperity often averages fifty years. There are a few exceptional instances in which

[12] These polls and attitudes are reported regularly in the *Information Service* leaflet of the National Council, the *Catholic Digest, Christian Century, Christian Herald,* and all the *Handbooks* or *Yearbooks* under titles such as "This Believing Country" (a review of a poll indicating that 96 per cent of the people believe in God) "Is Protestantism Slipping?" "Can Catholicism Win America?" "Spiritual Illiterates."

[13] Illustrative studies are: Gerhard Lenski, "Social Correlates of Religious Interest," *American Sociological Review,* Vol. 18 (October, 1953), pp. 533–44. David O. Moberg, "Leadership in Church and Personal Adjustment in Old Age," *Sociology and Social Research,* Vol. 37 (May, June, 1953), pp. 312–16. M. S. Myers, "The Role of Certain Religious Values for High School Youth," *Studies in Higher Education,* Vol. 79 (Purdue University. 1951), pp. 79–85. Wayne E. Oates, *Religious Factors in Mental Illness* (New York. Association Press, 1955).

an original church has been able to maintain itself in the same location for more than a century, but only with drastic reorganization that actually amounts to modifications such as those accomplished in other churches by removal. Typical periods of growth, the peak of maximum development, and the symptoms of decline are rarely clear-cut. As a rule, prior to merger, removal, federation, reorganization, or abandonment, a church may be exposed to most of the conditions in the accompanying outline of hindrances. In addition to a loss of members which may be so gradual that it is unnoticed, other cues are the absence of families with children, indebtedness, frequent changes of minister, and control by an elderly (self-continuing) group. Occasionally the cycle is interrupted by new blood, but more often by the transfer of control to an evangelical or fundamentalist sect, or by reestablishment in a new or suburban community.

FACTORS LEADING TO THE DECLINE, REMOVAL, AND FEDERATION OF CHURCHES

1. Any rapid change in the growth, movement, or composition of population.
2. A community over-churched either for its denomination or church-population ratio.
3. A community rapidly industrializing or commercializing.
4. A disproportionate number of families in the low-income brackets.
5. Rivalry or conflict in churches or the community.
6. Typical instabilities of population such as transiency, tenancy, rural-urban migration.
7. Changing urban neighborhoods for any of the reasons mentioned above, changes in zones, or shifting cultural composition.
8. Inadequate transportation.
9. The church handicapped in effecting readjustment by inheritance or capital investments.
10. Resistance to change, merger, or federation.

SUMMARY

Most of the recent investigations that require information about the composition of a population agree that religious status cannot be omitted from the numerical analysis of the social characteristics of a population or from explanations of its movements. Such data are necessary to an interpretation of the combined effects of the other components or characteristics, to an understanding of some types of personal behavior, and to plans or policies relating to numbers or quality. In all these connections, religion may be regarded as a basic identification of culture (a keystone) or it may be a specific difference in personality, family, or social class.

From either point of view religion is a source of stability and balance.

In this aspect of demographic analysis, religion can be compared with various other explanations of the numbers or quality of people, such as, for example, nutrition. Nutrition, or the "food factor," has always been basic in the study of population. Often the primary laws of population have been stated in the framework: land, food, culture. However precise causal relationships have required a more elementary approach, such as a particular diet; or from the point of view of religious culture, a particular faith or type of religious activity. But this information is not to be had.

As a result, when food is considered to be a major determinant, no one is able to know for sure if the world can support its present population on a minimum, quantitative distribution of calories, or whether the people of the United States are overfed and undernourished. Questions concerning land, technology, and production become infinitely complicated when it is necessary to reckon how a doubling of the world's present numbers could be fed. Similar complications and riddles appear in the specific laboratory problems of nutrition. No expert, for example, is able to provide the desirable diets for human growth, the special diet for the aged, or to specify the value of concentrates, vitamins, salt-free diets, or the connection, if there is any between diet and disease.

Questions of similar comprehensiveness and specificity are to be found in studies of culture or religion. They are the chief motives for the encouragement of a census of religious composition rather than of religious bodies, so that the basic information will be available for comparisons between religious status and residence, sex, age, families, birth rates, occupations, income, education, migration, mobility, or other correlations essential to interpretation and policy.[14]

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[14] There is a summary of religion as a general or specific demographic factor in: Charles E. Stangeland, *Pre-Malthusian Doctrines of Population* (New York. Columbia University Press, 1904), Chapter 2; and of food in terms of adequate quantity or nutritional balance in: Merrill K. Bennett, *The World's Food* (New York. Harper, 1954); Sripati Chandrasekhar, *Hungry People and Empty Lands* (The Hague. Martinus Nijhoff, 1953); Ezra P. Prentice, *Hunger and History* (New York. Harper, 1951); Henry C. Sherman, *The Nutritional Improvement of Life* (New York. Columbia University Press, 1950).

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CHAPTER 15

Economic and Occupational Groups

So far as natural resources and productive capacity are concerned, might the United States a century hence support a population double that of the present day on a plane of living eight times as high as that now prevailing?

HAROLD G. MOULTON°

We come to another question: Does the all-American standard, the all-American culture . . . threaten quality? Are we achieving a mass of second-rate education, second-rate culture, second-rate thinking, and squeezing out the first-rate?

FREDERICK LEWIS ALLEN°°

THE MANPOWER of a nation is considered to be a major resource of a community, and like all resources, manpower utilization poses questions of both quantity and quality. Therefore, labor-force statistics provide a measure of economic growth and trends and become an essential part of an economy.

In surveys of a national economy attention is given primarily to its production, technical capacities, and manpower. Part of this interest comes from the need to discover the composition of the labor force and to determine how effectively manpower is distributed in each major field of work or occupation. Because the relation of the labor force to changes in population and to other economic conditions is considered so important to demographic stability, many agencies, both private and public, have made extensive reports on manpower utilization and economic welfare.[1]

° *Controlling Factors in Economic Development* (Washington. Brookings Institution, 1949), pp. 204–205.

°° *The Big Change: America Transforms Itself: 1900–1950* (New York. Harper, 1952), p. 267.

[1] These sources are chiefly the same as those cited elsewhere, particularly in Chapter 2, pages 49 and 50, and in Chapter 20, footnotes 3 to 9 inclusive (pp. 435–446), which supply a compilation of both historical and current references. A bibliography of most of these agencies is published annually by the General Services Administration in the *United States Government Organization Manual.* The *Economic Almanac,* published

This comprehensive approach is a continuation of the historical emphasis upon the relation of population to political and economic well-being. Few of the classical economists, historians, or the predecessors of contemporary demographers omitted the vital connection between population and the economy. For this reason, all of the foregoing chapters necessarily deal with economic and occupational trends as these developments have been factors in understanding the topics reviewed. Whether the emphasis be distribution of population, or social or ethnic characteristics of the population or growth, economic trends are major considerations in an understanding of demographic trends.

Among the major objectives of the quest for an adequate and up-to-date inventory of the economy and the needs for manpower are such topics as: the growth of the economy; the labor force; recent changes in the classes and productivity of labor; occupational mobility; migration or the redistribution of industry; income, spending or changing habits of consumption, and planes or standards of living; and finally, some of the conspicuous outcomes of these transitions that indicate significant associations between transitions in population and the economy. Since the latter aspect of population is essential to an understanding of the other aspects mentioned above, a review of these general economic-demographic conditions is presented in addition to the data on population and changes in the labor force.

Perhaps the most conspicuous single factor assigned as the keystone of population is the influence of the economy. As a matter of fact, the industrial revolution which played such an important part in the creation of an economy of surplus moderated the claims of the sponsors of other single-factor explanations, including those of the geographers concerning land, climate, or mineral resources and the numerous biological theories of cul-

annually by the National Industrial Conference Board, gives the topics for which historical information and trends are available; it also provides an alphabetical list of United States Government and International agencies that specialize in the collection and publication of economic data. See also, *Catalog of United States Census Publications* (Washington. Bureau of the Census, published annually). For a brief discussion of the United States Census reports, consult: T. Lynn Smith, *Population Analysis* (New York. McGraw-Hill, 1948), Chapter 8. In this discussion Smith refers to some of the discrepancies and inconsistencies in basic economic data that are often unobserved by the reader because of the impressive appearances of arithmetical certainty in their counts and trends. The note on this point, mentioned in our Preface, is particularly applicable to statistical series of production, employment, income, and consumption. Hence, no critical comments will be made concerning the figures and tables in this Chapter. They are used wholly as illustrations of major economic developments. For a specific discussion of the limited accuracy of economic statistics, consult: the reviews of Harvey Leibenstein's *A Theory of Economic-Demographic Development* (Princeton, N.J., Princeton University Press, 1954), by Carter, Duncan, Prais, and Vance in (respectively) *The Economic Journal*, Vol. 65 (June, 1955), pp. 310–11; *American Journal of Sociology*, Vol. 61 (September, 1955), pp. 184–85; *Population Studies*, Vol. 9 (July, 1955), pp. 107–108; *The Economic Review*, Vol. 45 (September, 1955), pp. 719–20, in which the consensus holds that the method of the study is sound but that it exceeds the capacities of mathematics and fails to incorporate non-mathematical variables.

ture and human capabilites. Furthermore, every cultural interpretation of population in all its aspects has been connected with some economic condition long before Malthus associated population, production, and poverty, or the advocates of historical materialism offered their own particular economic determinism.

ECONOMIC GROWTH IN THE UNITED STATES

The economic history of the United States does not support the long-accepted hypothesis that population increases more rapidly than the means of subsistence. In recent decades, especially, the economy has expanded in productive efficiency more rapidly than the increase in population or labor force.

One measure of economic growth is called the gross national product. The gross national product is the total output of goods and services in terms of their market value. The increase in gross national product is shown comparatively for farm and nonfarm output in the accompanying tabulation of trends since 1910. This gain was accomplished despite a decrease

TABLE 15–1. Gross National Product, per Man-Hour, United States, 1910–1954
(in 1947 Dollars)

Year	*Farm*	*Nonfarm*
1910	$ .716	$ .958
1920	.704	1.120
1930	.751	1.347
1940	.966	1.778
1950	1.533	2.172
1954	1.660	2.377

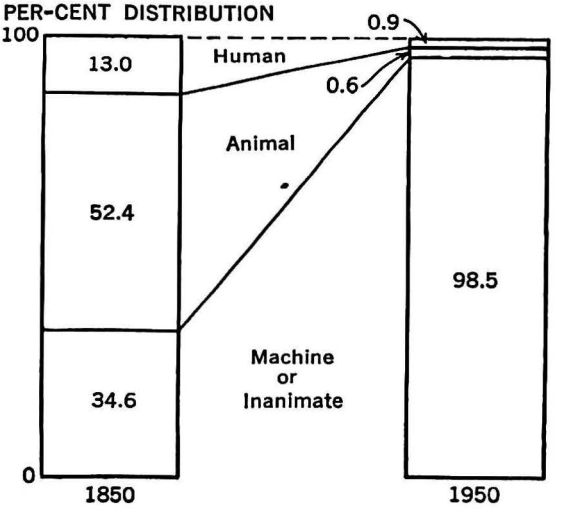
SOURCE: "Road Maps of Industry," No. 1031 (The Conference Board, New York, 1955). Adapted by permission of the Conference Board.

in the proportion of farm workers and a relatively constant proportion of workers in the nonfarm occupations. Since 1929 this gain has amounted to nearly 80 per cent in real output of goods and services or an annual average rate of growth in production of a little less than 3 per cent. Total output of goods and services is a resultant of the volume of labor that goes into it and the output per unit of labor involved. The increase in gross national product was accomplished while the work week declined from about 50 to 40 hours. Therefore, the increase in production must be due to a greater output per man-hour. Productivity is the amount of goods and services produced in an hour of work and is measured roughly by comparing the nation's output of goods and services with the total number of man-hours of work done to produce it. When yearly comparisons are made, adjustments are made for changes in prices.

In recent years, beginning with the pressure of military demands for high-level production, this record is accounted for by increasing productivity per worker and by the achievement of nearly full employment. General employment has grown in proportion to population, which has meant more people in the labor force because of increasing general population and additions from housewives and the upper-age groups. As a result, a net gain in production per worker of about 2 per cent per year has been realized.

These gains in productivity per worker are explained partly by improvements in capital equipment and by the increasing skills of workers and partly by the ability of workers to move from one industry to another and from one geographical region to others where these skills can be used more profitably. This mobility is most apparent in the transfer of rural workers to nonfarm industries. Similar changes are also occurring between urban industries, but they are less readily observed and they are not as easily reducible to numerical trends.

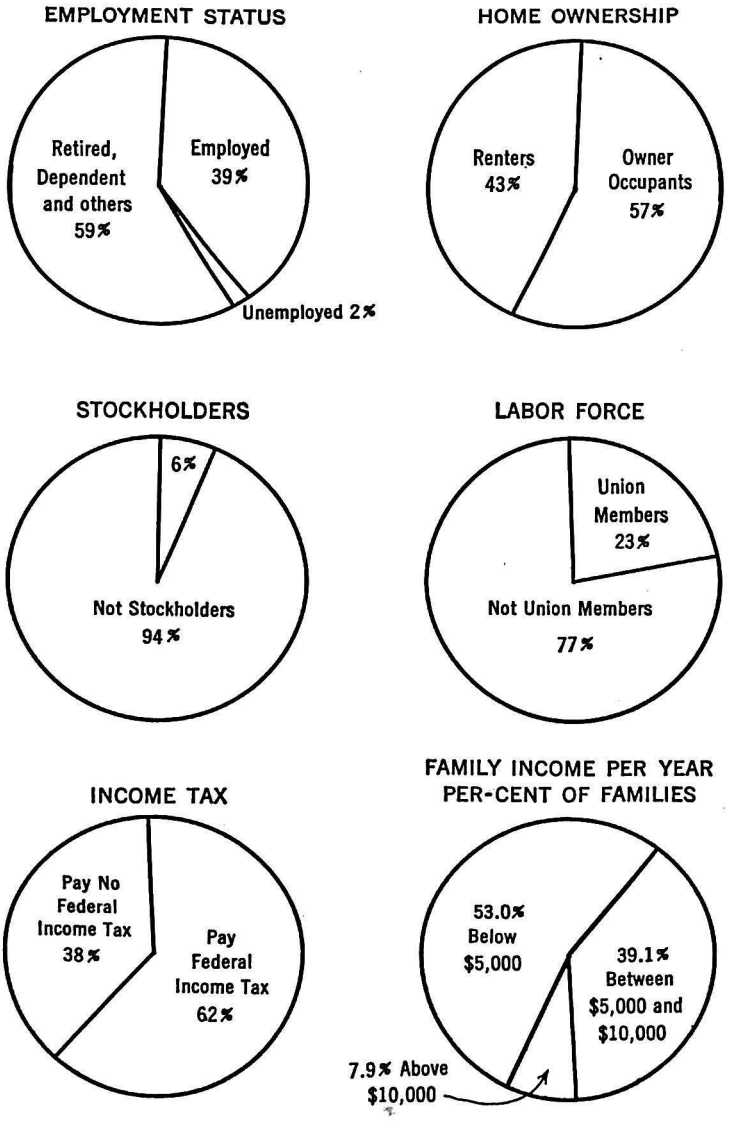
FIGURE 15–1. Types of Energy Used in the United States 1850 and 1950



SOURCE: J. Frederick Dewhurst, *America's Needs and Resources* (New York. Twentieth Century Fund, 1955), p. 908.

The most commonly used measure of real output is its worth in dollars. This value has nearly doubled since 1930. It has meant a substantial advance in real income, particularly for the industrial segment of the labor

FIGURE 15–2. The Economic Public, United States, 1950



SOURCE: Adapted from *Road Maps of Industry*, Nos. 949, 975, and 1138 (New York. The Conference Board, 1954 and 1956). Income is for 1956. Reproduced by permission.

force. When this average is adjusted for increasing taxes and other deductions, real per capita income has increased about 40 per cent.

With the modification of the economy that is indicated by comparison of the changing forms of energy, the substitution of mechanical energy for human or animal sources of power becomes largely responsible for all these gains in production. It also explains the need for larger capital investment, the decline in the proportion of unskilled workers, reductions in the hours of work per week, and the continuous demand for technical skills. In addition, the high record of nearly full employment suggests the possibility that eventually the instability of the economy, as indicated historically by periodic business recessions, will be eliminated by a better understanding of the economic processes involved in production, marketing, and consumer needs. A few standard indexes of the economic status of the American public are given in Figure 15–2.

INCOME, SPENDING, AND STANDARDS OF LIVING

More specific measures of economic well-being are the secular trends in real income, how people spend their money, and the standards of living that are maintained thereby. Each of these indexes appear among the earliest demographic explanations of population growth and the quality of people. They continue to have a prominent place in economic comparisons and in social inventories because they reflect the beneficial effects of gross production. They have also become of considerable recent importance in calling attention to two significant economic-demographic consequences in an age of surplus production. One, as previously mentioned, is the faster rate of production than of population increase. The second is the evidence of greater equality in the distribution of this product as wages and salaries.

In recent comparisons there is incontestable evidence that real income is increasing and that this change is bringing about radical modifications in social-class structure. Tables 15–2 and 15–3 are illustrations of these socio-economic improvements. However, the original information that is presented for the different years is not exactly comparable and is another example of "non-homogeneous facts."

These surveys are also optimistic in the belief that all these gains will continue. In the forecasts for 1960, Dewhurst and his co-workers (*see* page 330) anticipate substantial improvements in real income; in consumer purchases; in the availability of goods heretofore in short-supply, or previously beyond the reach of most pocketbooks because of low family income, such as housing, home conveniences, medical care, and recreation; and in more balanced expenditures for food, housing, clothing, and other standard items in the family budget with greater allowances for luxury

items. All these changes are interpreted to mean a sure advance toward the achievement of a "health and decency standard of living."

Table 15–2 is a classification of the population according to consumer units or families in the different economic brackets. It is used at this point to indicate the total social-class distribution of the population in terms of income, or the economic status of families. In comparison with similar reports for previous decades, this table suggests a rapid change toward more equal distribution of income especially since 1940. As one report of the Bureau of Labor Statistics has summarized this change: In 1913, "one per cent of the population at the upper end of the income scale had an average per capita income nearly twenty times as large as the average for the remaining 99 per cent—and only ten times as large in 1948."[2] In the forecast for 1960, an average family income, meaning after usual deductions, is expected to be about $5,600 to $6,000.

In Table 15–3 this combined trend of socio-economic equalization and increasing family income is given for certain representative states. The economic comparison is per capita personal income with the percentage change from 1947 to 1954. The states selected for this analysis are the same as those used for educational and other comparisons in previous chapters.

TABLE 15–2. Distribution of Population by Socio-Economic Classes, United States, 1953 and 1935–1936

Economic Rank of Consumer Units by Annual Income	*1953*		*1935–1936*	
	Number (000 omitted)	*Per Cent*	*Number (000 omitted)*	*Per Cent*
1. $15,000 and above .	1,494	3.0		
2. $10,000 to $15,000 .	2,273	4.5	959[a]	2.5
3. $6,000 to $10,000 ..	11,074	21.9	686[b]	1.8
4. $4,000 to $6,000 ...	13,523	26.7	5,388[c]	14.0
5. $2,000 to $4,000 ...	13,887	27.4	12,668	33.0
6. Under $2,000	8,299	16.5	18,709	48.7
Total	*50,550*	*100.0*	*38,410*	*100.0*

[a] $10,000 and above;
[b] $7,500–10,000;
[c] $4,000–7,500.

SOURCE: *Economic Almanac*, 1956, p. 373. Compare with similar computations in W. Lloyd Warner and Paul S. Lunt, *The Social Life of a Modern Community* (New Haven, Yale University Press, 1941), p. 203, and with the more familiar designations of classes that are used by the bio-statisticians (*see* Chapter 16, appended bibliography under "Family Illnesses," articles by Jean Downes and Ruth Puffer, and Chapter 18 in the reference to the study by Carl Buck in footnote 4). An interpretation of economic class income in terms of inflation is provided by Selma Goldsmith and others, "Size Distribution of Income Since the Mid-Thirties," *Review of Economics and Statistics*, Vol. 36 (February, 1954), p. 5.

[2] "Changes in Distribution of Income, 1913–1948," *Monthly Labor Review*, Vol. 76 (January, 1953), p. 51. Selma F. Goldsmith, "Income Distribution in the United States, 1952–1955," *Survey of Current Business*, Vol. 36 (June, 1956), pp. 9–16, and (August, 1956), pp. 8–13.

TABLE 15–3. Per Capita Personal Income in Representative States, 1947 and 1954

	1954	*1947*	*Per Cent Change 1947 to 1954*
United States	$1,770	$1,316	34.5
Connecticut	2,361	1,693	39.5
New York	2,163	1,715	26.1
California	2,162	1,678	28.8
Illinois	2,155	1,636	31.7
Ohio	1,983	1,412	40.4
Washington	1,949	1,497	30.2
Rhode Island	1,823	1,436	26.9
Montana	1,729	1,457	18.7
Wisconsin	1,706	1,294	31.8
Kansas	1,689	1,288	31.1
Minnesota	1,644	1,256	30.9
Idaho	1,433	1,251	14.5
New Mexico	1,387	988	40.1
South Dakota	1,332	1,232	8.1
Louisiana	1,302	881	47.8
Georgia	1,237	884	39.9
North Dakota	1,186	1,446	−18.0
Arkansas	979	719	36.2
Mississippi	873	662	31.9

SOURCE: *Road Maps of Industry*, No. 1033, October 14, 1955. Adapted with permission of the Conference Board.

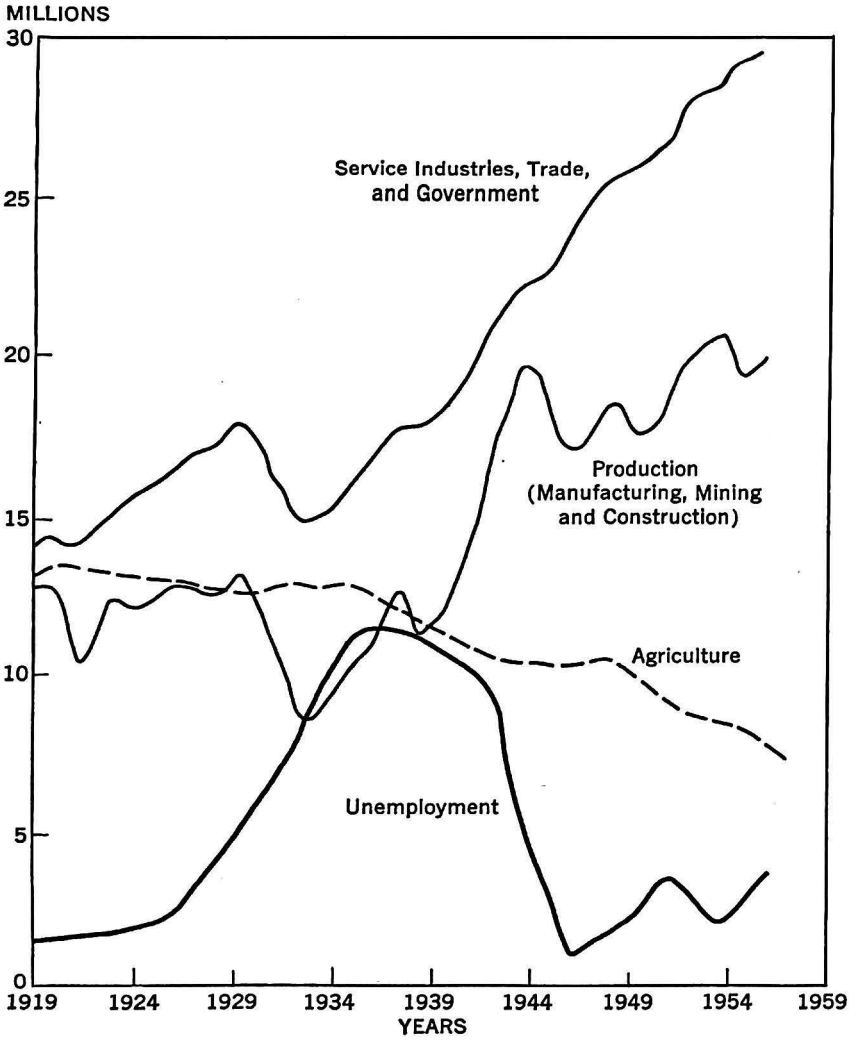
In Tables 15–4 and 15–5 these changes in the relative status of certain social classes or occupations are given in figures for actual income and for estimated buying power per week (Table 15–4), and in the proportions that are spent for different items in the budget (Table 15–5).

TABLE 15–4. Real Income of Certain Occupational Groups, 1955

	Annual Income	*Estimated Buying Power per Week*
Brokerage house employer	$7,655	$76.55
Oil worker	4,758	81.26
Auto worker	5,065	72.84
Steel worker	4,626	71.32
Machinery–mfg.	4,399	67.82
Rubber worker	4,320	65.50
Electrical worker	4,253	61.05
Soft-coal miner	4,062	69.26
Bank employee	3,929	50.91
Telephone worker	3,830	59.65
Meat-packing worker	3,813	67.82
Retail clerk	3,203	50.21
Textile worker	3,000	46.62
Clothing worker	2,791	43.03
School teacher	2,762	64.25
Farm owner	1,593	37.24

SOURCES: *Economic Almanac 1956*, pp. 308, 309, and Bureau of Labor Statistics.

FIGURE 15–3. Employment in the United States, 1919–1955



SOURCE: *Road Maps of Industry*, No. 1041 (New York. The Conference Board, 1955). Reproduced by permission. "Unemployment" added from *Statistical Abstract*.

As Table 15–5 suggests, average per capita expenditures for the necessary and luxury items in the standard budget also support the changes already observed in income distribution and in the upward movement of low-income families and classes. As these families emerge from the lower income groups and are concentrated in the middle groups, their habits of consumption follow the patterns of consumer spending that have been established for many years. In general there is a smaller proportion of income that is required for food, housing, or other minimum essentials, thus allowing larger shares of income for goods and services that heretofore separated minimum or subsistence planes of living from a health and decency standard. These responses in family and individual habits of consumption or spending vary with the one factor, "disposable income." Thus the basic rules concerning the purchase or distribution of consumers' goods, originally reported in the earliest European budgetary studies, have been found to apply with only minor modifications in the investigations of United States industrial experience.[3]

TABLE 15–5. Average Per Capita Expenditures, United States, 1869–1954

Budgetary Items	*1954*	*Per Cent Distribution* *1920–1929*	*1869–1870*
Food	27.6	37.3	51.3
Housing	25.3	19.6	20.8
Transportation	11.4	—	—
Clothing	8.7	14.9	16.8
Recreation	5.2	—	—
Medical Care	3.7	—	—
Personal Services	1.2	—	—
Miscellaneous	16.9	28.2	11.1
Total	*100.0*	*100.0*	*100.0*

SOURCES: Bureau of Labor Statistics, and *Economic Almanac*, 1956, p. 377.

THE LABOR FORCE

A census of the labor force was introduced as early as 1820 primarily as a supplement to the economic records of agriculture, manufacturing, trade, mining, and transportation. From these sources two specific trends are described, one showing the long-time changes in major occupational fields, and the second showing the varying proportions of the employed in relation to the total population. More recently, attention has been con-

[3] J. Wickens Aryness, "Consumers Intentions to Spend," *Pittsburgh Business Review*, Vol. 25 (February 28, 1955), No. 2, pp. 10–14. This is a study of family patterns of consumer spending since the 1870's. For the original laws of Friedrich Engels, consult: F. N. Streightoff, *The Standard of Living* (Boston. Houghton Mifflin, 1911), pp. 12–13. For a review of different planes and standards of expenditure in the United States, consult: H. A. Phelps, *Contemporary Social Problems*, 3rd ed. (Englewood Cliffs, N.J. Prentice-Hall, 1947), pp. 363–78.

centrated on the divisions of the population that are not employed directly in production. This change provides a base for estimating proportions of the productive age group that are in governmental-civilian occupations, the reserves available for military forces, self-employed workers, and the others, such as housewives, students, or those employed on a family farm and in other family business establishments who are unpaid. These minor divisions are also important in computing how the labor force must be distributed in civilian and war industries in order to maintain a military force that varies from three to twelve million people ("Mobilization" by Arthur Flemming).[4]

Since 1890 the total force has grown from a total of 22.2 million, or 35.2 per cent of the total population, to nearly 60 million, or more than 39 per cent, in 1950. The composition of the labor force is given in more detail in Figure 15–3 which shows the trends of employment in agriculture, production, in the fields of service industries, trade, and government, and by way of comparison the amount of unemployment. This Figure shows dramatically the steady decrease in agriculture, the fluctuating and cyclical growth of production, and the regularity in the increase of other occupational classes. A normal rate of unemployment is computed to be about 2 per cent of the total labor force, and as Figure 15–3 indicates, this proportion is also subject to radical changes.

TABLE 15–6. Total Labor Force, United States, 1890–1960

Year	*Number Employed (in millions)*	*Per Cent of Total Population*
1890	22.2	35.2
1900	28.4	36.4
1910	35.0	38.3
1920	40.7	38.1
1930	47.6	38.6
1940	53.3	40.5
1950	59.5	39.5
1960	72.5[a]	41.0

[a] This estimate is by J. Frederick Dewhurst, *op. cit.*, p. 922.
SOURCE: U. S. Census.

[4] Ewan Clague, "Labor Force," *Scientific American*, Vol. 185 (April, 1951), pp. 36–41. Morris Cohen and others, "Three Perspectives on Employment," *Business Record*, Vol. 11 (April, 1954), pp. 100–71. John D. Durand, *The Labor Force in the United States, 1890–1960* (New York. Social Science Research Council, 1948). George F. Eliot, "What's Happening to Manpower?" *Steelways*, Vol. 9 (April, 1953), pp. 20–23. Arthur S. Flemming, "Mobilization," *Scientific American*, Vol. 185 (September, 1951), pp. 89–99. A. David Redding, "Comparison of Volume and Distribution of Nonagricultural Employment in the U.S.S.R. with the United States," *Review of Economics and Statistics*, Vol. 36 (November, 1954), p. 445. Tillman M. Sogge, "Industrial Classes in the United States, 1870–1950," *Journal of the American Statistical Association*, Vol. 49 (June, 1954), pp. 251–53.

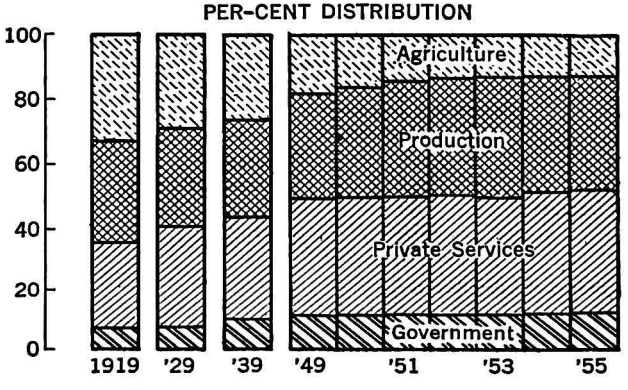
TABLE 15–7. Unemployed in the Labor Force, United States, 1919–1955

Year	(*in millions*)	*Year*	(*in millions*)
1919	1.3	1941	5.5
1920	1.4	1945	1.1
1925	1.8	1948	2.0
1930	6.9	1950	3.1
1935	11.6	1953	1.5
1940	10.7	1955	3.1

SOURCE: *Statistical Abstract*, 1956.

The percentage distribution of the labor force, as indicated in Figure 15–4, clarifies most of the recent changes in the primary occupational fields that are not definitely indicated in Figure 15–3. These more specific trends show an increase of more than 100 per cent in the private service occupations, which include transportation, public utilities, trade, finance, insurance, and real estate; and a considerably larger gain in government employment; while the labor force in production, which includes manufacturing, construction, and mining, increased about 50 per cent.

FIGURE 15–4. Distribution of Labor Force in Major Economic Groups, United States, 1919–1955



SOURCE: Same as Figure 15–3.

Trends in the labor force have been computed since 1820 in order to show the relative gains or losses of the primary occupational groups. This comparison, however, does not show the development of the more recent census classifications, and it also conceals some important trends because of the changing definitions of occupations and skills.[5] Figure 15–5 is an im-

[5] For this table, consult: Warren S. Thompson, *Population Problems*, 4th ed. (New York. McGraw-Hill, 1953), Table 19–2, p. 390.

provement from the points of view of accuracy and the number of occupational groups that are included, though it too contains classifications that are not exactly comparable.

Recent economic changes

As early as 1870 and with cumulative rapidity since 1900 there have been two developments that have led to prominent changes in economic adjustments and in the composition of the labor forces. The first is the growth of large business and industrial establishments both in agriculture and manufacturing. The second is the rapid extension of employment in all levels of government. These transitions are related either directly or indirectly to the growth of population. They also illustrate how the economy responds to specific variables within itself, and how these changes in turn become precipitants of change in all other social institutions.

The rise of large corporations is presumed to be one of the reasons for the primary shifts in all major fields of employment. They have been associated as responsible in part for the decline of rural, and the increase of urban occupations, for increases among clerical and managerial groups, the professions, governmental service, and the white-collar jobs, and for the decreasing trend in household and domestic services. The net result has been a considerable mobility of the employed classes and concentra-

TABLE 15–8. Changes in Major Occupational Fields, United States, Since World War II

	Percentage Increase in Employment		*Percentage Increase in Employment*
Construction	124.3	Finance	48.9
Manufacturing	70.5	Transportation and Public Utilities	45.7
Government Service	67.5	Mining	1.4
Trade	60.0		
Service	58.8		

SOURCE: U. S. Bureau of Labor Statistics.

tion of financial power, but, according to the economic surveys, the large corporations have had little or no influence on the amount of employment or upon economic opportunities.[6]

Large business corporations have grown since 1900 both in size and numbers in direct proportion to the growth of population. In this respect they resemble the trends in trade unions which have had similar growth in number, members, concentration, and financial power.

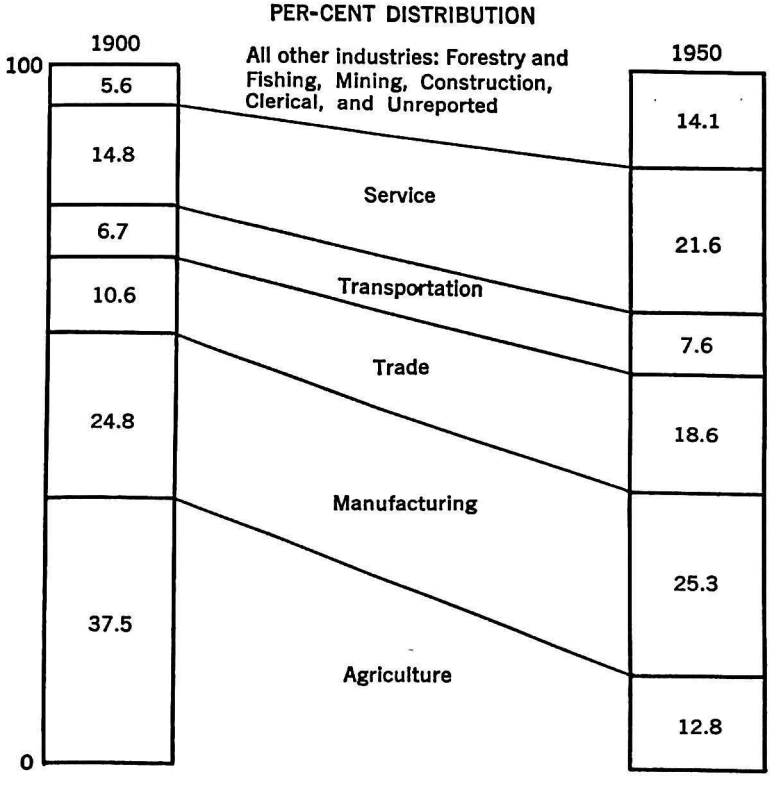
Throughout this period the classification of the labor force as wage and salary employees (about 82 per cent of the total) and as self-employed

[6] A. D. H. Kaplan, *Big Enterprise in a Competitive System* (Washington. Brookings Institution, 1954), Chapter 3, "Big Business in the Business Population."

(about 18 per cent of the total) has remained relatively constant. The major consequences in the concentration of employment have been experienced in the utilities, which employ 70 per cent of all workers in these occupations, and next in manufacturing, wherein the large firms employ nearly one-half of all the workers in this classification. By contrast, the occupational fields of retailing and the service industries continue under the control of small business units which account for small average employment of about nine employees per business firm in this country. This low average is explained partly by rapid increase in numbers of small retailers in order to distribute the products of the large corporations.

The expansion of civilian employment in various governmental organizations is indicated by the fact that nearly one-eighth of the labor force is

FIGURE 15–5. Distribution of the Labor Force in Major Fields, United States, 1900 and 1950



SOURCE: Bureau of Labor Statistics. See reference Ewan Clague in footnote 4 above.

now engaged in this category. Government as a big business has grown precisely as the big corporations in direct ratio to the growth and changes in the composition of the population. This extension of governmental services, as noted elsewhere in nearly every specific change in population, has been occasioned by public interest in the conservation of natural resources; in direct or indirect aid to business, such as agricultural aid, road-building, ways and means to forestall calamities—floods, droughts, or business recessions; and in the expanding programs of social security and other protective, custodial, or legal controls.[7]

In an abbreviated summary, ten changes in the economy are listed as significant modifications in the labor force. They are also important in interpreting changes in the composition of the population as a whole, in the prospects of economic opportunity and security, and in the mobility of labor. As already indicated in the primary trends, many of the most critical changes cannot be easily observed or measured. Moreover, some changes can and do occur in direct opposition to primary trends, and, on some occasions, as in the recent expansion of the construction industries, with a rapidity that is beyond the scope of current means of reporting.

RECENT ECONOMIC-DEMOGRAPHIC TRANSITIONS

1. Urban and suburban concentration of population.
2. Increase of women's occupations.
3. Decrease of foreign-born workers.
4. Increase of white-collar occupations.
5. Changes in age composition of the labor force, earlier retirement, decrease in proportion of younger workers.
6. Changing demands for skill and the consequent changing divisions of labor.
7. Rapid economic adjustments because of technological innovations.
8. Migration of industries.
9. Manpower shortages.
10. Variable transitions as in the shifts of occupations between different economic fields; increased output; shorter work-day and week; increasing income; changing habits of consumption; increased demands for general and technical education; expanding reserve labor supply.

The composition of the labor force

A number of factors, of which the following are particularly important, contribute to variations in the composition of the labor force: the age composition of the population; the family status of the population; the concentration of the population in urban areas; and social and economic

[7] Solomon Fabricant, *The Trend of Government Activity in the United States Since 1900* (New York. National Bureau of Economic Research, 1952), Chapter 7.

forces like the proportion of foreign born, the growing importance of white-collar jobs, earlier retirement, and changes in industrial organization.

The basic core of the labor force is the male population between the ages of 25 and 44, about 90 per cent of whom normally work. This basic core is at times augmented by the addition of two other age groups, the young and the old. Because childhood has been so valued in the American culture, as evidenced by child labor laws and compulsory education, the proportion of children in the labor force has steadily declined except for specific emergency periods. The decline is shown by the fact that 50 to 60 per cent of all boys aged 14 to 19 went to work in 1900, while only 39 per cent of this age group entered the labor market in 1950. The impact of war illustrates reversals of the general trend. Over four million "extra" young workers were added to the labor force during World War II. Emergency situations frequently have influence beyond a limited time period, as is illustrated by the fact that proportionately twice as many 16- and 17-year olds were working in 1954 as in 1940—most of them doing so while still enrolled in school. Occasional articles appear extolling the value of work experience over classroom experience for a large number of young people. However, unless attitudes change rapidly, in all probability the younger age groups will not comprise a very large proportion of the labor force.

The old, like the young, were drawn into the war effort and like the young the proportion in the labor force has been declining. In 1890 more than 68 per cent of the men aged 65 and over were counted in the labor force. By 1950 this proportion dropped to 42 per cent. The forces largely responsible for the declining proportion include the transition from a farm to an industrial economy, the growing pension and social security systems, and the insecure and dependent status of the aged.

Unlike the young and the old, the proportion of women in the labor force has been increasing during the twentieth century as evidenced by the statistic that women comprised 17 per cent of the labor force in 1890 and almost 30 per cent in 1955.

Theodore Caplow[8] has made the point that the increase in the proportion of women employed is not a major revolution but that, considering the changes in the economy and the rapid urbanization of the population, the increased proportion is a modest rise. Caplow further indicates that the proportion of urban women permanently employed appears to have declined. Certainly the occupational careers of women are not normally the major roles of women in our society. Furthermore, the pattern of occupational participation is related to marital status and the economic status of husbands. For married women living with their husbands, the proportion in the labor force is at its maximum in the age group 35 to 44,

[8] Theodore Caplow, *The Sociology of Work* (Minneapolis. University of Minnesota Press, 1954), pp. 234–236.

which emphasizes the two-stage career of women in the labor force. Many women tend to work until the coming of children and then to return to work when their children are in school. Married women also tend to leave the labor force when their husbands' incomes rise beyond certain levels. As of 1950 this level was $5,000 a year. However, when husbands' incomes rise to the higher brackets, there is again an increase in the proportion of married women in the labor force.

There is no doubt that the changing character of the business world has contributed to the increased proportion of women in the labor force. In 1900 over half of all working women were employed as operative and service workers, while in 1950 the clerical occupations employed the largest number of women in any one category. Women have also profited greatly from the growth in the so-called "new professions." Social work, library service, and semi-professional technical service have expanded greatly during the last half century and women have, of course, shared in the employment opportunities made available by this growth. Nevertheless, there can be no denying that the family roles of women determine in large part the roles that they take in the economy.

The marital status and family composition of the population are significant factors in determining the composition of the labor force. More specifically, early marriage and childbearing are not conducive to labor-force participation of women. Furthermore, when a family has a number of young adults these young people are likely to be employed and to affect the composition of the labor force. The number of persons in the family, when related to the income of the chief breadwinner, will affect the labor-force participation of the members of the family. Insufficient income tends to induce teenagers to leave school, and as indicated previously, the participation of married women in the labor force is roughly in inverse ratio to the husband's income.

Low standards of living are in part responsible for the variations in the racial composition of the labor force. Proportionately there are more colored females in the labor force and this group of women workers enter their working experience earlier and leave later than white women. Among males, Negroes are more likely to be employed at earlier ages for the same reasons.

Because the labor force in the United States is defined to include all persons 14 years of age or older in the non-institutional population who are working for pay or profit, who have a job or who are looking for work, any analysis of the characteristics of this group provides insight into the general characteristics of a large segment of the total population. The count of the labor force is done at the Census count every 10 years during the survey week. In addition, the Bureau of the Census makes a survey of the population once a month to chart changes in the nature of the labor force. These

measurements of a significant proportion of the population provide helpful data for the student of population.

Occupational mobility

In accounting for the adjustment of the labor force by migration or mobility, there are two slightly contradictory principles. One is the basic right to employment and the freedom of movement to get it under the most favorable conditions. The second is the considerable advantage of the immobility of labor to all concerned in the stability of the labor force. The contradiction between the two, however, is nullified by the fact that mobility is often required to maintain steady employment (hence, stability). On the whole, the record of a stable work force—that is, geographically stationary—has been unusually high in this country since 1870. But this situation can be deceptive because it conceals high rates of labor turnover in some occupational classes[9] or at some periods—as in the flexible shifting of large numbers of workers to meet the needs of military industries. And the history of most occupational mobility is equally deceptive since migration as a rule does not lead to social advancement either as to better jobs or higher pay.

The mobility of the labor force is also unevenly distributed in the different grades of occupations and the socio-economic classes. Recent surveys show that on the average one-fourth to one-third of all workers change jobs each year, but this proportion is concentrated in the unskilled types of work and is maintained by excessive rates of turnover in a minority of the total labor force. Further interpretations of these economic and demographic correlates of mobility are itemized in the list of variables on page 338.

Economic causes of mobility and migration are practically identical. The most frequent shift of workers is to the same occupation in a different industry or to occupations that differ slightly from the one that is left. Although there is a high rate of variation between the occupations of fathers and sons, more sons follow the occupations of their fathers than any other occupation. In the top or elite professional, proprietary, and managerial jobs, the tendency for children to follow the careers of their fathers reaches its peak. For the labor force as a whole, the type of position that the individual worker enters in his first employment has a powerful influence in holding him to that occupation or to one that is closely similar.

[9] As reported by the Bureau of Labor Statistics, some "rates of turnover as high as 200 per cent per year are not uncommon in heavy industry. . . . In 1950, which had the lowest turnover rates in many years, the cumulative total percentage of separations for manufacturing industries was 41.6 per cent, of which 13.1 per cent were layoffs." P. 87 in Theodore Caplow, *The Sociology of Work* (Minneapolis. University of Minnesota Press, 1954).

VARIABLES IN THE MOBILITY OF THE LABOR FORCE

1. The general westward movement of nonagricultural industries.
2. Concentration of manufacturing in New England and the Middle Atlantic States and the relocation of some of these industries.
3. Changing regional expansion of industry as in the Southern and Pacific States.
4. Temporary demands for labor because of season, war plants, business cycles, or market changes.
5. The tendency for young workers to make frequent job changes.
6. Changing consumer demands.
7. High rates of mobility for males, nonwhite, unskilled, or low-income groups (in varied combinations) and for professional workers and others whose talents and skills have a broad and increasing market.
8. Unemployment or the average duration of employment in specific occupations.
9. The tendency of workers to move from one industry to another in order to retain the same occupation or to improve their status.
10. Barriers or stabilizing influences such as family obligations, home ownership, preference for a certain community, pensions, and seniority provisions.

In addition to these socio-economic conditions, there are specific demographic characteristics that tend to favor either frequent change or stability in employment. In the younger age groups both sexes are about equally mobile, and this tendency declines progressively in the upper age groups. Both marriage and children are also stabilizing forces. Thus, men have a higher record of continuous job-holding than women and the record of married women is higher than that of single women or of women with children, especially children under five years of age. (These statements relative to sex, marital status, and children are not well established, their validity being most certain in combinations of other demographic, social, and economic conditions). An example of one such combination is the high rate of mobility among nonwhite workers of both sexes because of their concentration in the lowest socio-economic classes and in casual or seasonal occupations.

Stability or instability of occupations varies because of other combinations of socio-economic-demographic conditions. Occupations requiring skills and managerial continuity have the least mobility. They include farmers, farm managers, and the proprietary and managerial class as a whole. Closely related to these occupations because of their low rates of labor turnover are such groups of industrial employees as skilled craftsmen and foremen, the personnel associated with managers, and semi-skilled operatives. High rates of labor turnover are characteristic of all occupa-

tions that pay a wage at or below the average of the region or industry, that require little or no skill, or that are unable to offer continuous employment. Typical examples are the vocational groups of transportation, trade, mining, service industries, and farm laborers or tenants. Professional and technical workers operate under rules peculiar to their own specialized qualifications. Their high rates of mobility generally mean better employment, recognition of individual talents or proficiency, higher income, and more rewarding opportunities for research—incentives rarely found in other job categories. However, there are a number of current developments that may alter some of these labor-mobility correlates, such as the individual's preference for a particular community or region, his status under social security provisions, company retirement or pension plans, annual or minimum-wage regulations, social effects of automation, the relocation of industries because of military or other tactical considerations.[10]

Migration of industry and labor

One of the historical trends in the economy of the United States has been the westward movement of industry and of nonagricultural employment generally. This trend corresponds with the similar movement of population and is a partial explanation of labor mobility. The original concentration of industry in New England and the Middle Atlantic States was reduced at first by industrial developments in the East North Central States. During the depression years and because of the pressure for military production after 1940, the nonagricultural industries have grown spectacularly in both the West and the South.

ECONOMIC STIMULI TO INDUSTRY AND THE RELOCATION OF MANUFACTURING

1. Rapid growth of population and a growing demand for consumer goods.
2. Access to raw materials.
3. Land for plant construction is available, cheap, and has access to good facilities of transportation.
4. Favorable climate.

[10] The following references to studies of labor mobility are only a few in a rapidly expanding field of research; most of them have extensive references: William Haber and others (Eds.), *Manpower in the United States* (New York. Harper, 1954). Chapter 9 by Donald J. Bogue; Chapter 6 by Gladys Palmer and Ann Miller; Chapter 8 by Helen Wood. A. J. Jaffe and R. O. Carleton, *Occupational Mobility in the United States, 1930–1960* (New York. King's Crown, 1954). Clarence D. Long, *The Labor Force in War and Transition* (New York. National Bureau of Economic Research, Inc., 1952). Occasional Paper, No. 36. *Occupational Mobility of Scientists* (Washington. Bureau of Labor Statistics, February, 1953). Bulletin No. 1121. Herbert S. Parnes, *Research on Labor Mobility* (New York. Social Science Research Council, 1954). Bulletin No. 65. Natalie Rogoff, *Recent Trends in Occupational Mobility* (Glencoe, Ill. Free Press, 1953). Seymour L. Wolfbein, "Job Tenure of American Workers," *Monthly Labor Review*, Vol. 75 (September, 1952), pp. 257–62.

5. An abundant supply of labor.
6. Accessibility to markets, local and export.
7. Wages and costs of living are low in comparison with other areas.
8. Low costs of production or high rates of output per worker.
9. Diversified and new industries.
10. Diversified skills.
11. Cheap power.
12. Adjustment to new technologies.
13. Local communities encourage small plants through such inducements as lower taxes.
14. Management and trade unions co-operate.
15. Research.

An economic explanation for these industrial shifts is based partly on the growth of population in these newer regions and partly on their peculiar advantages in natural resources, favorable geographical location, and accessibility to markets. In addition there are occasional encourgements to new industries and incentives to the relocation of some older industries because of special concessions by states or regions that were heretofore mainly agricultural, and because of direct or indirect subsidies under Federal programs. These stimuli and barriers compare the specific economic conditions that are favorable to industrial expansion or contraction. Illustrations of expansion are most obvious in the recent industrialization of the South and the Far West. Like other lists of positive and negative stimuli to population growth, this comparison demonstrates that most of the unstabilizing conditions are simply the reverse of the stabilizing factors, or effects of economic and cultural lags. They show how much of the growth and concentration of population is a direct result of economic opportunity.

The most dramatic regional examples of this economic rivalry are New England, California and the West South Central States, and the South—particularly, Florida, Texas, Tennessee, Louisiana, South Carolina, Georgia, and Alabama. While the Middle Atlantic States continue to hold their leading position in the concentration of manufacturing, this leadership is rapidly being transferred westward to the East North Central States. In other economic concentrations of trade, finance, mining, and construction, there are similar movements both to the West and the South.

ECONOMIC BARRIERS TO INDUSTRY

1. Declining production.
2. Loss of industry because of competition with other areas.
3. Decreasing wages and per capita income.
4. Mass-production techniques are not used or are introduced too slowly.

5. Loss of markets.
6. Inaccessibility of raw materials.
7. High costs of power and fuel.
8. High costs of transportation.
9. Taxation is high and burdensome.
10. Government fails to try to restore industrial stability.
11. Management is inefficient and unresourceful.
12. Banking policies are ultra-conservative.
13. Labor resists labor-saving devices, thus increasing the costs of production.
14. Migration of plants to more favorable regions.
15. Unemployment is high and recurrent.
16. Major items in the cost of living (food, clothing, and house furnishings) are high in terms of national averages.
17. The only new industries that are attracted are those that operate on low wages in a region of high unemployment, thus accentuating an insolvent economy.

In this comparative analysis of the "changing geography of industry," most attention has been given to New England. It is recognized as a distressed area not only because of general economic recessions when other areas are booming but also because of the numerous major industries that it has lost to other areas, such as textiles, shoes, leather and leather products, paper, paper products, and printing and publishing. At the same time, its population has declined relatively, and its capacity to undertake an economic revival is obstructed by an excess of all the barriers enumerated among the sources of an unstable economy. The economy of New England is handicapped by decreasing output per worker, high rates of unemployment, and high costs of production with their inevitable sequence of lower wages and higher costs of living. This cycle resembles the typical poverty cycle that is used to explain family disorganization, or the cycle of an aging or maturing population that has equally demoralizing effects.

New England, therefore, represents a population with an inadequate economic foundation. There is no underpopulation, but instead some increase in numbers in spite of actual losses in employment opportunities. Many advantages, such as favorable climate, access to local and export markets, low-cost transportation, a public that is well above the national average in educational achievement, and a plentiful supply of skilled workers, still prevail, but they are insufficient attractions to new industries or other forms of commerical enterprise. When New England began to lose its one major industry, textiles, a cycle of economic stagnation developed and spread to other industries, leading to their relocation in other areas; and no substitutes in trade, banking, insurance, or other fringe activities, such as construction, the tourist trade, or the use of its skilled labor in types

of refined manufacturing (Connecticut being an exception to this generalization), have been able to reverse this trend.[11]

SUMMARY

Economic explanations of both major and secondary cycles of change in population have been the first choice of the analysts for many centuries. As soon as relatively complete census reports were available, these explanations were stated as related trends and were given the respectability of numerical precision as rates, time series, and index numbers. In all these interpretations, the economic shift has always been the precipitant; then the variability in population of numbers or quality appears—sometimes only after many months or years. Occasionally changes in population are the first to be noted but this priority of noneconomic culture has not been widely accepted and is generally unproved. As a rule, the economic influence is regarded as direct, or possibly indirect when it affects some other major social institution that in turn is observed to be closely accompanied by demographic transitions. One of the chief reasons for this primary status of economic conditions as explanations is that they are most readily adapted to the methods of statistical correlation which have always been accorded respectful attention.

These economic-demographic correlates, or economic-social-demographic correlates, are widely scattered throughout the different topical discussions of demographic description, analysis, and interpetations. It is probable that neither the full realization of the power of economic forces nor their indirect and often subtle secondary effects are fully embodied in the expositions of the different schools of economic thought, regardless of their extreme emphases upon the materialistic basis of society. However, economic and other social forces always operate in a complex structure and in a constantly changing cycle of causes and effects. The subjectivity or refinements in most of the human effects of these operations have been noted. This second result is the source of most of the suspicion that is attached to economic, technical, physical, or material changes as a whole. Often they are not geared to that fragile system of human interests, the social values and the highly dominating personal aims of individuals whose talents cannot be measured.

When the emphasis is economic, attention is directed to the major change

[11] Arthur A. Bright and George H. Ellis (Eds.), *The Economic State of New England* (New Haven. Yale University Press, 1954). Chapters 7 and 8. Seymour L. Wolfbein, "Changing Geography of American Industry," *Monthly Labor Review*, Vol. 77 (July, 1954), pp. 739–43. Seymour E. Harris, *The Economics of New England* (Cambridge, Mass. Harvard University Press, 1952). John D. Garwood, "An Analysis of Postwar Industrial Migration to Utah and Colorado," *Economic Geography*, Vol. 29 (January, 1953), pp. 79–88. Walter Isard and Vincent Whitney, "Atomic Power and the Location of Industry," *Harvard Business Review*, Vol. 28 (March, 1950), pp. 45–55. The migration of industry is also reported frequently in the weekly news journals, as for example, "West and South: New Industrial Empires," *U. S. News and World Report* (July 30, 1954), p. 66 ff.

in American society in terms of growth and realignment of the economic structure. From a predominantly agricultural economy the transition has been to a major world industrial power. By mid-twentieth century, two-thirds of all employed persons were wage or salary workers in private establishments, testifying to the changing nature of the economic structure. With a steady increase in population, big business and big labor have grown to major proportions, yet self-employment has kept pace with increased population. The rise in national income has increased demands for personal and governmental services as illustrated by the five million additional jobs created in wholesale and retail trade and the increased payroll in all divisions of government.

In an expanding economy in a world of tensions, manpower has been recognized as a major resource. Therefore, the changes required in occupations, the relocation of industries, and the geographical redistribution of employment emphasize manpower needs. These needs relate to demands for trained personnel as declines in manual labor show an increasing reliance on trained manpower. Acknowledgement of shortages in scientific personnel and other categories of training highlight this concern. Analyses of labor-force participation seek to describe the character and distribution of manpower resources. They also aim at charting the availability of manpower to meet the needs of the society in peace or war, to provide information relative to the regulation of employment of women, the aged and the young, and to keep a weather eye on danger spots so as to be aware of threats of unemployment.

In a dynamic system, ways must be provided by which manpower can be directed to areas of need. Therefore, studies of mobility, whether it be in the nature of geographical movement or movement between occupational categories, are concerned with defining the nature and the amount of movement. Such studies of mobility have provided information on differentials such as age, sex, and marital status and have analyzed many types of job changes between firms, occupations, and industries as well as in geographical change. In a free society adjustments cannot be forced, yet provisions must be made so that the free movements of people provide manpower resources where needed.

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Part V

QUALITY

Tonight we'll wander through the streets and note the qualities of people.

WILLIAM SHAKESPEARE*

IN ADDITION to the analysis of numbers, or quantity, demography is also concerned with questions of quality. How to achieve the best population and to avoid the burdens of the biosocial incompetents are the recognized goals of all policies of population. Up to the present most programs have tried to reduce the numbers of ill or defective, and there is a growing incentive to minimize another burdensome group, namely, the socially incompetent.

When a society proposes to introduce a total qualitative program, however, it will require a much better understanding of the qualities and values in people and in social institutions than is now within the moral domain. As a result, past and current policies, including eugenics, have lagged in constructive and preventive measures by devoting most of their efforts to cure and reform. In the moral of the Greek myth, Sisyphus did a good job pushing the stone to the top of the hill, but he had no wedge to keep it there, and like that task the work of the contemporary reformer has to be repeated at great cost in money and misery.

The quest for the qualities of people is a search for human values and it is a responsibility of every social institution.

* *Anthony and Cleopatra*, Act I, Sc. 1, 1.53.

CHAPTER 16

Health

The health of the people is really the foundation upon which all their happiness and all their powers as a State depend.

BENJAMIN DISRAELI*

The major world health problem is not death but the chronic infection and infestation which converts man from a productive unit to a liability in society.

HENRY VAN ZILE HYDE**

IN THE prevalence of health and illness human societies have many useful tests of national power and social security. Historical populations can be graded on a scale of vital stability and as a rule death rates and life expectancies are considered sufficient for these purposes. Similar composite evidences that are equally dependable are rates of infant and maternal mortality, the decline of epidemics, the gradual waning (and occasionally the disappearance) of some of the most fatal communicable diseases, and recent achievements in retarding or controlling some of the chronic diseases.

The distribution of illness by types and severity is now accepted as among the most fruitful of demographic studies from both the genetic and eugenic point of view. It is a recognized source of invaluable information that helps to interpret trends in mortality. There is now complete agreement among bio-social statisticians that the total burden of impairments to health and bodily vigor is a primary challenge to any society or government. The evidence for this judgment is inescapable when it is reviewed in the light of the growth of population, or when the several aspects of growth are observed in each of its subdivisions; namely, in distribution, composition, balance, quality, and policy.

As a demographic factor there have been reports upon disease among the primary dysgenic influences at least from the time of Hippocrates (400 B.C.). From that period and with increasing intensity during the last century, search for the types and causes of disease has become a major

* *Speech*, June 23, 1877.

** "Clean Environment Key to Health," U. S. Public Health Service, *Public Health Reports*, Vol. 65 (December 8, 1950), No. 49, p. 1613.

project. New and different classifications of illness and physical defects are suggested both to redirect research and to include human or social contributions as causes or results of ill-health. Therefore, in place of the older stress upon infections and chronic illnesses, there are in addition such classifications as nutritional, deficiency, hereditary, organic, and psychosomatic diseases. In addition, there is a constant quest for the recognition of previously undiagnosed diseases. Demographers, like other researchers, seek better understanding of trends in the incidence of specific diseases and of epidemic and endemic diseases; more knowledge of degrees of immunity or susceptibility and of cures and preventives; and more detailed information as to particular social, personal, or physical correlates of disease or health.[1]

Although the burdens of ill-health are not as well-known or as thoroughly reported as are deaths, nor as statistically accurate as life tables, details now available closely approach such accuracy. This information is available in community surveys, in the expanding literature of bio-social correlations, in the incidence of illness among particular groups or classes (age, sex, nativity, regional, and economic), in the search for causes and especially multiple causes, in the reports of clinical investigations, and in the numerous contributions of the public health movement that provide regular reports from official government agencies or from the numerous privately endowed centers of medical research.

AN INVENTORY OF HEALTH AND SICKNESS

There are two sources of information as to the status of the public's health. Mortality records or death rates are employed most often by the biostatistician. But for an adequate index of the burdens of ill-health, sickness records are necessary. These two sources are supplementary.

[1] Examples in the history of medicine are: Major Greenwood, *Epidemics and Crowd Diseases* (London. Williams and Norgate, 1935). Howard W. Haggard, *The Lame, the Halt and the Blind* (New York. Blue Ribbon Books, 1932). Ronald Hare, *Pomp and Pestilence: Infectious Disease, Its Origins and Conquest* (New York. Philosophical Library, 1955). L. F. Hirst, *The Conquest of Plague* (London. Clarendon Press, 1953). W. H. S. Jones, *Malaria and Greek History* (Manchester. Manchester University Press, 1909). Ludwik Krzywicki, *Primitive Society and its Vital Statistics* (London. Macmillan, 1934). R. L. Moodie, *The Antiquity of Disease* (Urbana. University of Illinois Press, 1923). R. L. Moodie, *Paleopathology* (Chicago. University of Chicago Press, 1923). Friedrich Prinzing, *Epidemics Resulting from Wars* (London. Clarendon Press, 1916). Henry E. Sigerist, *Medicine and Human Welfare* (New Haven. Yale University Press, 1941), and *Civilization and Disease* (Ithaca, N.Y. Cornell University Press, 1943). Boris F. Sokolov, *Civilized Diseases* (London. Thorsons, 1943). E. W. Stearn and A. E. Stearn, *The Effect of Smallpox on the Destiny of the Amerindian* (Boston. Bruce Humphries, 1945). Bernhard J. Stern, *Society and Medical Progress* (Princeton, N.J. Princeton University Press, 1941). S. G. B. Stubbs and E. W. Bligh, *Sixty Centuries of Health and Physick* (New York. Hoeber, 1931). Kenneth M. Walker, *The Story of Medicine* (New York. Oxford University Press, 1955). C. E. A. Winslow, *The Conquest of Epidemic Diseases* (Princeton, N.J. Princeton University Press, 1943). T. S. Work and E. Work, *The Basis of Chemotherapy* (Edinburgh. Oliver and Boyd, 1948). Hans Zinsser, *Rats, Lice, and History* (Boston. Little, Brown, 1935).

Mortality records alone are not reliable in showing either the extent or nature of illness. Likewise, all the surveys of sickness point out sources of human misery and inefficiency that are serious and costly liabilities to a community, although they are not immediate causes of death.

Chronic diseases

When death records are compared for the last five or ten decades, chronic disease is readily noted as the prime condition leading to economic insecurity and death. As observed in previous discussions of particular nations or groups of people, these handicaps are so apparent that they are recognized major modifiers in trends and policies of population. Although the communicable diseases continue to be extensive and severe for most parts of the world, in what is called the Western World they are much less frequent or serious in comparison with their mortality record prior to 1900.

In the United States during the last fifty years, primary attention has been concentrated upon a few types or classes of the chronic diseases, partly because they are the most fatal and partly because medical research has been frustrated in its search for causes and cures. These diseases are: heart disease (including intracranial lesions), arteriosclerosis, high blood pressure, nervous and mental diseases, arthritis, kidney diseases (chiefly nephritis), tuberculosis, cancer, diabetes, and asthma. Another reason for grouping these diseases together is their similarity as constitutional illnesses. In other words they develop from bodily conditions of infection, injury, and wear and tear due to the process of aging; and in these respects they can be distinguished from diseases that are the result of conditions outside of the body.

In recent years chronic diseases in their most disabling forms are reported to affect from 3.5 to 5 per cent of the population. The total burden affects more than twenty-five million people, and the prospect, as noted in Chapter 10, p. 215, is that this total will be forty million by 1980. The three leading chronic diseases, heart, cancer, and brain hemorrhage, cause more than six-tenths of all deaths.[2] As a class they cause nearly a million deaths each year. They account for about 70 per cent of all diseases lasting one week or longer, and an annual toll of one billion days of disability. Their victims require 750,000 hospital beds and the services of one-third of the country's health personnel.

Illness

Although there are no complete sources of information on the incidence of illness, many sickness surveys cover a large proportion of the popula-

[2] The next ranking causes of death are accidents (6 per cent); diseases of infancy, influenza, pneumonia (2 per cent each); and tuberculosis (1 per cent). Together these account for about 13 per cent of all deaths.

tion. Their accuracy and completeness are insured by resurveys and by numerous sampling studies both in this country and abroad. Statisticians base almost all of their conclusions on such surveys (that of the Eastern Health District of Baltimore is considered especially reliable), and upon the reports of illness and bodily impairments of large numbers of insured individuals. Illnesses are usually ranked as major hazards in terms of their frequency, the numbers of people affected, and the amount of disability that results.

In Table 16–1 which is a condensed summary of various community surveys that were made in 1949–1950, types of common illnesses and their frequencies are given. Some of these illnesses also appear among the chronic diseases and others are causes either of chronic disease or of permanent bodily impairments.

TABLE 16–1. Frequency of Specific Illnesses, 1949–1950

Types or Classes of Illness	*Rates of Total Cases per 1,000 Population*
Respiratory	
Colds	240.2
Bronchitis	215.1
Sore throat	101.7
Influenza	72.1
Digestive	51.8
Headache	27.9
Diarrhea and enteritis	26.3
Menstrual disorders	20.4
Infected teeth	20.3
Skin conditions	19.6
Tonsillitis	19.4
Arthritis	19.3

SOURCE: S. D. Collins, "Specific Causes of Illness Found in Monthly Convasses of Families," *Public Health Reports*, Vol. 65 (September, 1950), No. 39. Adapted from Figure 4, p. 1256.

Attention is given to these illnesses and impairments, and to others that are omitted from the abbreviated table, because they disable a lot of people even though they are comparatively minor or because they rank high in annual days of disability even though they are comparatively rare.

RANK ORDER OF THE TEN MOST FREQUENT NOTIFIABLE ILLNESSES

(Average for 1954)

Measles	Encephalitis
Scarlet fever	Typhoid
Whooping cough	Brucellosis (Undulant fever)
Hepatitis (jaundice)	Diphtheria
Poliomyelitis	
Meningitis	

SOURCE: National Office of Vital Statistics.

Evidence of the complete incidence of these illnesses in the United States is supplied by a comparison of numbers of persons who are ill several times each year with the number who report no illness, and also by the number of illnesses per 1,000 population. In the second comparison, the incidence of illness for each 1,000 people, results show that there are 1,379 illnesses per year. Of this total, 650 were disabling to the extent that they incapacitated the individual for one or more days, and 729 were nondisabling illnesses.

From statistical comparisons of the ill and the well, the average vital experiences in a standard million of the population has been compiled. This index shows that in any average year an average million people will consist of:

470,000 who have no serious illness
320,000 who will have one illness
140,000 who will be sick twice
50,000 who will be sick three times
20,000 who will be sick four or more times

Further references will be made to this concentration of illness in the next topics.

Any rank order of serious and rare or frequent and mild illness is confused by age and other differences, to which attention will be given primarily to emphasize the social aspects of health.

CORRELATES OF SICKNESS

No single characteristic in the composition of population has been given more exacting investigation as a possible explanation of health and disease than social and economic status. This emphasis has gained in popular as well as scientific acceptability. One reason of course is that social and economic status is itself a composite index of many different observable and measurable conditions. It reflects such individual differences as mentality, fatigability, original organic vitality and the rates of its expenditure. Furthermore, although somewhat indirectly, it is also a general index of a people's cultural level, of its exposure to disease, and its reaction to seasonal changes and migrations, and of the effects of endemic and epidemic diseases in the cause and spread of disease.

Another reason for this approach is the inability of medical or other research to conquer the chronic diseases in a manner equal to the reduction of the communicable diseases. For this reason, primarily, attention is given to probable social origins, to conditions that are associated with the development and spread of illnesses or with their termination, and to the concentration of illness in the same places, individuals, families, and occupations; or to social changes accompanying illness, such as war, industrialization, or urbanization.

ILLNESSES AND PHYSICAL IMPAIRMENTS THAT ARE OFTEN TRACED TO SOCIAL CAUSES

Arthritis	Meningitis
Cancer	Nephritis
Diabetes	Occupational diseases
Diphtheria	Orthopedic conditions
Encephalitis	Pneumonia
Heart diseases	Poliomyelitis
Hypertension	Respiratory diseases
Influenza	Rheumatic fever
Intracranial lesions	Tuberculosis
Leukemia	Venereal diseases
Measles	Whooping cough

SOURCES of this list are from references in most of the articles cited in footnote 1, page 348, and in the bibliography appended to this chapter.

In the search for these social causes, an initial limit is established by restricting studies to comparable social and economic groups. Other limits are suggested in the reports on incidence and on obvious susceptibilities or immunities that are apparent in the recurrence of specific types of disease in patterns or cycles. Reference in this connection is often made to early physicians or historians, who, like Pliny, called certain illnesses "the slave diseases." A general note on this trend in research is given in a recent review of the United Nations Population Studies:[3]

> . . . improvement in the mortality experience of the Western nations during the eighteenth and the first part of the nineteenth centuries was due more to a rising level of living, better working conditions, and broad social reform than to the development of scientific methods for the control of individual diseases.

Other correlates of sickness include age and sex differences, housing, family or marital status, economic, occupational, or income status, migrations, crowding or congestion suggesting one of the rural-urban differences, and numerous differences in personal health habits and use and availability of medical resources or sanitary facilities. As a rule, the combination of medical and social study also seeks to find the proper or adequate multiple correlation of disease in a network of conditions or in a sequence of changes. Heretofore such combinations and sequences have been noted in the excess of illness among the poor, the migratory, the poor and migrant Indian or Negro, poor families living in congested homes and overcrowded sections of the city, among different age groups (as intensified by economic,

[3] *The Determinants and Consequences of Population Trends* (New York. United Nations, 1953), Report No. 17, p. 60.

occupational, educational, and family status), and among men and women under similar social conditions.

Age differences

In general each age period has its own liability to illness. In childhood and up to age 14, the communicable diseases are most frequent. During adolescence, diseases as a whole reach their lowest level, with specific exceptions such as puerperal conditions, venereal disease, typhoid fever, and tuberculosis. From this period diseases begin to increase each year. The trend continues to ages 40 or 45 when the chronic and degenerative diseases are widely distributed. This relationship between age and chronic disease is made apparent by the incidence: 16 per cent of the chronically ill are under 25 years of age; 50 per cent are under 45 years of age; and 75 per cent are in the productive years, 15 to 64. At age 65, four-fifths of the population has some chronic disease or major physical impairment.

Sex differences

In all surveys and reports women have a higher rate of illness than men. It is highest in the age period, 20 to 24, and declines thereafter until the increases that affect both sexes begin during the advanced years. However, the mortality rate of women is less than that of men and their general death rate is decreasing more rapidly. This sex difference has never been explained although it was first brought to public attention in the records of John Graunt in 1662. Another difference is that, in spite of the lower sickness rate, men have more days of disability than women. Both of these differences are explained in part by an assumed biological susceptibility to disease on the part of the male sex and by his exposure to more stress and tension in his work. The different susceptibility of men to disease is probably the best immediate explanation, because in comparative death rates women have higher rates in only three diseases—diabetes, cancer of the breast, and cancer of the genital organs. Illnesses that are chiefly responsible for the higher male mortality and disability are cancer (respiratory), including leukemia, cardiovascular and renal diseases, peptic ulcers, poliomyelitis, and pneumonia and influenza.

Miscellaneous correlates

Various studies have reported excess rates of illness or death in association with conditions that are too variable to ensure any degree of certain cause and effect relationships. Thus, for example, when people are living under unusual congestion or overcrowding, there are evidences that tuberculosis, rheumatism, meningitis, poliomyelitis, pneumonia and other respiratory infections, digestive diseases, measles, whooping cough, diptheria and orthopedic impairments are inclined to occur more often than in the general population.

There are also similar comparisons between white and nonwhite groups. The death rates of Negroes, for example, exceed those of whites in the following causes of death: (1) *diseases of the heart,* (2) *nephritis,* (3) *intracranial lesions,* (4) *influenza and pneumonia,* (5) *tuberculosis,* (6) cancer and other malignant tumors, (7) accidents, (8) *syphilis,* (9) *homicide,* and (10) diabetes. This incidence among Negroes is in order of frequency. The italicized causes are those that account for the higher general death rate of Negroes. A higher rate of suicide among whites is the most distinctive difference among the other causes of death.

Another comparison that involves many complex variables is the rural-urban difference in health and illness. The more common among these variables are occupation, income, diet, housing, education, and the availability of health resources and of medical attention. At present, illnesses and causes of death are as follows (ranked alphabetically, not by incidence):

ILLNESSES AND CAUSES OF DEATH

Higher in Rural Areas and in Small Towns	Scarlet fever
Accidents	Tuberculosis (women only)
Arthritis	Typhoid
Diarrhea and enteritis	Whooping Cough
Diphtheria	
Dysentery	*Higher in Cities*
Intracranial lesions	Cancer
Malaria	Encephalitis
Nephritis	Heart diseases
Pellagra	Measles
Pneumonia and influenza	Peptic ulcer
Rheumatism (including gout and lumbago	Suicide
	Tuberculosis (males only)

Incidental correlates that crop up with more or less emphasis and that vary with changing fashions and accidental interests include the relationship between age, economic status, and poliomyelitis; economic status, occupation, and cancer; smoking and cancer; housing and tuberculosis; raw milk and brucellosis (undulant fever); air pollution, low occupational status, and either pneumonia or respiratory cancer; overweight and arteriosclerosis, diabetes, arthritis, gall bladder disease, angina pectoris, and coronary heart disease; cirrhosis of the liver and hypertension; undernutrition or dietary restrictions and cancer, circulatory diseases, nephritis, and diabetes. The same dietary restrictions are also regarded as possible positive factors in increasing tuberculosis and other chronic lung conditions, pellagra and other deficiency diseases, and anemia.

FAMILY ILLNESSES

Another correlate that has been widely accepted as far back as records go is the tendency for some diseases to occur more often, or with greater severity and fatality, in certain families. This association has been noted for physical impairments or inherited traits that are not necessarily impairments. These observations of diseases or impairments that "run in families" have been grist for the mill of the geneticist and eugenist, especially since the Mendelian theory was introduced. However, there is as yet little or no evidence that diseases are familial in a predestined biological or hereditary mode of transmission, and up to the present there is no surety that diseases can be inherited. This is another biosocial problem comparable to such age-old questions as the possibility of "new diseases," of natural immunity, or of unusual predisposition or susceptibility of certain people to certain diseases. It arises from the confusion of social and biological facts.

Whether or not diseases run in families, there is abundant evidence from all periods of history and in all societies that certain families have many more illnesses than the average family for the time and culture. These luckless families are usually among those in the lowest economic or occupational levels. Above this level families tend to exhibit about the same degrees of health or susceptibility to disease.

Evidences of this economic correlate between poor families and poor health have never been seriously challenged by studies in this country or in Europe. For many decades, this association has been as soundly accepted as Rowntree's poverty cycle, of which disease is partly a cause and partly a result. Explanations are based upon a combination of several different and cyclical or repetitive conditions involving diet, ignorance, lack of sanitation, poor housing, and all the other illness-producing conditions mentioned in the previous section.

FAMILY DISEASES OR IMPAIRMENTS

Arteriosclerosis	Hodgkin's disease
Brucellosis	Hypertension
Cancer	Mental diseases
Chorea	Muscular dystrophy
Diabetes	Nephritis
Digestive diseases	Otosclerosis (hardness of hearing)
Eye, such defects as cataract and degeneration of the retina	Rheumatic fever
	Rheumatic heart disease
Haemophilia	Syphilis
Hernia	Tuberculosis
Heart diseases	Ulcers

SOURCES: These illnesses and a much longer list of hereditary impairments are cited in Amran Scheinfeld and Morton Schweitzer, *You and Heredity* (Philadelphia. Lippincott, 1939), Chapter 27.

In the United States, this correlation has been repeatedly sustained in the periodical studies of the National Health Survey (originally made in 1936) and by other community studies. In an analysis of all the families being assisted by community agencies in St. Paul, two fairly amazing discoveries were that 40 per cent of the total families in that city were being helped in some way by these agencies—a total of 41,000 families—and that 16,000 of these families, or 49 per cent, were being assisted because of chronic diseases or handicaps. Such families also were the victims of other common predicaments and required the services of several different agencies at the same time. Dr. Ciocco reported substantially the same ratio of families with and without such health hazards. In two surveys of 3,000 families, 40 per cent had some illness, accident, or other health need requiring medical or hospital care. And in a more recent survey in Butler, Pennsylvania (also under Dr. Ciocco's supervision), 45 per cent of the families had one or more members with a chronic disease.[4]

Although the fact that certain families are unusually burdened by disease is no proof that diseases run in families, it does suggest a number of interesting characteristics in the distribution of certain diseases. One observation is the tendency for a few illnesses to concentrate in the same family or person. A second is the tendency for certain diseases to be associated with each other, thus placing the individual under a double or triple handicap. A third is the more than average liability of husbands and wives to the same diseases, and the variations in sickness and mortality according to marital status. A fourth is the tendency for parents and children to have either the same or related illnesses. And all these observations are useful in a prelude to an analysis of the "chronic disease" family which is the most tangible evidence so far available of the liability of members of the same family to the same diseases.[5]

There is an increasing amount of evidence from the studies of families and their individual members that a few diseases are unusually persistent and recurrent. Another tendency is for one disease to predispose the body for the development of a second disease or impairment, and in a few instances for three or more. These highly prevalent and associated illnesses are mainly of the chronic type, such as heart disease and gall bladder disease; heart disease and diabetes, hypertensive vascular disease and arthri-

[4] The source of the St. Paul data is: Carl E. Buck, "Family Health in Tomorrow's Community," *American Journal of Public Health*, Vol. 41 (October, 1951), pp. 1258–1262. Antonio Ciocco and others, "On the Association between Health and Social Problems in the Population," *Milbank Memorial Fund Quarterly*, Vol. 31 (July, 1953), pp. 265–290. The Butler, Pa. survey was reported in the *Pittsburgh Press*, October 22, 1954. A re-survey was completed in 1957 by the U. S. Census for purposes of comparison with the National Health Survey of 1936. Its scope is nationwide with special inventories of 11 geographical regions.

[5] Because the literature from which these materials have been gathered is scattered, the primary sources will be given in the bibliographical notes appended to this chapter under the caption "Family Illnesses."

tis; psychoneuroses and gall bladder disease; arteriosclerosis (sclerosis of the coronary artery), diabetes, and hypertension; streptococcal infections, rheumatic fever, coronary heart disease, and chorea; and overweight, heart disease, diabetes, nephritis, and cerebral hemorrhage. Respiratory diseases as a whole apparently tend to reinforce each other both as multiple illnesses in the person and as family diseases. There is also some, but not enough, evidence that the various kinds of ulcers are also in this category, as well as syphilis in its connections with the mental and heart diseases; and gonorrhea with rheumatism, endocarditis, vulvovaginitis, and blindness.

Illness and mortality of husbands and wives

For many years the health record of married couples has been considerably better than that of individuals who are single, widowed, or divorced. This fact holds for all age groups and accounts for their lower death rates. Husbands and wives are liable to the same illnesses and to death from the same causes. In the studies by Ciocco, illnesses common to husbands and wives included tuberculosis, influenza and pneumonia, heart disease, and cancer. To this list the studies of Miss Downes added all circulatory diseases, hypertensive vascular disease, and arthritis.

Further evidence of the tendency for illnesses to run in families is found in the familiar correlations between the longevity of parents and children and the liability of people in the same household to the same illnesses and causes of death. Edgar Sydenstricker summarized these relations as follows: "length of life, freedom from ill health, and vigor are subject to physical and mental heritage as well as to physical and social environment."[6] Diseases that are much more frequent among children of short-lived parents than among the children of the long-lived are rheumatism, diabetes, and the circulatory, infectious, parasitic, respiratory, mental, and digestive diseases. The only exception in which the children of long-lived parents have a greater liability is nephritis and other genito-urinary ailments. There are also a few studies showing that there are resemblances between parents and children in their susceptibility to cancer (especially to cancer in the same organs or sites) and in the greater susceptibility of identical than fraternal twins to cancer.

The "chronic disease" family

This family has been the object of many special medical and social studies for two reasons. One is that such families can be found in considerable numbers with a great excess of chronic diseases in comparison with the general population. The second reason is that, in comparison with families with no chronic disease, there are close similarities between the

[6] Edgar Sydenstricker, *Health and Environment* (New York. McGraw-Hill, 1933), p. 3.

two in the occupation of the father, in home ownership, in family size, and in their migration.

The excessive hardships of these families is strikingly apparent in the incidence, repetition, need for hospital care, and duration of convalescence that are typical of most chronic diseases. The series of studies by Downes shows, for example, that (1) the individuals in these families have illness rates that are 43 to 58 per cent higher than for the general population; (2) other members of these families have illness rates that average 23 to 37 per cent higher than for the general population; (3) the chronic disease patients require from three to four times as much medical care as that required by other members of the family or by the general population; and (4) they make up about 40 per cent of the hospital population. Specialized reports upon rheumatic fever, brucellosis, Hodgkin's disease, and syphilis are included in the appended bibliography primarily to indicate trends in the medical studies of family and chronic diseases.

ILLNESSES IN THE LABOR FORCE

Historically, the term "labor force" has referred to industrial workers and to workers and their families in the lower-income brackets. In all records, too, these occupations, low incomes, and insecure economic position have been associated with high sickness and death rates. Both the rates of illness and the death rate have increased regularly from the "well-to-do" to the "very poor." Chronic diseases have been twice as high among the latter in comparison with the upper-income groups. For this reason, and because of the consequent unemployability, the status of the labor force has been used to show how disease reduces economic well-being and how low economic status increases an individual's susceptibility to disease and organic debility.

ILLNESSES CAUSING ABSENTEEISM IN ORDER OF THEIR FREQUENCY

Respiratory illnesses	Diseases of the eyes and ears
Digestive diseases	Infections and parasitic diseases
Genito-urinary diseases	Mental disorders
Dental conditions	Circulatory diseases

From the historical point of view, also, there have always been a few prominent and recurrent health hazards that are identified with the labor force. These are tuberculosis, pneumonia, accidents, and diseases of the digestive system. In the comparison of trends in sickness and death since 1910, there are consistent indications that the health of the worker is improving. These gains are reported in lower illness and death rates, reduced absenteeism because of illness, a marked reduction in industrial accidents, and an improved life expectancy and work-life expectancy. However, the

mortality of industrial workers continues to be higher than for other employed groups and their life expectancy lags by ten or more years. The chief causes of these slower gains in health are the respiratory diseases, which as a class are associated with dusts, fumes, and heat, with excessive strains, and sometimes with unsatisfactory personal habits and hygiene. Furthermore, the idea of consistent medical care and of preventive medicine has not made much appeal to large numbers of individuals in this category.

Occupational status and low income continue as factors to be reckoned with in health programs when they are modified by such conditions as migration or by exposure to "new" industrial hazards. From the risks occasioned by migration such diseases as enteritis, smallpox, typhoid, and dysentery are frequent. These hazards in turn lead to high rates of infant mortality, and all of them are associated with lack of sanitation and with nutritional deficiencies. Among the children of these families there are excessive rates of tooth decay, defective tonsils and vision, nasal obstruction, and flat feet, in addition to the usual illnesses of childhood. In the second category the occupational diseases are presumed to add to the worker's liability to nephritis, anemia, neuritis, and pleurisy, and to account in part for the higher incidence of the nervous and mental diseases, of stillbirths, abortions, sterility, and blindness. Heart ailments as a class is the only variety of disease reported less often for the labor force than for other employed personnel.

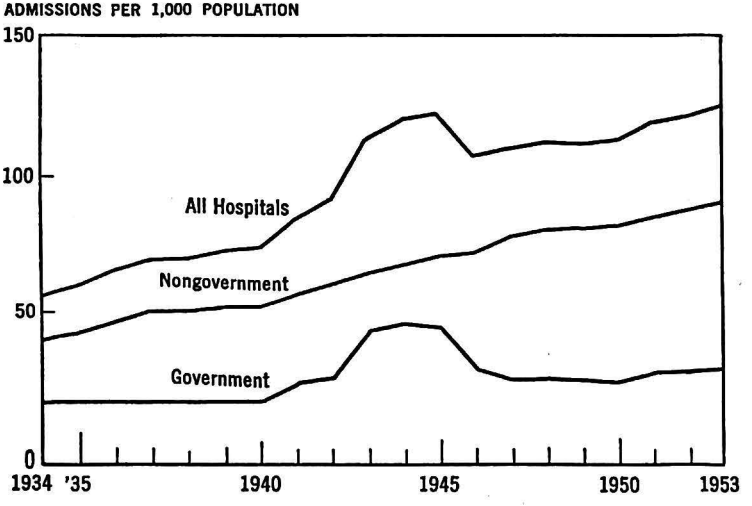
Although the trend of health among the working-class population is upward (especially since 1940) and is rapidly approaching the average standards of the population as a whole, there continues to be spectacular exceptions. In one series of studies by Hinkle and Plummer from this point of view, the reports in the newspapers described their findings under the caption "One Third Have Most Illnesses." These studies were based upon the health records of two groups of industrial workers of both sexes. Some of these records had been maintained by repeated examinations for as much as thirty years. In this respect, these studies are equal in validity to the numerous impairment studies recently published by the Society of Actuaries. The results of these studies showed that both illnesses and accidents are heavily concentrated in one-third of the working force. These victims have three-fourths of all the illnesses and four-fifths of all the days of absence from work. By contrast, the upper third had less than five per cent of either illnesses or days lost. This lucky group was also twice blest. Their minor illnesses were the least serious or disabling and their record of major or chronic illnesses was negligible.

The explanation ventured by the researchers is that there are a large number of people, in this instance the lowest third, who are the unfortunate victims of a general organic inferiority.

THE HOSPITAL POPULATION[7]

In this summary attention will be limited to the main demographic trends in the hospital population and also to the related topics of health personnel, sickness costs, and sickness insurance. The outstanding change in recent years is the growth of hospital services and the increasing incidence in the use of hospitals. Hospital care has now become one of the first ten service industries in the United States.

FIGURE 16–1. Annual Hospital Admissions per 1,000 Population in Governmental and Nongovernmental Hospitals, United States, 1934–1953



SOURCE: *Statistical Bulletin*, Vol. 35 (June, 1954). Reproduced by permission of the Metropolitan Life Insurance Company. Consult *Hospitals*, August number, for reports after 1953.

The census of the hospital population is a voluntary undertaking. It is a collection of the annual inventories of the current 6,840 hospitals and in this respect resembles non-comparable figures of the religious census. The yearly total of admissions is in the neighborhood of twenty million patients (1953), and each year this number grows at a higher rate than the increase of population. During the last twenty years, the number of first admissions has more than doubled—an increase of from 57 per 1,000 in 1934 to 126 per 1,000 in 1953.

In the survey of these trends by the Metropolitan Life Insurance Company, three primary changes are given for the increasing use of hospitals:

[7] Descriptive details of the hospital population will be omitted. Complete figures are available in: Frank G. Dickinson, *Age and Sex Distribution of Hospital Patients* (Chicago. American Medical Association, 1955). Bulletin 97. In addition to this source, there is an annual summary in the journal, *Hospitals*, of the number and types of hospitals, their services and costs, regional distribution, and the use of hospitals.

(1) the extension of their services; (2) insurance plans; and (3) widening public acceptance. More beds are available and the average period of stay in the hospital per patient is decreasing. More babies are born in hospitals. Maternity rates have more than doubled in the last twenty years and now nearly 9 of every 10 babies are born in hospitals, making an average total of more than three million hospitalized births per year. More cases are admitted for observation and treatment than previously, and hospitals are increasing their services for both diagnosis and treatment.[8] There is a greater incidence of male patients, for each age group, than of female. An increasing number of deaths take place in hospitals. Improved economic conditions and the numerous voluntary insurance plans (hospital, surgical, and medical) have eased the payment for hospital services.

There are several general demographic conditions that help to explain this wider use of hospitals. Two of these developments are the geographical accessibility of hospitals and urbanization. In recent years the construction of hospitals has been planned with considerable attention to both the distribution and density of population in the region to be served and also to the distance that patients must travel. All of these conditions are about as significant as the improved economic status of patients. Three other variables are the aging of the population with the greater need of elderly people for institutional services, the distribution of physicians and other health facilities, and the increasing availability of hospitals to the rural population.[9]

Health personnel

Deficiencies in the numbers of doctors, dentists, and nurses are described from three points of view: their insufficient number; their uneven distribution; and their inadequate training facilities. Medical training institutions have failed to keep pace with either the growth of population or the increasing requirements for health services, which, as already noted, exceed the rate of population growth.

Of the three primary classes of health personnel, physicians and dentists are fewer per 100,000 population than they were in 1900. The supply of nurses has increased in recent years but continues to be regarded as inadequate. On the basis of health standards of the twelve "best" states (as

[8] The average length of stay in different classes of hospitals is as follows: general government hospitals, 15 days; church hospitals, 7 days; nonprofit general hospitals, 7 days; private hospitals, 6 days. Consult: F. H. Arestad and M. A. McGovern, "Hospital Service in the United States," *Journal of the American Medical Association*, Vol. 155 (May 15, 1954), pp. 255–278.

[9] "More than one hospital per community is impractical in sparsely settled areas, but does become possible and practicable at population densities above 40 per square mile." Arthur C. Bachmeyer and Gerhart Hartman (Eds.), *Hospital Trends and Developments, 1900–1940* (New York. Commonwealth Fund, 1948), p. 802.

judged by various indexes of good health and especially the physician-population ratio), this country will need 20,000 to 30,000 more physicians in 1960 than it now has (209,040 in 1950). Dentists are in even shorter supply. Their current number (87,000 in 1950) is sufficient for only one-fourth of the population. Moreover, they are more concentrated in cities than physicians, and rural residents are limited in most areas to a minimum of therapeutic treatment (fillings, replacements). If dentistry is to realize its much publicized preventive prospects, three times the present number of dentists would be needed.

Costs of medical care

Most studies of the costs of sickness indicate that these are too great for the average family budget. It follows that there is urgent need for more sickness insurance. Of the total estimated family expenditures for health care for the year ending June 30, 1953—$10.9 billion; only 15 per cent was covered by insurance.

The uneven distribution of sickness already noted is cited as proof that most families cannot meet the emergencies in the costs of medical care and that for a significant percentage of families the financial burden is far beyond their means. In Huntington's survey of sickness costs from 1918 to the present, it is pointed out that nearly one-half of the total expenditures for medical care are being paid by less than 20 per cent of the families. As of 1953 less than 25 per cent of the labor force was included in some plan of health insurance.

TABLE 16–2. Costs of Medical Care, United States, 1953

	(*In billions of dollars*)
Hospital services	$2.0
Physicians	$3.8
Dentists	$1.6
Medicines and supplies	$2.2
Nurses, opticians, and other professional services	$1.3
Total	$10.9

SOURCE: Health Information Foundation, New York City, 1954.

The consumption habits of the American family are sometimes blamed for this situation. Thus it is noted that the public spends as much for alcohol as for all types of medical care, as much for tobacco as for the services of physicians, and a little more for jewelry than for medicines and other supplies. Such comparisons are far too broad to have more than casual interest value. However, since 1930, expenditures for medical care are increasing and the rate of this increase is greater than for the other items mentioned in the foregoing comparisons.

Insurance

Although some form of health insurance is carried by more than one-half of the population, the need for fuller coverage for families is indicated as well as for an extension of this protection to all people. Only a negligible percentage of the population is fully covered at present. Most families carry but one plan, such as for hospital expenses, and have no resources for surgical fees, physicians' services, or for other expenditures. The obstacle to full coverage is its cost and for this reason there is a growing sentiment in support of some health plan to be maintained in part by the Federal Government.

In this respect two needs appear as basic: (1) a provision for extraordinary expenses when, for example, the cost of some illness exceeds an individual's annual income; (2) a provision to insure the worker against loss of income during a prolonged illness or to provide compensation in case of permanent disability.

No plan[10] so far suggested has been considered feasible, partly because of its competition with compulsory or voluntary plans now operating and partly because of its unusually exorbitant financial requirements. The current average annual expenditure for insurance by the American family is in the neighborhood of $250 and is a minimum indication of the total costs of ill-health. Yet most families can scarcely afford this sum. When insurance plans propose to assume even these minimum estimates for the entire population, insurance experts and actuaries are doubtful that insurance of any sort or combination can meet the risks. This conclusion is based upon the principle that most natural calamities are uninsurable. In other words, as in the case of floods, the attention of the public and the government must be directed to flood control rather than to the payment of the claims for the enormous damage of floods. The burden of ill-health is even more uninsurable because it is a constant burden. In this case, too, attention must be given to prevention not only of the prolonged and costly chronic diseases but of the minor illnesses and impairments as well. This suggestion is of course the eugenic ideal and one of the first planks in any policy that hopes to create a more vital and stable population.

SUMMARY

Of all the liabilities that threaten to destroy a nation's standard of well-being, ill-health is one of the most obvious. There is no aspect of social life that is not modified by one or more of its effects. It has always been a prime target in the aims of genetic research and of eugenic programs. Long before the historical observation of Disraeli, (see epigraph, page 347) most

[10] For the types and coverage of different plans and proposed Federal legislation and subsidies, consult the section on "Medical Care Insurance," in *Medical Care for Americans*. The Annals of the American Academy of Political and Social Science, Vol. 273 (January, 1951), pp. 99–130.

civilized nations had tried to reduce the sources of illness and to provide corrective or preventive services in support of a healthy, vigorous, and long-lived population. Hence, studies of health and disease are associated with every subtopic in demographic analysis that involves aspects of quality or degeneration.

A current review, therefore, of health, sickness, disability, and death can be provided by reference to a few distinctive interests and trends. One of the earliest discoveries of all medical researches is that health varies with a society's average cultural achievements. This outlook is a useful one since it points out the elementary steps of prevention that would reduce the burdens of this qualitative deficit at its sources.

No study of health and sickness in the United States has failed to note the uneven regional distribution of illness and consequently its excessive burdens in disability and costs to a large proportion of the population—a burden multiplied for the nation in terms of poverty, broken families, and individuals in need of permanent custodial care. Haven Emerson has described this situation in one sentence: "In spite of long experience with well-developed local health services in many states, there are large areas of our country and about 30,000,000 of our fellow citizens lacking even the simplest and most modest local health service."[11]

Another discovery, also social and not medical in nature, is that good health is most to be expected and sickness is minimized when a society is able to maintain an organized network of high-grade institutional services. Thus, states with high relative standings in education, in average standards of living, in economic status and income, and in recreation, are also high in their index of health and low in their indexes of mortality and the incidence of bodily impairments, mental defects, and social deviations. This development is one of the preventive measures noted in the previous section.

A second step toward the preventive ideal is the recognition of the need for early and complete remedial treatment. This point of view stresses the enormous burden of ill-health among children and especially their share of physical handicaps. Although the number of young people under the age of 21 who are handicapped by organic defects or by crippling illnesses can only be estimated, these estimates are always amazingly high and they are generally used to explain the incidence of most of the chronic ailments of the later-age groups. Ten of the more frequent of these hazards of childhood herewith enumerated (and omitting dental defects and accidents) are simply illustrations of the probable range and severity of these conditions for a total health program. Other specific sources are the records of illnesses and impairments among youth of military age.

[11] "Essential Local Public Health Services," *The Annals of the American Academy of Political and Social Science*, Vol. 273 (January, 1951), p. 23.

IMPAIRMENTS OF CHILDREN BY ORDER OF FREQUENCY

Eye defects	Rheumatic fever
Speech handicaps	Cerebral palsy
Hearing loss	Cleft palate and lip
Orthopedic defects	Birth injury
Poliomyelitis	Tuberculosis

Two other types of research that are regarded as being most hopeful from the preventive point of view are investigations in nutrition and the several impairment studies that are derived from the mortality experiences of insurance companies. The aim of both of these projects is to emphasize the need for a regular inventory of health or disease. An example is the study of the University of Michigan's School of Medicine in which a group of 500 businessmen were given a series of examinations. In the course of repeated observations 41 per cent of these men who considered themselves to be of good average health were found to have impairments of which they were unaware, and 20 per cent had significant, critical diseases or impairments.

The impairment studies show when, on the average, different diseases occur, their connection with family history, their association with other diseases, their prognosis after medical or surgical treatment, and the years of survival in comparison with mortality experience of average insured men. At present these studies include overweight, heart disease, cancer, gastric ulcers, cardiovascular-renal impairments, tuberculosis, and kidney disorders.[12]

[12] Transactions of the Society of Actuaries, *1951 Impairment Study* (New York. Society of Actuaries, 1954). There is a condensation of these reports by Edward A. Lew, "Insurance Mortality Investigations of Physical Impairments," *American Journal of Public Health*, Vol. 44 (May, 1954), No. 5, pp. 641–654. The following mortality comparisons are indicated: (1) Overweight is associated with increasing mortality, particularly after age 35, and with a number of impairments that also have high mortality rates. (2) Heart disease as a class has a mortality three to ten times the average risks of the ordinary policyholder; and high blood pressure has a consistently higher rate. (3) The mortality from cancer is more than twice that of the average. (4) Peptic or gastric ulcer has a considerably higher rate, varying with the nature of the ulcer, its site, and the type of treatment. (5) Cardiovascular-renal diseases have mortality rates 40 per cent higher than average. (6) Tuberculosis has a rate one to three times the mortality of average insurance risks. (7) In kidney disorders, mortality is associated with albumin findings and increases directly with the amount of the albumin; individuals with persistently large amounts have a mortality that is six times average mortality; individuals with kidney stone or renal colic have a mortality that is about the same as average risks, if the condition is adequately treated; removal of one kidney does not increase mortality unless it is complicated by tuberculosis or cancer; the removal of the gall bladder does not increase mortality risks. For further interpretation: "Outlook for Persons with Physical Impairments," *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 37 (March, 1956), pp. 6–8.

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CHAPTER 17

Mental Defects

In the darkness with a great bundle of grief
the people march.
CARL SANDBURG*

AS TYPES of social liabilities, mental impairments rank among the major obstacles in the prospects for an optimum population. Like the physical impairments, they are divided into two classes—the illnesses and the defects. Both have a large number of subtypes that are overlapping and that cannot be clearly diagnosed as specific disorders. Also like the physical impairments, there is a serious lack of basic knowledge as to their numbers and costs or as to their contribution to worry and distress.

Mental impairments (as distinct from illnesses) resemble physical impairments in many respects. All are results of stresses and shocks, of defective organs, of communicable diseases, or of improper functioning or co-ordination of one or more parts of the body. These multiple origins make so intricate a combination of causes that most of the mental disorders cannot be fully explained.

For this reason, each of the mental impairments is identified and named by type or sequence of unusual behavior and consequently by an abnormal development of personality. When they are exclusively or almost exclusively limited to unusual conduct, they are called diseases, largely because few of them can be traced to physical, organic, or genetic causes. When they are diagnosed as almost wholly the results of organic defects, they are recognized as mental deficiency either in its forms of feeblemindedness (amentia) or in the dementing (deteriorating) correlates or consequences of the mental illnesses.

There are many other similarities between the physical and mental impairments. They are given specific names or classifications because of a stream of symptoms. As in the case of many physical diseases, these names may not be precise indexes of the physical or organic nature of the pathology. Mental impairments also correspond with physical illnesses in

* *The People, Yes* (New York. Harcourt, Brace, Inc., 1936), p. 286.

having many "unknowns" in their history: unknowns as to origin, immediate cause, onset, developmental sequence, treatment, or prevention. A third resemblance is their variability. Some mental impairments are acute and changeable, most of the mental diseases being of this type. Others are chronic or permanent, these being the defects of mental deficiency and the terminal stages of most of the dementing illnesses.

Mental impairments as a class become a major liability to the quality, vitality, and security of a people because the number who are their victims is large and seems to be increasing at least as rapidly as population increases. The tasks of medical, custodial and convalescent care are enormous. Losses sustained by a society because of the proportion of its people who are temporarily or permanently dependent are large in terms of money costs. But like the unhappiness, worry, and demoralization that these disorders bring to the victim and his family, there is no way by which the total economic or social bill of ill-health can be computed.

For all these reasons and especially because of their demographic significance, the mental impairments are among the chief interests of medical, psychological, and social research. From each of these points of attack, there are numerous studies of geographical incidence and prevalence. These reports suggest many significant demographic correlations; they also include studies of the hospital population (which is a small and extremely unrepresentative sample of the entire group), of probable occurrence or expectancy rates, of cyclical tendencies and recurrence, of the chances of recovery, and of social correlates which are explored largely in the effort to discover either causes or effects in personal habits and in varying social conditions. Positive programs of control, including mental hygiene which emphasizes prevention, are based upon the assumption that these impairments cannot be regulated other than by an organized and continuous resistance on all fronts.

PREVALENCE

There are no complete sources of information as to the distribution of the mental handicaps in this or any other country. Estimates are based upon community studies and special inventories of particular groups, such as children, or on industrial, military, or institutional populations. According to estimates prepared and published periodically by the National Association for Mental Health, there were nine million people in the United States in 1952 who were the victims of one or more of the mental impairments and minor disturbances of personality. This figure included 1.5 million who were mentally ill and 7.5 million who had some minor disorder of personality. In addition, there were 1.5 million who were mentally deficient.

These estimates of distribution are the source of the conclusion that "at

any one time at least six per cent of our population suffer from some kind of serious mental disorder."[1]

TABLE 17–1. Incidence of the Mental Impairments, United States, 1940–1950
(Recent average estimates)

	Per Cent of Total Population
Total population "more or less incapacitated" by some mental disease	1.5
Total population "more or less incapacitated" by some mental disease during some portion of their lives	10.0
Epilepsy	0.5
Mental deficiency	1.0

SEE ALSO: Frederick Osborn, *Preface to Eugenics*, (New York. Harper, 1951) pp. 38–44.

This percentage is increased, as observed by Osborn, when minor disturbances are included, or when the evidence of special studies is compared, such as the appearance of some mental disturbances among the patients of private practitioners of general medicine, among school children, among various classes of offenders appearing before the lower courts for alcoholism, traffic violations, or "disorderly conduct," and among young adults who are rejected from the military service for gross or minor mental impairments. All these sources are combined in the general rate of six per cent of the total population, or about one in every sixteen people, who will suffer from one or more of these major impairments at some period of their lives.

The likelihood that these estimates are relatively valid is supported by the widespread occurrence of minor impairments or symptoms of the major impairments among school children. Inventories of the health hazards of children of school age repeatedly indicate that one-half of them have impairments or symptoms of varying seriousness. These disorders include a wide range of sensory impairments, emotional difficulties, allergies, and particularly those manifestations of anxiety that psychiatrists consider to be most predictive of difficulties in the later years.

In general, per cents of prevalence range as high as 12 to 15 per cent of the population, varying with the intensiveness of the survey and the inclusion of minor personality disturbances. Accordingly the rejection rate of 18 per cent for all the Armed Forces from 1940–1945 is about the highest figure on record. This rate is higher than for any other cause of rejection. In spite of numerous statistical criticisms indicating that the men who were

[1] Most of the references in this chapter are listed in the appended bibliographical notes. Estimates of the numerical frequencies and rates are derived from the pamphlet "Facts and Figures," which is revised periodically by the National Association for Mental Health. Another source is the National Mental Health Committee, *What are the Facts about Mental Illness in the United States?* (New York. 1954), 23 pp.

examined are not a good sample of the age group, 18 to 44 years, the division of the rejectees into those who were mentally deficient, psychotic, neurotic, or the victims of minor disturbances of personality corresponds closely with the findings of the various community surveys of total population.

Probably less reliable as an indication of the occurrence and of trends in the mental impairments are the statistics of the institutional population. These are, nevertheless, necessary in assessing the increase of numbers requiring custodial care and the resulting increase in direct and indirect economic costs and losses. Since 1880 when the United States Census made its first enumeration, the rate of mental patients (per 100,000 of the total population) in state hospitals has increased more than six times. A supplementary estimate by the National Association for Mental Health has indicated that about one-third of all patients in general hospitals are suffering from some mental impairment or from one or more of the physical illnesses that are associated with such impairments.

These average distributions of the mental diseases and defects are also reported in other comparable nations. There is a special bulletin by the United Nations on this similarity for all the countries having about the same economic and cultural standards, and numerous local surveys in Sweden, Norway, England and Wales, and The Netherlands support this conclusion.

Most reports on the incidence and trends of these mental conditions are prefaced by the warning that certainty as to numbers or rates is impossible. In this respect they are more subject to error than the physical illnesses, and they resemble the non-homogeneous statistics mentioned in the Preface to this book. However, efforts to improve their accuracy is a continuous research project, and Dayton, who has specialized in the compilation of numbers, rates, and trends, is convinced that a small but increasing incidence of these impairments as a whole is the situation that is typical of the United States. There are similar estimates of trend for Great Britain that are projected on a slight increase to the year 2000.

All these rates and trends are significant in the qualitative aspects of a nation's estimate of its human resources. Both medically and psychologically the mental or neurological disorders are among the most difficult of research projects to define or to reduce to a limited field of study. Furthermore, they continue to be resistant to treatment or prevention; their recovery rates are low; they are associated as causes or results with most of the other physical and social handicaps to the stability or improvement of population; and the numbers of people in need of some medical or social supervision are large and an immediate challenge that most public health programs cannot cope with adequately under current limited facilities.

MENTAL ILLNESSES

People who are diagnosed as mentally ill are separated into three classes. This separation is mainly descriptive and cannot be based upon a physiological explanation by physical, genetic, chemical, or other causes. It is called descriptive because both the classes and individual types of these conditions are diagnosed by their onset, duration, severity, and cyclical nature. These classes and particular disorders are now recognized by the International Classification of Causes of Death (World Health Organization).

In the sixth revision of the International Lists of Diseases and Causes of Death (adopted in 1948), a new Section V, entitled *Mental, Psychoneurotic, and Personality Disorders* was added in place of the former Section V, *Chronic Poisoning and Intoxication.* This recognition of the importance of the mental impairments by the World Health Organization and especially by the statisticians who are responsible for revisions of the International Classification is sufficient evidence of their demographic significance as well as of their importance as illnesses. The extension of the list of causes of death to include mental illnesses was introduced for three reasons: the first to provide a record of the illnesses that most often are associated with death; the second, recognition of the fact that "morbid attitude" as well as morbid health is a significant factor in disease and death; the third, to make the use and the reporting of joint causes of death, as now interpreted by physicians, more uniform for statistical classification and to reduce the category "unknown."

This new classification is numbered 300–326 and includes (in the three-digit classification) the following disorders under three main categories:

THE PSYCHOSES (300–309)

300 Schizophrenic disorders (dementia praecox)
301 Manic-depressive reaction
302 Involutional melancholia
303 Paranoia and paranoid states
304 Senile psychosis
305 Presenile psychosis
306 Psychosis with cerebral arteriosclerosis
307 Alcoholic psychosis
308 Psychosis with other etiology*
309 Other and unspecified psychosis

THE PSYCHONEUROTIC DISORDERS (310–318)

310 Anxiety reaction*
311 Hysterical reaction*
312 Phobic reaction
313 Obsessive-compulsive reaction
314 Neurotic-depressive reaction
315 Psychoneurosis, affecting circulatory system*
316 Psychoneurosis, affecting digestive system*
317 Psychoneurosis, affecting other systems*
318 Psychoneurotic disorders, unspecified*

DISORDERS OF CHARACTER, BEHAVIOR, AND INTELLIGENCE (320–326)

320 Pathological personality
321 Immature personality
322 Alcoholism
323 Other drug addiction
324 Primary childhood behavior disorders
325 Mental deficiency
326 Other and unspecified intelligence disorders*

SOURCE: World Health Organization, *Manual of the International Classification of Diseases, Injuries, and Causes of Death* (Geneva, Switzerland, 1948), Vol. 1, Bulletin of the World Health Organization Supplement 1, pp. 11–12, for the three-digit list; On pp. 106–115, the four-digit lists adds 57 subtypes and many more descriptive symptoms.

As illnesses, symptoms of ill-health, and causes of death, the mental diseases enter into the calculations of the demographer from the following points of view. They are admitted as factors that are connected with the growth and distribution of the population. They rank among the foremost and continuous researches of the physiologist and clinical psychologist as to their genetic or hereditary sources. They are correlated with age groups (especially as results of aging), with various physical diseases, and finally with a more enlightened attitude of the public as to the need for early detection and treatment.

The probable connection between the prevalence of the mental diseases and the general rate of a population's increase is now widely accepted. However, there is no sufficient evidence that the mental illnesses are increasing as rapidly as, or more rapidly than, the rate of natural increase. Often cited as proof of increase is the rapidly growing hospital population, but this is an inadequate sample of the mentally ill. Dayton is of the opinion that the ratio of the total prevalence of mental illness is increasing somewhat more rapidly than population. From his studies of mental impairments in the U. S. Air Force, Lantz agrees with this observation. He finds significance in his discovery that mental illnesses are apparently less frequent among people living in sparsely settled areas and tend to occur more numerously and in their more deteriorating forms as congestion, industrialization, urbanization, and other correlates of a changing population develop. For these reasons and especially because of the many minor and undiagnosed varieties, most experts are willing to accept the mental diseases as endemic and they do not try to estimate numbers, expectancies, or trends.

From genetic and hereditary researches there is increasing evidence of some real or predisposing organic basis for most of the mental impairments. This observation corresponds with their sources as identified by Abraham Myerson in his studies of genealogies of families with either mental disease or deficiency, and with his discovery of the cumulative, deteriorating results of some diseases and their effects upon birth rates and the family's life cycle. Now there is other evidence that confirms these

* These titles are abbreviated

dysgenic liabilities in the studies of the greater frequency of some of the mental illnesses, especially schizophrenia, among identical twins and among other children who are members of families with a history of mental impairments. According to the inventory of the National Association for Mental Health, one in every twelve children now being born in the United States is exposed to these illnesses either because of their heredity or because of environmental conditions in their homes, and they will become hospital patients at some time during their lives.

This association between the mental illnesses, families, and growth is supported most strikingly in the relationships between these impairments and the age groups. These illnesses appear in all age groups; they increase consistently with aging, and the trend is rapidly upward after age 30 and as the average life expectancy of a population increases. Each of these variations is shown in the figures on pages 380 and 382 that present trends in the hospital population and the correlation between age and certain specific diseases.

TABLE 17–2. Average Age Distribution of Hospital Patients, United States, 1954

Age Groups	*Per Cent*	*Age Groups*	*Per Cent*
Less than 15	1.0	30 to 59	45.0
15 to 29	16.0	60 and above	38.0
		Total	*100.0*

SOURCE: *Facts and Figures*, p. 5.

The tendency for some of the physical illnesses to occur with, or to lead to, mental impairments has already been discussed in the previous chapter. The more common of these diseases are arteriosclerosis and other circulatory diseases, syphilis, encephalitis, meningitis, tuberculosis, glandular and other metabolic disorders, and cancer. Trends in suicide, homicide, alcoholism, drug addiction, and several other social inadequacies are also regarded as important indexes of the distribution and trend of the mental diseases. But the puzzle in their correlation, as in the association of various physical diseases in the same persons or families, is the sequence of cause and effect.

A trend toward greater willingness of the public to seek treatment for the mental illnesses is partly responsible for the increasing hospital load. Among conditions now frequently reported are schizophrenia (or dementia praecox), psychoses with cerebral arteriosclerosis, manic-depressive psychoses, and senile psychoses. These disorders are increasing at least as rapidly as the general rate of population growth.

MENTAL DEFICIENCY

The one per cent of the population that is usually reckoned as the minimum number with this type of mental impairments is classified in three

groups: idiots, imbeciles, and morons. This identification or division is made by observation of behavior traits reinforced by psychometric or intelligence tests. In the International Classification, previously referred to, mental deficiency is classified as one of the several disorders of Character, Behavior, and Intelligence, and in the four-digit outline of subtypes, mental deficients are distinguished from the general population by an intermediate group called the dull, retarded, or borderline "normals." In addition there are several kinds of extreme deterioration or deficiency which are stated in footnote 2 in order to distinguish between them and the ordinary institutional population or mentally deficient and dull normals in the community.[2]

Community surveys in this country and abroad are in general agreement as to the approximate incidence of feeblemindedness, the percentage that is in need of custodial care in institutions, the number in the community that must be given special supervision and training, and the percentage distribution of these groups by degree of defectiveness. Most of these national inventories also agree that this class of dependents is both a serious and growing liability. They are recognized accordingly by the eugenist as among the primary groups to whom a population policy must give attention. All these surveys have also reported specific groups with excessive proneness to mental deficiencies.[3] These qualitatively defective classes will be discussed briefly in this section and later in the treatment of expectancies and correlates.

TABLE 17–3. Mental Inferiority, Great Britain

Type	*The General Population* *Per Cent*	*The Institutional Population* *Per Cent*
Idiots	6	10
Imbeciles	18	30
Morons	76	60

[2] These unusual or clinical types in order of their percentage frequency under custodial care are:

Mental or Physical Classification	*Per Cent*	*Mental or Physical Classification*	*Per Cent*
Aclinical or familial	45.0	Psychiatric	5.0
Intracranial	26.6	Miscellaneous–toxemia, congenital	4.7
Mongolian	8.3	Endocrine dystrophy	2.7
Cranial–microcephaly or hydrocephaly	5.3	Congenital syphilis	2.4
		Total	*100.0*

SOURCE: S. L. Halperin, "Human Heredity and Mental Deficiency," *American Journal of Mental Deficiency*, Vol. 51 (October, 1946), p. 156.

[3] There is a comparative summary of these surveys in: Harold A. Phelps and David Henderson, *Contemporary Social Problems* (Englewood Cliffs, N.J. Prentice-Hall, 1952), p. 120.

Prevalence by type among the lowest 1 per cent of mental inferiority in the general population has been rated by the British Royal Commission to be as shown in Table 17–3 for each one hundred cases.

These percentages do not include the intermediate or dull-normal group and are chiefly of significance at this point in indicating two widely accepted conclusions. One is that the lowest mentally defective people are largely self-limited. The other is that the real, qualitative menace arises from the borderline group or from the general population that has been reproducing at rates in excess of the qualitatively superior population.

These frequencies by type show that in general morons are four times more numerous than imbeciles and imbeciles are three times more numerous than idiots. According to the several studies of the Eastern Health District of Baltimore,[4] a somewhat similar distribution is also reported in the rates per 1,000 of the general population:

TABLE 17–4. Mental Inferiority, United States

Intelligence Rating	*Rate per 1,000 Population*	*Intelligence Rating*	*Rate per 1,000 Population*
Idiot	0.28	Moron	2.43
Imbecile	1.89	Unclassified	2.09

This qualitative burden is put in its worst light in the estimate that for mental deficiency and other types of "psychometric subnormality" about 15 per cent of the population can be classified within a mental-age group of less than twelve years or an intelligence quotient below 85 on the Stanford-Binet scale.

Bio-social interpretations of this dysgenic segment of the population include various observations as to causes of mental deficiency, birth and death rates, life expectancy, and sex distribution. Almost always males are credited with a somewhat greater liability to these impairments than females by a ratio of 7 to 6. While this distinction agrees with the inherent disability already observed in the sickness and death rates of males, it is not as widely accepted in the case of mental deficiency. In the records of life expectancy and of birth and death rates, there is practically complete agreement. Mentally deficient individuals have a short life expectancy, varying from 19 years for idiots to 26.6 years for imbeciles. Their death rates, accordingly, are high and their rates of reproduction are practically zero. Records of high birth rates, contrary to this statement, are for the border-line groups, and such rates are usually based upon small and "non-homogeneous" samples.

This range of bio-social causes continues to include numerous organic,

[4] Paul V. Lemkau and others, "A Survey of Statistical Studies on the Prevalence and Incidence of Mental Disorders," *Public Health Reports*, Vol. 58 (December 31, 1943), No. 53, pp. 1109–27. See also reference to Whitney and Caron in bibliographical notes appended to this chapter.

genetic, or hereditary conditions; various shocks, accidents, or injuries; physical diseases that destroy tissue or entire organs and occasionally affect the functioning of the glands; congenital defects and birth injuries; and the same physical illnesses and social pathologies that are most often used to explain the mental diseases. In recent years the primary developments in technical research are specialized clinical studies, a shift of interest to nonhereditary explanations, increasing emphasis upon factors in body growth, and a decided tendency to seek causes among such more readily controlled circumstances as the communicable diseases of childhood, prenatal and postnatal supervision of mothers, and diets.[5]

Epilepsy

A third class of functional nervous disorders are called convulsive seizures or the epilepsies. The plural form is used to describe their best-known characteristics, namely, a series of symptoms or patterns of behavior that are associated with the physiological structure of the brain and are accompanied by loss of consciousness. They are not diseases in the usual medical definition of disease and in most cases they cannot be traced to other diseases of the brain or to other organs of the body. For this reason they appear in the International Classification under Section VI, the title of which is "Diseases of the Nervous System and Other Sense Organs." This recognition admits their distinction from the mental impairments of the previous section but continues to leave their status as a disease in a confusing group of nervous or neurological disorders.

As a neurological impairment, the different types of epilepsy are obscure and relatively mysterious. They are called *petit mal, grand mal,* focal, and psychomotor according to differences in the behavior of the individual, the duration of the unconscious period, and the nature of the convulsions. In the majority of cases there are no associated psychoses or mental deficiency. However, "psychoses due to epilepsy" and "mental deficiency originating with or from epilepsy" are accepted subdivisions under the mental impairments and the use of such designations has added to the misunderstanding of their nature and of the possibility of their treatment and control.

Epilepsy is often compared to diabetes because both are comparatively unknown conditions so far as causes or treatment are concerned, but there has been considerable success in their management or control and a significant reduction in their death rates. The total incidence of epilepsy is the

[5] There is a brief review of this literature in Phelps and Henderson, see f. 3 above, pp. 122–24. For a historical review, consult: E. A. Whitney, "Mental Deficiency in the 1880's and 1940's," *American Journal of Mental Deficiency,* Vol. 54 (October, 1949), pp. 151–54. For a technical review of genetic factors, infections, trauma, toxins, and endocrine disorders, consult: George A. Jervis, "The Mental Deficiencies," *The Annals of the Academy of Social and Political Science,* Vol. 286 (March, 1953), pp. 25–33.

same as for diabetes or tuberculosis; that is, about 800,000, or one-half of one per cent of the population has "clinical" epilepsy. Death rates are lowest in childhood and increase progressively with age when it is complicated by other organic impairments or by infectious disease.

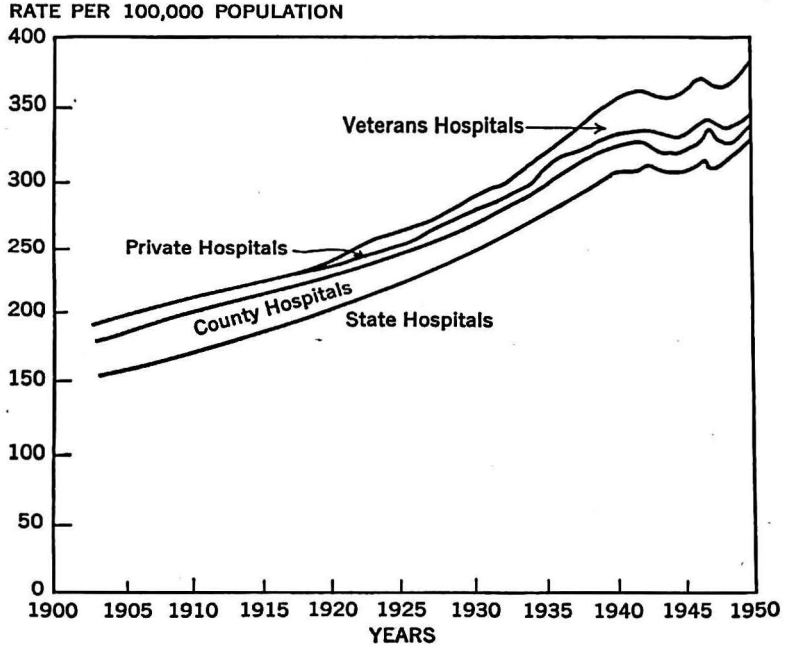
There are a few other correlates of epilepsy that are helpful in directing research and in adjusting the patient. Epilepsy is not considered to be hereditary any more than it is called a disease but it does tend to "run in families." Males are more susceptible than females by a ratio of three to two. Its onset often occurs in childhood, the rate among children being seven of every 10,000, and two-thirds of all cases begin prior to the age of nineteen. The early occurrence of epilepsy indicates the probability of its most severe types. In such cases the convulsions are more frequent and epilepsy of the psychomotor variety usually develops—the type that is most often associated with mental handicaps and that is most resistant to medical or social management. During World War II, two to five per cent of the selectees were rejected as epileptics, but this rule has now been changed and only those individuals whose convulsions cannot be controlled by drugs are rejected for military service.

The hospital population

In recent years attention to the number and types of mental patients has been stressed even more than some of the rare and spectacular physical illnesses. The reasons for this consideration are that mental patients require long periods of hospital care and that most information about the history of the disease and the patient can be obtained only by prolonged observation. In addition to comparisons between numbers of patients in mental and general hospitals, the number of hospitals devoted to both classes of patients, and the contributions that these figures afford in the interpretation of incidence and prevalence, hospitals are the only sources of several other necessary types of information. These include: types and duration of illnesses requiring custodial care, financial costs, the probable incidence of the specific disorders in the community, the chances of recovery and the modification of rates of survival, and all the socially significant descriptive characteristics of mental patients that may become helpful in recognizing predisposing symptoms or may aid medical and other studies in the search for causes and cures. In the official census tables, separate reports are made as partially indicated in Figures 17–1 and 17–2 for hospitals, impairments, first and re-admissions, and recovery or other terminal developments for the specific disorders. These reports include the mental diseases, mental deficiencies, and epilepsy, and are published each year in the *Statistical Abstract of the United States.*

Hospital figures as previously observed are of limited value. They cannot supply exact records for comparison with other similar qualitative

FIGURE 17–1. Patients in 680 Mental Hospitals, United States, 1903–1950



SOURCE: U.S. Census.

liabilities in computing a nation's relative share of dysgenic conditions. They cannot serve as a reliable basis for the estimate for mental impairments in the community, because they are restricted to the more disabling and chronic cases. Nor can they supply estimates of total financial loss or of social and personal costs in terms of reduction in work-life expectancy, unemployability, family disorganization and distress, or personal grief and anxieties. Most unfortunate, too, is the fact that neither social, psychological, nor medical studies have been able to demonstrate how these impairments are related to specific physical illnesses and to the social disorders (to be reviewed in the next chapter) in cause and effect connections, although there has been some advancement in recent researches,

In the section on prevalence two statements were made in comparing physical and mental disorders. One referred to the increasing numbers of mental patients, a sixfold increase since 1880, or as indicated in Figure 17–1, when reports are more comparable, a doubling since 1903. The second comparison referred to the total institutional burden and pointed out that about one-third of the capacity of all hospitals is required for the care of mental patients, that is, patients who are primarily mental cases

and others whose chief illness may be physical but who also have mental complications. The numbers stated in this review and the costs, therefore, are simply indexes of a portion of both liabilities. They are useful in gross comparisons with such other informational conclusions as totals of alcoholics, drug addicts, or suicides, or total expenditures for higher education, jewelry, religion, or public amusements.

TABLE 17–5. Average Estimates of Numbers and Costs for the Mental Hospital Population, United States, early 1950's

Numbers and Rates		*Costs* (*In millions of dollars*)	
Annual averages for the mental diseases			
First admissions	250,000	Costs to the states for hospitals and other mental health services	$560
Readmissions	100,000		
Total	*350,000*	Costs to the Federal Government for hospitals and other mental health services	$128
Since 1930 the number of first admissions has increased more than 60 per cent.			
Total hospital population	*650,000*	*Total for Public Hospitals*	$688 million
In addition:			
Mentally deficient in institutions	130,000	Estimated Annual Wage Loss by patients during their first admission	$1,750 million
Epileptics in institutions	20,000		
Total Institutional Population	*800,000*		
This total is about 55 per cent of all patients in hospitals in the United States.			

SOURCE: *Facts and Figures*, pp. 8–9. In 1954 the cost for the care of mental patients was estimated to be $1 billion or about $3 million per day.

From the general experience of all hospitals, some psychiatric service is provided for one million patients each year, and 200,000 individuals in addition are given similar services as outpatients in psychiatric clinics. The most frequent mental diseases that account for first admissions in these hospitals are listed below:

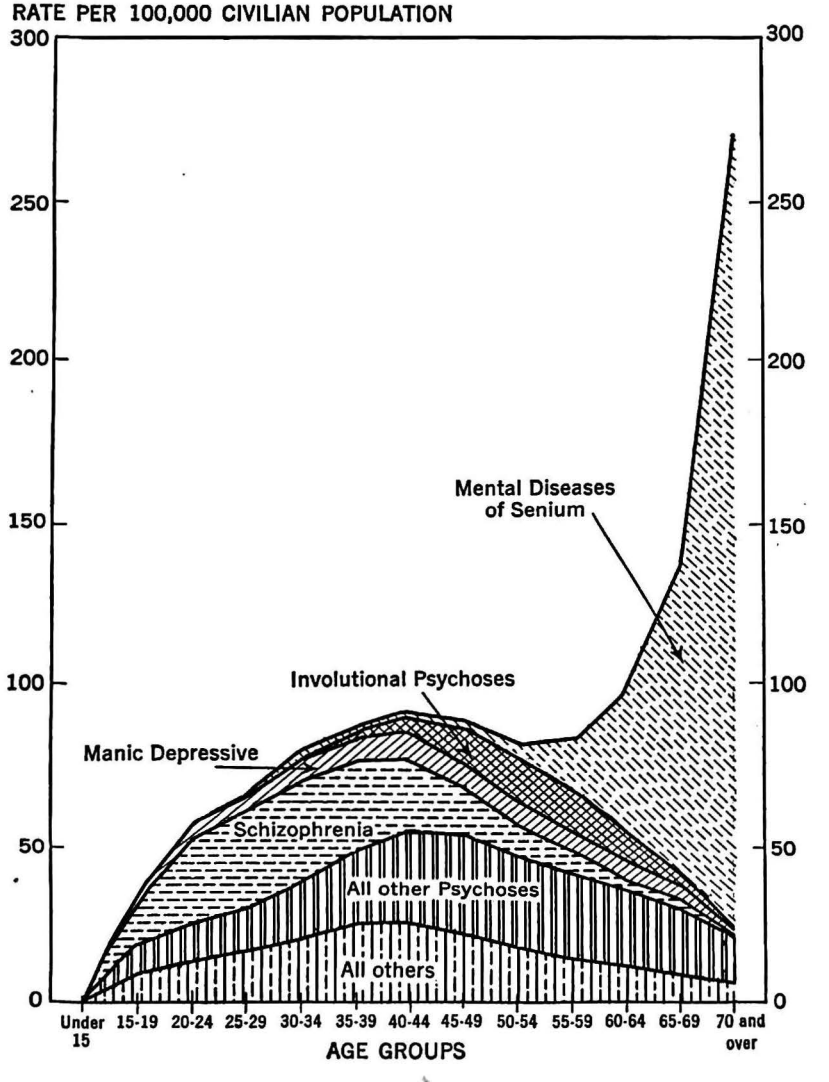
TABLE 17–6. Mental Diseases Causing First Admissions in Hospitals

	Per Cent of First Admissions
1. The psychoses of old age	27.0
2. Schizophrenia (dementia praecox)	21.0
3. Manic-depressive psychoses	6.0
4. Involutional psychoses	5.0
5. Alcoholic psychoses	5.0
6. Psychoses with general paresis	4.0
7. Paranoia	1.0
Total	69.0*

SOURCE: *Statistical Abstract*, 1957, p. 80.

* The remaining 31 per cent are patients who have an illness that is less than 1 per cent of the total or who are sick enough to require hospital care although their mental disturbance may be minor or of the non-psychotic type.

FIGURE 17–2. Age and Mental Illness of Patients upon First Admission to Hospitals



SOURCE: U.S. Census of Patients in Mental Institutions, 1949. Later reports appear annually in the publications of the Department of Health, Education, and Welfare.

In comparing current expenditures for mental illness with the money now available for a few physical illnesses, the National Association for Mental Health has called attention to the fact that, in general, less than one-fifth of the sums now available for either cancer, tuberculosis, or poliomyelitis is spent for the treatment of mental patients. If a comparable amount were available, about $30.00 per case per year would be spent instead of the present $5.00. There is a similar discrepancy in funds for research. The amount now being allotted to the mental diseases is less than one-fifth that devoted to any one of the three physical diseases in this comparison.[5a]

PROBABILITY AND EXPECTANCY

From the experience of patients in the hospitals of New York and Massachusetts, the probability that an individual will have a mental disease is expressed in the following general ratios:

> One out of twenty people . . . will in the course of a lifetime enter a psychiatric hospital on account of mental illness.
>
> . . . another one out of twenty will be too ill to work for a shorter or longer time, but will not go to a hospital.
>
> . . . one person out of ten in the course of his life will be in need of treatment on account of a mental illness or incapacitating psychoneuroses.
>
> . . . three to five persons out of every thousand will suffer from epilepsy . . .[6]

Goldhamer and Marshall[7] have refined these crude ratios and have stated them as age-specific expectancy rates. From these revisions the five following trends are suggested: (1) There have been no pronounced indications that the primary mental diseases (the psychoses) are increasing in early and middle life, although the proportion of neuroses and psychoneuroses may be increasing as well as the psychoses of old age. (2) Accordingly there is little or no factual basis for the assumed increase of the psychoses at a rate greater than the rate of population growth. (3) All rates vary with the age composition of a population. (4) Expectancy rates for women are always less than those for men. (5) Rural rates are probably not less than

[5a] Walter E. Barton, "Hospital Services for the Mentally Ill," *The Annals of the American Academy of Political and Social Science*, Vol. 286 (March, 1953), pp. 107–15; and the two articles that follow, pp. 116–35.

[6] Thomas A. C. Rennie and L. E. Woodward, *Mental Health in Modern Society* (Cambridge, Mass. Harvard University Press, 1948), pp. 137–38. Reprinted by permission of the publisher.

[7] Herbert Goldhamer and Andrew W. Marshall, *Psychoses and Civilization* (Glencoe, Ill. Free Press, 1953), pp. 91–119. Expectancy rates by age groups are given on pp. 114–15. See also, Benjamin Malzberg, "Statistical Analysis of the Ages of First Admissions to Hospitals for Mental Disease in New York State," *Psychiatric Quarterly*, Vol. 23 (April, 1949), pp. 344–65; and Kurt H. Fremming, *The Expectation of Mental Infirmity in a Sample of the Danish Population* (London. Eugenics Society and Cassell and Company, 1951). This report supports all the conclusions stated in these investigations with the one exception of the incidence by sex.

those of the urban population, but this conclusion is based upon insufficient evidence partly because rural people have access to fewer hospital and clinical services.

From these tendencies in the distribution of the mental diseases by age groups, the numbers of first admissions point to an abrupt increase at age twenty, another at age thirty, and then a constant increase. There are comparatively few clinical cases of the mental diseases prior to age fifteen. Thereafter and up to age thirty, schizophrenia, manic-depressive psychoses and psychoses with epilepsy, psychopathic personality or mental deficiency, are the primary diagnoses. Between thirty and forty, psychoses associated with syphilis and alcohol become numerically significant. In the next decade, the involutional psychoses appear and thereafter the psychoses of old age and psychoses with cerebral arteriosclerosis are most numerous.

In a brief summary of age and sex differences, the early years of life are most distinguished by functional psychoses, the middle years by psychoses of social origin, and old age by psychoses that occur with the degenerative, chronic diseases. There are few important differences between the sexes in their liability to specific disorders. Men do have a slightly higher rate of alcoholic and syphilitic psychoses, and women have a similar, somewhat greater liability to manic-depressive and senile psychoses.

RECOVERY

The probability that a person who is admitted to a hospital will be discharged as improved or recovered depends largely upon three conditions: the nature of the disease, age of onset, and the duration of the period in the hospital. When a disease is organic, recovery usually varies with its susceptibility to medical or surgical treatment and with the damage that has occurred in the central nervous system. Functional mental diseases are in general the most variable in their prognosis. Some run their course to recovery; others become steadily worse and terminate in death. If a disease requires more than two years of hospital care, the chances of recovery are small, whereas a duration of six months or less suggests a good prognosis for recovery.

Among all hospital patients, a recovery rate of 15 to 20 per cent is about average. At the end of a five year period, nearly 40 per cent of the hospital population is discharged as either recovered or improved. In both of these outcomes women have a better record than men. In middle and old age the combination of chronic physical diseases and psychoses lowers the rate of recovery to a minimum. If the diagnoses of either of these classes of disease are correct, there would be no recoveries since neither is curable. This conclusion for the same reason of incurability also applies to mental deficiency and to the epilepsies. The life expectancy of all patients in

mental hospitals is drastically lowered by as much as 50 per cent in a majority of the cases.

TABLE 17–7. Recoverability of Mental Diseases, New York Civil State Hospitals, 1950's

Most Recoverable	*Least Recoverable*
Manic-depressive psychoses	Senile psychoses
Alcoholic psychoses	Psychoses with cancer
Involutional psychoses	Psychoses with cerebral arteriosclerosis
Schizophrenia	Psychoses with syphilis

SOURCES: Benjamin Malzberg, "Rates of Discharge and Rates of Mortality among First Admissions to the New York Civil State Hospitals," *Mental Hygiene*, Vol. 37 (October, 1953), pp. 619–54 (adapted from Tables 1–18). "Hospitalization for Mental Disorders," *Statistical Bulletin*, Metropolitan Life Insurance Company, Vol. 36 (September, 1955), pp. 3–6; there is another analysis in Vol. 38 (January, 1957), pp. 7–10, "Prognosis after Recovery from Disability due to Mental Disorders."

From the long-term actuarial observations of life insurance experience that were summarized for certain physical illnesses in the preceding chapter,[8] the chances for full recovery of individuals with psychoneuroses of the milder variety are favorable and are about the same as standard insurance risks. Insured individuals with a history of the more severe psychoneuroses or psychoses also had a much better record of survival than has been expected. These individuals, however, were selected carefully and hence their rate of survival does not represent the life expectancies of the entire group. The recovery records of veterans of World War II are better indicators. A follow-up study of veterans who had a mental breakdown during their military service showed that there was a favorable rate of recovery five years after their discharge. Most of these men (85 per cent) were able to return to their civilian employment and less than 10 per cent had a recurrence of their mental disability.

CORRELATES

Individual differences and certain social conditions are often used to describe the mental impairments. Sometimes they help to identify the type of disorder, or to explain it, or to suggest and redirect procedures in treatment and research. Heretofore, such bio-social correlates as age and sex have appeared in each of these connections. Moreover, explanations are also traced to associations between physical and mental impairments and to their greater occurrence in certain families and to parent-child repetition. Particular factors, such as alcoholism, drug addiction, poisons, numerous genetic and other organic conditions, density of population,

[8] Edward A. Lew, "Insurance Mortality Investigations of Physical Impairments," *American Journal of Public Health*, Vol. 44 (May, 1954), No. 5, pp. 641–54. Norman Q. Brill and G. W. Beebe, "Follow-up Study of the Psychoneuroses," *American Journal of Psychiatry*, Vol. 108 (December, 1951), p. 417.

various accidents and shocks, occupational hazards, and diet, are also exploited as correlated with the mental impairments or as their sources or causes. In addition there are a few other social correlates to which research has given attention.

Rural-urban variables

In spite of frequent references to rural-urban differences in which the mental disorders are usually found to be more extensive in urban than in rural localities, most observers are neutral as to the priority of either geographical situation. As a rule there may be a slight tendency for certain defects such as paresis (concentrated in the central areas of cities) or mental deficiency (in isolated rural areas) to correspond with an ecological pattern of population. However, most reports discover no such distribution for the psychoses and epilepsies as a whole and there is not much more proof of the greater rural occurrence of mental deficiency. Geographical distribution ranks among the least significant of correlates.[9]

Differences among the foreign born and Negroes

In the records of hospital populations, certain foreign-born nativity groups and Negroes as a whole have had higher rates of the mental impairments than the native born. Little biological significance, however, is assigned to these differences. In general they are explained by the unselective character of the immigration policy, by the economic and social handicaps of migrants in cities (especially in employment and income), and by their more than usual exposure to some of the communicable diseases.

With these reservations in mind the following nativity or racial correlations have been noted. In the New York hospitals and in the order as stated, Italy, Ireland, and Germany furnished the largest proportions of the foreign born among first admissions of mental patients. When particular ethnic groups and specific psychoses are compared, schizophrenia is found more often among Slavs, Negroes, and Jews; manic-depressive psychoses among Germans and Jews; alcoholic psychoses among Negroes and Irish; general paresis and psychoses with cerebral arteriosclerois among Negroes, Italians, and Slavs; and epilepsy among Negroes.[10]

[9] Probably to the great disappointment of Professor Cousin if he were to know about this reversal of his geographical determination. L. J. Dee, *An Ecological Study of Mental Disorders in Metropolitan St. Louis* (St. Louis. Washington University, 1939). August B. Hollingshead and Frederick C. Redlich, "Social Stratification and Schizophrenia," *American Sociological Review*, Vol. 19 (June, 1954), pp. 302–306.

[10] Bertram H. Roberts and others, "Religion, National Origin, Immigration, and Mental Illness," *American Journal of Psychiatry*, Vol. 110 (April, 1954), pp. 759–64. Benjamin Malzberg, "Mental Disease among Negroes in New York State, 1939–1941," *Mental Hygiene*, Vol. 37 (July, 1953), pp. 450–76.

Marriage and family

Psychoses that seem to run in families are schizophrenia, those associated with alcoholism, and the anxiety and depressive conditions. From studies of children in these families, Frazee found fertile sources of mental breakdowns among such social factors as residence in slum areas, broken homes, and homes that are distinctive because of parental conflicts and other indications of insecurity. Personal traits also proved to have some diagnostic value and included temper tantrums, shyness, seclusiveness, sleep disturbances, poor social relations, malnourishment, frequent illnesses, and frailty of body structure.[11]

Similar immaturities during the adult years and other traits of disturbed personality are associated with the occurrence of mental diseases, and are often used to explain the greater incidence of the mental diseases among the single than the married.

Social class differences

At present there are three widely accepted conclusions as to the relationships between mental impairments and social-class status. The first is a typical inverse incidence of these conditions within the social classes. The second is that this inverse relationship is only true for the psychoses, the neuroses being correlated directly with the rank of the social classes.

TABLE 17–8. The Distribution of Normal and Psychiatric Populations, 1950

(*Per cent distribution by social classes*)

Social Class	*Normal Population*	*Psychiatric Population*
I. Wealthy	3.1	1.0
II. Managerial	8.1	6.7
III. Small proprietors Office and sales Skilled	22.0	13.2
IV. Semi-skilled	46.0	38.6
V. Semi-skilled, less schooling than Class IV Unskilled	17.8	36.8
Unknown	3.0	3.7
Total	*100.0*	*100.0*

SOURCE: Adapted from Table 1, p. 202, in reference to Hollingshead and Redlich. (See footnote 12.)

[11] Helen E. Frazee, "Children Who Later Became Schizophrenic," *Smith College Studies in Social Work*, Vol. 23 (February, 1953), pp. 125–49. R. W. and T. Lidz, "The Family Environment of Schizophrenic Patients," *American Journal of Psychiatry*, Vol. 106 (November, 1949), pp. 332–45. O. Odegard, "Marriage and Mental Disease," *Journal of Mental Science*, Vol. 92 (January, 1946), pp. 35–59.

The third is the pronounced tendency for schizophrenia to be the outstanding liability of the two lowest classes.[12]

According to Rabin, schizophrenia is one of the chief reasons for the poor work record and other occupational handicaps of the two lowest classes. It is one of a network of disabling conditions that includes low standards of living, economic dependency, and high rates of physical illness. Nearly one-half of all schizophrenics are in these classes. Manic-depressive psychoses are high in clerical and service occupations. The psychoneuroses are high in professional and managerial groups. Among skilled workers the percentage of manics and psychoneurotics is nearly twice that of schizophrenia.

SUMMARY

As aspects of research and of population policy, the mental impairments resemble the physical in their need for a well-planned program of genetic and eugenic control. Mental conditions from both points of view are like the chronic physical diseases. They are hard to diagnose, to treat, or to prevent, largely because they are already in a late development of their history. The conservation of mental health, therefore, is plagued by the same difficulties that are mentioned in the summary of the last chapter. Treatment is insufficient and the tasks of proper custodial care, of trained personnel, and of other resources for management or control are apt to supercede the necessary efforts to improve a society's basic standards of good health. The need obviously is for a broad and general public health program.

Mental hygiene is the first need in this program. Its essential goal is prevention, as distinguished from the remedial character of psychiatry. In recent years the most hopeful national movement in this country is the establishment of the National Mental Health Council, a result of the enactment of the National Mental Health Act in 1946. Through this Council organized research programs are maintained; state and local resources are developed under uniform plans and standards; and the work of public and private agencies is improved and co-ordinated.

This uniformity of program is extended to include and to improve such prior health services as the maternal and child-health agencies that deal with prenatal and postnatal care, to project researches into the social as well as the genetic causes, to effect some immediate and direct benefits through such undertakings as marriage counseling and pre-marital health examinations, and to reconsider the merits of the more radical (and at present less approved) recommendations in the areas of eugenics, steriliza-

[12] August B. Hollingshead and Frederick C. Redlich, "Social Class and Psychiatric Disorders," pp. 195–208, in *Interrelations between Social Environment and Psychiatric Disorders* (New York. Milbank Memorial Fund, 1952). A. I. Rabin, "Trends of Vocational Achievement in Mental Disorder," *Scientific Monthly*, Vol. 65 (September, 1947), pp. 213–16.

tion, and birth control. The hopeful aspect of this broad program is its avoidance of one limited approach and its willingness to follow the more effective procedure of a multiple development in research, therapy, and prevention.

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CHAPTER 18

The Socially Inadequate

We have erred and strayed from thy ways like lost sheep.

THE BOOK OF COMMON PRAYER*

THE QUALITY of a population is endangered not only by the physically or mentally impaired, but also by a group sometimes called "the socially ill." Thompson refers to this element, together with others who are "abnormal" and in the custody of institutions, as a significant proportion of the population. In either a demographic or social inventory of a people he suggests that "the community needs to know how many people require special care" . . . because they . . . "cost the community a great deal . . . (and) . . . interfere seriously with the efficient operation of many community activities."[1]

This class of abnormal people is rarely combined for purposes of statistical analysis and interpretation because it includes too many types of biological and social defectiveness. However, in recent years research has given increased attention to its varied elements, and several terms have been suggested to guide these studies. One handicap that continuously interferes with a census is the failure to discover a collective term that identifies enough subtypes and at the same time is paradoxical enough, such as kallikak (meaning good-bad), to allow for a choice between degrees of normality and abnormality. This choice is necessary because not all of the abnormals require custodial care or are sick, dependent, immoral, or good or bad. As a whole they are generally social as well as economic liabilities, and their most common trait is their failure to return the cost of their maintenance by productive labor. For this reason they are generally called the socially inadequate, partly to avoid the ambiguous terms "others" or "unknown" and partly to stress at the outset their excessive costs in money and social resources.

It should be stressed however that the number and kinds of social "in-

* From "A General Confession."

[1] Warren S. Thompson, *Population Problems* (New York. McGraw-Hill, 1953), p. 122 and Chapter 21.

adequates" is a function of societal demands or requirements and, therefore, is a variant category. Nevertheless, every society has attempted to define deviant behavior and has tried to reduce the numbers of deviates. In Thompson's survey of different historical population programs, he lists among the more frequent practices such policies as infanticide, abortion, restrictions upon marriage, abandonment or extermination of the sick and aged, and isolation or expulsion especially in the case of individuals such as the predatory or parasitic who are essentially cultural deviates. Most of these practices are now recognized as the program of negative eugenics, to which permanent confinement, sterilization, and possibly birth control may be added as contemporary supplements.

As yet there is no accurate proof as to the effectiveness of these policies and there continues to be reasonable doubt as to their justice. From recent discoveries in the explanation of genetic differences, there is a growing suspicion that human organic make-up is much more complicated than it was considered to be in the early years of the Mendelian explorations. Most genetic studies now suggest that the biological sources of the socially inadequate are widely distributed throughout the normal population and that all dysgenic regulations, even though they are applied to many future generations, would bring about only a slight reduction in the unfit. The same agreement has also been reached in social and psychological research indicating that society creates demoralizing situations which in turn tend to create the numbers and the characters of the socially incompetent. For these reasons current policies of population are always combinations of bio-social controls.

Other social and psychological researches point to new and different types of the socially inadequate. Although these more recent additions are being given wide publicity, there is no way as yet by which their numbers can be determined, nor is it possible to determine the extent of their contributions to economic and social waste. All the evidence, however, suggests a large number of people who are conspicuous by their low standards and who are costly interferences to a community's maintaining its normal standards.

These suspect organizations, groups, and individuals are found in practically every social institution,[2] and are particularly numerous in the area of financial operations. Examples include the type of business that depends upon misleading advertising and other forms of extortion or fraud; evidences of commercial dishonesty such as thefts by employees, embezzlement, abuse of credit, and evasion of debts or taxes; and such practices as shoplifting, charity rackets, organized begging, and collusion between prosecutor and defense in legal suits. Within government, labor organizations, philanthropic enterprises, and the professions there are comparable

[2] Sources are given in the bibliographical notes appended to this chapter.

examples of misuse of funds, graft, chiseling, fee-splitting, cheating in contracts—each requiring a costly defense system by the community.

The socially inadequate classes are variable in make-up. They can be most specifically categorized by utilizing obvious or flagrant examples of people who are in trouble and for whom there are records of incidence or prevalence. This interpretation will be applied in later sections of this chapter. However, from a demographic point of view, the socially inadequate are possibly more significant in the wider and less precise definition of deviates from normal behavior. In this meaning they include potentially dangerous individuals and classes who can and do obstruct the best of population programs and thus become a constant source of unstable elements in the population. This point of view has appeared frequently in the writings of social theorists when they have referred to certain classes of people as beyond the range of socialization. Probably the best known phrase is Simmel's, *the inner enemies*—a good descriptive term because it is broad enough to include the dependent, the parasitic, and the predatory.[3]

TYPES AND PREVALENCE

In the relatively brief period that critical attention has been given to the socially inadequate classes, there have been varying speculations concerning their total number. At the turn of the century they were called the dependent, defective, and delinquent classes and were estimated as being about one-tenth of the population.

In the following analysis of types of the socially inadequate, attention will be limited to those for whom there are some authentic records in census reports, death rates, institutional admissions, and community surveys. However, these minimum figures will be supplemented to include probable occurrence or expectancies of types of inadequacy heretofore considered only in part, as in the case of dependent or handicapped children, dependent or low-income families, and some of the illnesses and impairments. So far as possible these estimates will be stated as rates of incidence or as per cents of prevalence in the total population.

In the community

One of the few examples of the statistical recording of the occurrence of the socially inadequate in the community is the inventory of the public and private social service agencies of St. Paul, Minnesota. This study was mentioned above in Chapter 16 (page 356), from the point of view of

[3] George Simmel, *Soziologie* (Leipzig. Duncker und Humbolt, 1908). This interpretation of the socially injurious classes was re-introduced into American social science literature by Nicholas J. Spykman, *The Theory of George Simmel* (Chicago. University of Chicago Press, 1925), Part 4; and later by Mary M. Wood, *The Stranger* (New York. Columbia University Press, 1934); and Kurt H. Wolff, *The Sociology of George Simmel* (Glencoe, Ill. Free Press, 1950), Part 5, Chapter 3.

public health.[4] According to this study, the four significant facts as to the community's total load of dependents were: (1) 40 per cent, or 41,000, of the city's total families required one or more public or private social services; (2) 17 per cent of these "assisted families," or 7 per cent of the city's total families, were in need of financial aid; (3) 26 per cent of the "assisted families," or 10 per cent of the total, were reported as maladjusted; and (4) the total annual budget for these combined public and private services was $13 million. Since poverty and maladjustment (meaning anti-social behavior, evidence of mental impairment or disorder, and irresponsibility at home, school, or work) are regularly included within the "inadequate" classification, their total incidence of 17 per cent indicates that more than 17,000 of the total 102,000 families in St. Paul were inadequate. Costs per family cannot be computed because they varied too much in terms of a family's special needs. In the poor-relief group, for example, health and social needs, in addition to basic economic requirements, monopolized 68 per cent of all relief services, 55 per cent of all adjustment services, and 46 per cent of all health services.

In custodial institutions

Other types of the inadequate are enumerated in the Census reports of the total institutional population. This total includes some of the individuals discussed in the two preceding chapters (in spite of unavoidable duplication) in order to retain the percentage frequencies of the Census. This institutional population equals one per cent of the total population of the United States for the year 1950.

TABLE 18–1. The Institutional Population, United States, 1950

	Total Number	*Per Cent*
Mental hospitals	613,628	39.2
Homes for the mentally handicapped	134,189	8.6
Tuberculosis hospitals	76,291	4.9
Other special hospitals	20,084	1.3
Homes for the physically handicapped	20,999	1.3
Prisons and reformatories	178,065	11.4
Jails and workhouses	86,492	5.5
Homes for the aged	296,783	18.9
Homes for neglected and dependent children	96,300	6.1
Training schools for delinquents	29,042	1.9
Other institutions for juveniles	14,973	1.0
Total	*1,566,846*	*100.0*

SOURCE: Bureau of the Census, *Institutional Population* (Washington. Government Printing Office, 1953), Vol. IV, Special Reports, Part 2, Chapter C, p. 2c–11.

[4] Carl E. Buck, "Family Health in Tomorrow's Community," *American Journal of Public Health*, Vol. 41 (October, 1951), pp. 1258–62. This form of dependency will be discussed in greater detail in the topic "Dependent families," page 405.

ALCOHOLISM

Among its many other "firsts" the United States is conceded leadership in the number of alcoholics per 100,000 population, though not in the per capita consumption of alcoholic liquors. According to the National Association for Mental Health there are four million problem drinkers, nearly one million of whom are serious cases of chronic alcoholism. The total is a rate of 3,952 chronic drinkers per 100,000 adult population and is far in excess of France, the next leading country.

TABLE 18–2. Estimated Number of Alcoholics per 100,000 Adults

United States	3,952	Norway	1,560
France	2,850	Chile	1,500
Sweden	2,850	Finland	1,430
Switzerland	2,385	Australia	1,340
Denmark	1,950	England and Wales	1,100

SOURCE: United Nations, Technical Report Series, Geneva, Nos. 42 (1951) and 48 (1952).

Alcoholics are primarily white males. Alcoholism among Negroes is less frequent, and the rate of female alcoholics is less than one-sixth that of the male rate. The prevalence of both chronic and severe cases amounts to nearly 4 per cent of the adult population.[5]

The most usual demographic characteristics of alcoholism, in addition to the predisposition of males, are its greater prevalence in cities, especially cities in the northern states and in California, and in upper age groups—alcoholism reaches a peak at age 40. Other accompaniments of alcoholism are some of the psychoses, poverty and demoralized homes, sexual promiscuity and venereal disease, homicide, and traffic accidents. There is, however, no consistent evidence that alcoholism is a family liability or tends to "run in families."

ILLITERATES

Literacy is a good index in two general comparisons. It is an index of educational status and it shows how various aspects of population are related to degrees of illiteracy. Both comparisons are also useful in international ratings—in estimating quality of economic and military manpower and in gauging the advancement in schooling and the other social agencies that are needed to produce the trained personnel for industrial and military operations.

As a rule, for census purposes, illiteracy is defined as the percentage of persons 10 or 15 years of age and above who are unable to read and write. More recently, it has been translated as "functional illiteracy," meaning

[5] E. M. Jellinek and Mark Keller, "Rates of Alcoholism in the United States," *Quarterly Journal of the Studies on Alcoholism*, Vol. 13 (March, 1952), pp. 49–59. Kurt H. Fremming, *The Expectation of Mental Infirmity in a Sample of the Danish Population* (London. Eugenics Society, 1951), p. 10.

the percentage of the adult population with less than five years of schooling. When the first definition is used, the proportion of illiterates in this country has been reduced steadily from more than 10 per cent in 1900 to less than 3 per cent for recent years. Functional illiteracy is also declining, the average school achievement of the United States being slightly in excess of nine grades. In most countries of the world, as Table 18–3 shows, illiteracy continues to be a major barrier to international co-operation and understanding. More than one-half of the world's people are illiterate in the meaning of being unable to read or write in their own language.

TABLE 18–3. Illiteracy Rates—Some International Comparisons
***(Per cent illiterate of the adult population)*[a]**

India	90.9	Italy	21.6
Egypt	85.2	Hungary	6.4
Turkey	69.5	Belgium	5.9
Mexico	54.0	Canada	3.4
Portugal	50.4	France	3.4
Greece	41.9	Czechoslovakia	3.3
Philippines	38.7	United States	2.9
Yugoslavia	25.4	Union of South Africa—White	2.1
Spain	23.2	Sweden	0.1

[a] *See footnote 6 for sources.* These percents are only partly comparable; they represent different time periods and are based on different proportions of the adult population. All are, however, the best recent figures.

Considerable emphasis is given to trends in literacy partly because of the large number of people in the United States who are still classed as functionally illiterate and partly because of their uneven regional distribution. There are now about ten million adults in the United States who are functionally illiterate, and they are chiefly resident in ten southern states. Such excessive concentration calls attention to the association between illiteracy and other minimum achievements in farm-family income, standards of living, and provisions for schools. Other suspected correlates, already mentioned as typical of the rural South, are found in the greater frequency of occupational deficiencies, physical disabilities, malnutrition, infant and maternal mortality, and in high general death rates.

Therefore, prospects that are favorable to qualitative improvement are stressed in the continuous educational advancement of the urban population, in the mass migrations of Negroes to northern cities, and in the recent general rise of income and economic status that encourages longer school periods, more vocational choices either because of improved schooling or the regional redistribution of industry, and employment in a wider range of skills and occupations.[6]

[6] UNESCO, *Progress of Literacy in Various Countries* (Paris. Monographs of Fundamental Education, 1954), No. 6, pp. 168 ff. Ambrose Caliver (Ed.), "Literacy Education" (Washington. U. S. Dept. of Health, Education, and Welfare, June, 1953), Circular No. 376.

GAMBLERS

Gambling has stumped the experts in more ways than in how to find a winning system. There is no agreement as to its economics, whether it is a business or a form of recreation. Its moral status is debatable. There are few among its devotees who try to make it a character-building procedure, even when many character-building agencies rely upon it as a source of funds. Most of its operations are carried on in obscure and inaccesible forms so that neither the public nor the government is aware of the amounts of money or of the numbers of people involved. In an audit of personal or social well-being, probably the best and most direct way to find an answer to these inquiries is by determining the company that it keeps.

When efforts are made to assess its good or ill effects to the individual or to society, gambling is usually analyzed from three points of view: (1) It is recognized as a big business in its own right and as a side line in nearly every large-scale financial venture; (2) It is admitted to have vague and confused legal supports, so that as far as possible it hides within the structure of other commercial enterprises; (3) It is conceded a certain venturesome appeal but the quality of its interest as a substitute for other risky or hazardous activities is questionable. Most critics agree that gambling is often wasteful and non-constructive.

There are a few partial sources of information about gambling as a business. Reasonably authentic totals can be assembled as to the number of people who gamble or who are employed in the maintenance of gambling in those areas where it has become legal. Elsewhere there are tax records, the registration of professional bookies, arrests and court actions in cases of alleged violations of law, and, probably least reliable of all, the occasional racket-busting investigation.

In only one of its numerous forms, namely, betting on horse-racing, a total annual sum of $1,200 million is given as the best index of its widespread occurrence and the amount of betting. This sum alone exceeds the total consumers' outlay for automobiles, or higher education, or religion and philanthropy combined. There is further evidence to support the assertion that the average community spends more in any one week for gambling than it provides for philanthropy in a year. Moreover, when other forms of gambling, such as lotteries, betting on numbers or sporting events, or the use of mechanical devices, are added to racing operations, gambling admittedly is a top-ranking business. In spite of this recognition, there is no account for this item in such precise inventories of the spending habits of the people as that compiled by Dewhurst, and by other audits of the net income and spending of individuals and families.

Gamblers and gambling occupy a nebulous legal status as further proof of the confused values within which they operate. They may be violating one division of the law while they are sustained by others, or they may be

given immunity by law-enforcing agencies. As shown by trends in arrests during recent years, gambling is more legal than drunkenness, vagrancy, or being a suspicious person; but it is less legal than driving an automobile while intoxicated, or violating liquor or drug laws, or begging, or committing sex offenses (including prostitution).

Neurologists and psychiatrists generally agree in classifying gambling as a type of neurotic conduct or as an outlet for repressions. Its victims may be sexually maladjusted; they may become gambling addicts; they are difficult to cure. There is no standard procedure of treatment and the condition often progresses to complete personal demoralization.

As a demographic component among the social inadequacies, gambling is essentially a habit of males. It increases with age. Women are much less susceptible. Their participation is at a rate that is even less than their comparable criminal or alcoholic records. Negroes have a reputation for gambling, but this is based upon their high rate of arrest which is not regarded as valid evidence.

Gambling is most readily recognized as a social inadequacy through its association as cause or result with forms of disorganized personality. It is often related to alcoholism and to many mental and sexual abnormalities. It is associated with such crimes as forgery, embezzlement, and other lesser forms of theft, with graft and bribery, and with various crimes of violence. It is also accepted as a factor in demoralized family life at all economic levels, as an excessive burden to low-income families, and as a perennial drain upon the financial and other services of public and private social agencies.

CRIMINALS AND DELINQUENTS

People who are brought to the courts are ordinarily classified among the inadequate without further recommendation. They are a burden whether they are found guilty or innocent. As social dependents, or as really vicious types, they are historical examples of Simmel's "inner enemies." Their menace, however, may be as much to themselves, which is usually true in delinquency, as it is traditionally injurious to the public. Criminality, like gambling and sexual pathology, is hard to study. There are few readily accessible sources of information. As a result, its total burden is assessed from a few standardized statistical services, supplemented by indirect evidence.[7]

The proportion of a population that is criminal in fact or predisposition is determined by a sliding scale of legal and social definitions. Actual numbers are provided in the census of prisons and other penal institutions, in

[7] The best source of statistical evidence is the publication, *Uniform Crime Reports*, which is compiled by the U. S. Dept. of Justice. Most national inventories are summarized annually in the *Statistical Abstract*. As in the case of precise measures of health and illness, the most exact and complete sources are the community surveys, one of the best being the *Missouri Crime Survey* (New York. Macmillan, 1926).

court actions, arrests, and in crimes known to the police. The total of these offenders is always considered to be a small sample of the prevalence of crime or of the total criminals in a population. This group is supplemented by another class of people who avoid detection or evade penalties or who connive with law-enforcing agencies as to what, and how much, illegality will be tolerated. A third group, no less predatory or parasitical than the others, is the criminally prone. These people gladly co-operate with law-breakers and they would willingly engage in crime if they had the ingenuity and the proper opportunity.

Estimates of criminality in numbers of people and costs cover a part of all these groups. In recent years the annual cost of crime has been fixed as somewhat in excess of four billion dollars. This type of financial loss, like that from gambling, is also unfavorably compared with what a society might have in constructive educational or social services if it were not for these high costs for a minimum of public peace. The numbers of adults who engage in crime each year is approximately 1,750,000 according to the national inventory of the American Association for Mental Health. One and one-half million children between the ages of seven and seventeen are taken into custody by the police, according to the United States Children's Bureau, and of this number 350,000 are brought before the juvenile courts.

Criminals and delinquents have been examined as have few other distinctly atypical people in order to find out what has been influential in shaping their careers and how they can be diagnosed early and thus be retrained and rehabilitated. The most usual demographic factors are age, sex, residence, family and social status, and a few traits of character or personality.

Most crime is the work of youth, or of the immature personality. It is fed by the irreconcilables among delinquents, reaches a high level in late adolescence, a peak in the age group, 21 to 24, then decreases gradually to age 40 and thereafter declines rapidly. All types of crime follow this cycle of aging, and the cycle is as characteristic of female as of male offenders. Men commit more crimes than do women: the male rate exceeds the female by a ratio of nine to one as noted by prison records, and by fifteen to one when computed by arrests.

From the standpoint of residence or regional distribution, crime is a correlate of the city, of population growth and concentration, and of such social handicaps as overcrowding, the conflict of different economic and social standards, unemployment, inadequate education, and exposure through vicious types of commercialized amusement to demoralizing habits. Few authorities question the generalization that crime can and often does increase at a greater rate than population. There is less agreement as to the relation between growth of population or its density with particular classes of crime. A few crimes, such as violation of drug laws,

burglary, robbery, larceny, embezzlement, possession of stolen property, general sex offenses, and being a habitual offender, are supposed to follow the general crime rate.

Of the social and personal indexes of criminality, the traits considered most definite are education, economic status, the social status of the family, and the intelligence of the individual. The generalization is that criminal behavior occurs and increases or declines in inverse correlation with these conditions. This conclusion applies to crime as a whole and to most criminal types, such as juvenile delinquents, recidivists (repeaters or habitual criminals), professional criminals, and to the great majority of minor offenders and the criminally prone. It does not apply to such special cases as the pathological criminal or to crimes attributed to individuals of high intelligence who also enjoy secure economic and social status. In these exceptions criminal behavior has some of the characteristics of an accident.

The causal significance formerly attributed to nationality or race is no longer considered to be accurate. Instead, criminality among these groups or other mobile people is explained by the same sequence of precipitating conditions that are enumerated in the two preceding paragraphs.

NARCOTIC ADDICTS

Drug addiction is a real social illness, and individuals who are engaged in illegal drug traffic are also among the socially inadequate. Addiction itself is not necessarily pathological, and as a social hazard it has possibly been overrated.

Since the purchase of narcotics is illegal except by medical prescription and there is no provision for users to obtain drugs through a system of registration (which has operated well in Great Britain), little is known about the extent of addiction or the type of people who acquire this habit. There is a similar absence of verifiable information concerning the nature of the illegal traffic in drugs or concerning its costs as a liability of public welfare. From the experience of the Federal Bureau of Narcotics, the most acceptable facts and estimates are as follows: (1) The total number of known addicts in the United States is between 50,000 and 60,000, or about one per 3,000 population. (2) All available evidence suggests that the illegal use of drugs is decreasing and has been decreasing since World War I. (3) There is no evidence that it is increasing among adolescents. (4) In 1950 there were 8,300 individuals under treatment in the two hospitals that are operated by the Federal Bureau, and the total expenditures during that year for all of its services was $1,647,000.

Addiction to the milder, nonhabit-forming drugs is suspected to be fairly common in all social classes. Dr. Osler defined the human being as a "medicine-taking" animal. This tendency to rely upon the miracles of medicine is the chief source of most addiction, beginning under the

guidance and prescriptions of physicians and continuing largely because of emotional dependence. Addiction as such, and in most of its unsavory aspects, is found most often among the "disadvantaged" classes, among people who are emotionally disordered, among those who feel that they are subject to unjust discrimination and thus seek an escape, among occupations such as those of actors, musicians, and entertainers who rely upon the periodical stimulation of drugs, and among individuals who handle drugs occupationally or professionally.

There is no proof that drug addiction is associated with crime or other pathologies. Apparent exceptions occur when law-enforcement agencies occasionally concentrate their efforts on areas of suspected heavy incidence, such as disorganized sections of cities. A high rate of arrests ensues and a correlation between crime and drug addiction may seem to be established. Lowest reported rates of addiction in the United States are in the Western and North Central regions—the estimate being one addict to every 25,000 population.[8]

THE SEXUALLY DISORDERED

A person who is defined as being abnormal sexually is classified as such through many practices that are outside the accepted culture of his society. But no one has ever been able to define normal sexual behavior, and the moral values related to sex are confused and variable. For either or both of these reasons, the number and types of these exceptional individuals are unknown, and estimates have little validity. Most sexual disorders are actually within the pathologies of the serious psychoses which have been considered in a previous chapter. Homosexualism is sometimes a physical anomaly and sometimes a personality deviation. In either case we have no demographically useful statistics concerning it. The venereal diseases contribute greatly to the number of social inadequates. According to the United States Public Health Service, the annual incidence of these diseases is three million—one million persons requiring treatment for gonorrhea and two million for syphilis.

The total disorders of sexual instability are probably great, and may account for a certain proportion of sex crimes, illegitimacy, abortion, and marital incompatibility. In the following quotation, an effort is made to compare and summarize their contributions to the miseries of mankind:[9]

[8] George W. Bachman and associates, *Health Resources in the United States* (Washington. Brookings Institution, 1952), pp. 189–90. D. W. Maurer and V. H. Vogel, *Narcotics and Drug Addiction* (Springfield, Ill. Thomas, 1954). Walter C. Reckless, *The Crime Problem* (New York. Appleton-Century-Crofts, 1955), Chapter 12. Orin R. Yost, *The Bane of Drug Addiction* (New York. Macmillan, 1954), Chapter 4, "Who are the Drug Addicts?"

[9] Sherwood Eddy, *Sex and Youth* (New York. Doubleday, 1928), p. 2. Quoted by permission.

There are some who hold that more men and women are suffering in this sphere than from all economic causes combined, such as poverty, unemployment, bad housing, etc.; that more persons are being victimised because of sexual maladjustments than because of race prejudice, for sex affects all races; and that more casualties result from the conflicts of sex than resulted from all the battles of the World War.

SUICIDES

The death rate from suicide is always regarded as a symptom of social conditions producing personal misery, illness, or mental disturbance. This rate usually increases during war, business depressions, or other periods of aggravating social changes, and it is reduced during periods of peace and of economic prosperity. The annual average number of suicides is about 17,000; males are in the majority; Negroes have lower rates than whites; and there are trends showing an increase among upper age groups and among upper income groups. As noted above, suicide, alcoholism, and mental disease are invariably joined in a network of pathological disorders.

In recent analytical studies of attempted suicide, there is evidence that the death rate is a wholly unrepresentative index of this type of social inadequacy. Since the reasons for this opinion apply to most of the social inadequacies they help to clarify the statistician's responsibility—his need for accuracy and for logical classification of cases in primary, secondary, and tertiary causal factors. These analytical studies of suicide point out that (1) suicide can be concealed in other causes of death and that (2) there are types of suicidal predisposition, called unconscious or partial (unsuccessful) suicide that must be explored more thoroughly before its actual pathology can be understood.[10]

PHYSICALLY INCAPACITATED

A long list of minor or infrequent disorders is responsible for another major interference with the quality and stability of a people. Some of these conditions are extremely rare. Such for example are congential malformations. But they continue to encourage genetic researches because of their severity and because many of them are permanent or require long and costly treatment. Others, though fairly frequent, such as minor sensory

[10] A. J. Arieff and others, "Unsuccessful Suicidal Attempts," *Diseases of the Nervous System*, Vol. 9 (June, 1948), pp. 174–79. Herbert Hendin, "Attempted Suicide," *Psychiatric Quarterly*, Vol. 24 (January, 1950), pp. 39–46. Andrew F. Henry and James F. Short, *Suicide and Homicide* (Glencoe, Ill. Free Press, 1954). Philip Piker, "1817 Cases of Suicidal Attempts," *American Journal of Psychiatry*, Vol. 95 (July, 1938), pp. 97–115. A. L. Porterfield, *Crime, Suicide and Social Well-Being in Your State and City* (Fort Worth, Texas. Leo Potishman Foundation, 1948). George Simpson, "Methodological Problems in Determining the Aetiology of Suicide," *American Sociological Review*, Vol. 15 (October, 1950), pp. 658–63. There are numerous references in this source to basic literature about suicide. J. V. Wallinga, "Attempted Suicide: A Ten Year Survey," *Diseases of the Nervous System*, Vol. 10 (January, 1949), pp. 15–20.

defects, can and often do result in progressive deterioration and total disability.

Table 18–4 is a compilation of these miscellaneous physical impairments. It includes accidents; various defects of sight and hearing; a few disabling diseases; and the less numerous congenital defects. In the appended bibliography attention will be called to some of the rare congenital defects because of current emphasis by health campaigns and in the eugenic literature. Since the numbers in Table 18–4 are mainly estimates, they will not be included in the summary of this chapter which is a review of inadequate groups that are more readily counted for purposes of comparisons in a census of population.

TABLE 18–4. The Physically Incapacitated, United States
(Estimates based on observations since 1950 inclusive)

	Annual Incidence	*Total Prevalence*
Accidents—Total	7,500,000	
Home accidents 4,600,000		
Occupational 1,800,000		
Automobile 1,100,000		
Accidental deaths—Total	91,500	
Automobile fatalities	32,000	
Adults in need of rehabilitation	250,000	1.5–2.0 million
Physical and congenital defects		
Cerebral palsy	4 to 6 per 1,000 births	285,000
Cleft palate or lip	1.3 per 1,000 births	64,000 under 18 years of age
Hydrocephalus	1 per 1,000 population	
Congenital malformations (total)	1 in every 50 live births	
Blindness	1.9 per 1,000 population	308,419
Eye conditions of lesser severity		7.5 million
Deafness		50,000
Hearing loss of varying degrees		300,000 to 1.0 million
Muscular dystrophy	5.4 per 100,000 population	
Orthopedic impairments		2.0 million
(Children under 21 seriously crippled)		(50,000)
Rheumatic fever		675,000 children under 21
Speech defectives—estimate varies with degrees of defectiveness		2.0 million under 21

SOURCES: These figures are compiled from sources in the appended bibliography, "The Physically Handicapped."

DEPENDENT FAMILIES

The total number of dependent families varies primarily with the changing distribution of income. Dependency is also caused by the illness or accidental disability of the breadwinners, by divorce, desertion, or death. As mentioned on page 395, 7 per cent of the families in St. Paul were dependent due to this combination of social and economic causes. This proportion is also reported in numerous other American studies as well as in industrial populations of Europe. As a rule, the pattern of dependency is the same everywhere: it is recognizable by the prevalence of low income, unskilled work, low educational standards, and families with too many dependents as judged by family income during full employment.

In spite of increasing national income, and a marked shift in number and proportion of families from the income bracket under $2,000 per year to the next higher bracket, about ten million or one-fourth of the nation's families continue to live on the margin of poverty and dependency. This large number of economically unstable families is typical of all geographical regions but is more serious in rural than in urban areas. Of the total 5.4 million farm families, one in every five is handicapped by low income, whereas by contrast only one in every fourteen urban families is similarly handicapped.

The population under the Social Security Act

A supplementary index of the country's total burden of individuals and families that are either dependent or close to dependency is evident in the social security program as detailed in Table 18–5. This total number, 25.9 million individuals, requires an annual expenditure of $15 billion.

TABLE 18–5. The Population Assisted by Provisions of the Social Security Act, 1955

Classes Assisted	*Numbers Being Assisted (in millions)*
1. Dependent children	1.4
2. Parents or guardians of needy children	0.5
3. Widows of veterans	0.8
4. School children—free lunches	9.8
5. Aged—public assistance	2.6
6. Disabled indigent	0.2
7. Old-age insurance	2.6
8. Survivors insurance	3.2
9. Unemployment benefits	0.8
10. Disabled veterans	2.5
11. Veterans—education	0.6
12. Veterans—hospital treatment	0.1
13. Railroad workers and dependents	0.5
14. Retired government workers	0.2
15. Blind	0.1
Total	*25.9*

SOURCE: *Social Security Bulletin*, Vol. 18 (August, 1955), No. 8, p. 21.

SUMMARY

This review of many different kinds of human distress has aimed to show the possible types of conditions that obstruct the stability or reduce the quality of a population. They represent many different handicaps with which a complete program of population improvement must be concerned. Quételet, sometimes called the father of vital statistics, referred to them as the moral branch of vital statistics. He believed that the goal of a best or optimum population can be achieved when a country keeps an accurate account of its liabilities and seeks to understand and control them with the same patience and objectivity that are required by science in any of its theoretical or applied forms. In this expression of a need for more accurate enumerations of human differences between people, he followed the original suggestions of John Graunt and William Paley who recognized that both specific life tables and general rules of demography are dependent upon this information (See Chapter 20, pages 438 and 442).

In Table 18–6 a summary of the chief kinds of dependency is given. Although some of these totals are derived from fairly complete registrations, none has the accuracy of a census report. On the whole, however, it is the nearest available numerical evidence of the total burden of the socially inadequate, and it is the source of the opinion that one-third of the people are unable to be independent of public or private subsidies or custodial supervision.

TABLE 18–6. Socially Inadequate Groups
(A summary)

Types of Inadequacy	*Estimates of Total Numbers in the American Population: (Base: About 150 to 160 million)*
A SUMMARY OF CHAPTERS 16 AND 17	
General hospitals	
Average daily population	1,300,000
Mental hospitals	650,000
Institutions for the mentally deficient	130,000
Institutions for the epileptic	20,000
Total number with minor mental illnesses	9,000,000
Total number of mental deficients	1,500,000
Total number of epileptics	800,000
Total	*13,400,000*
A SUMMARY OF CHAPTER 18	
Institutional population, prisons, special hospitals	1,600,000
Alcoholics–Problem drinkers	4,000,000
Illiterates	10,000,000
Criminals	1,750,000
Juvenile delinquents	1,500,000
Drug addicts	50,000
Suicides	17,000
Accidents	7,500,000
Families, dependent and marginal	10,000,000
Total	*36,417,000*
Grand Total	*49,817,000*

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out cleft palate (10), cleft palate alone (5), club feet (5), polydactyly (5), congenital dislocation of the hip (10), congenital heart disease (10), hypospadias (10), dwarfism, microcephaly, and all others (40). It also states that 50 per 10,000 maternities have rhesus incompatibility.

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Part VI

PERSPECTIVES

. . . hosts of people eager to achieve benefits for their less fortunate fellows by what seem the shortest methods . . . are bringing about retrogression while aiming at progression.

HERBERT SPENCER*

Where there is no vision, the people perish.

PROVERBS, 29:18

EVERY NATION, according to Ian Bowen's interpretation, is constantly being challenged by changing social and demographic needs. These issues involve land and people in terms of sufficiency, security, satisfactions, and success. From each point of view historical analyses have described them under conditions of populousness, overpopulation, depopulation, populating, or by the term that Bowen uses to correlate such tasks and policies of demography, *populationism.*[1]

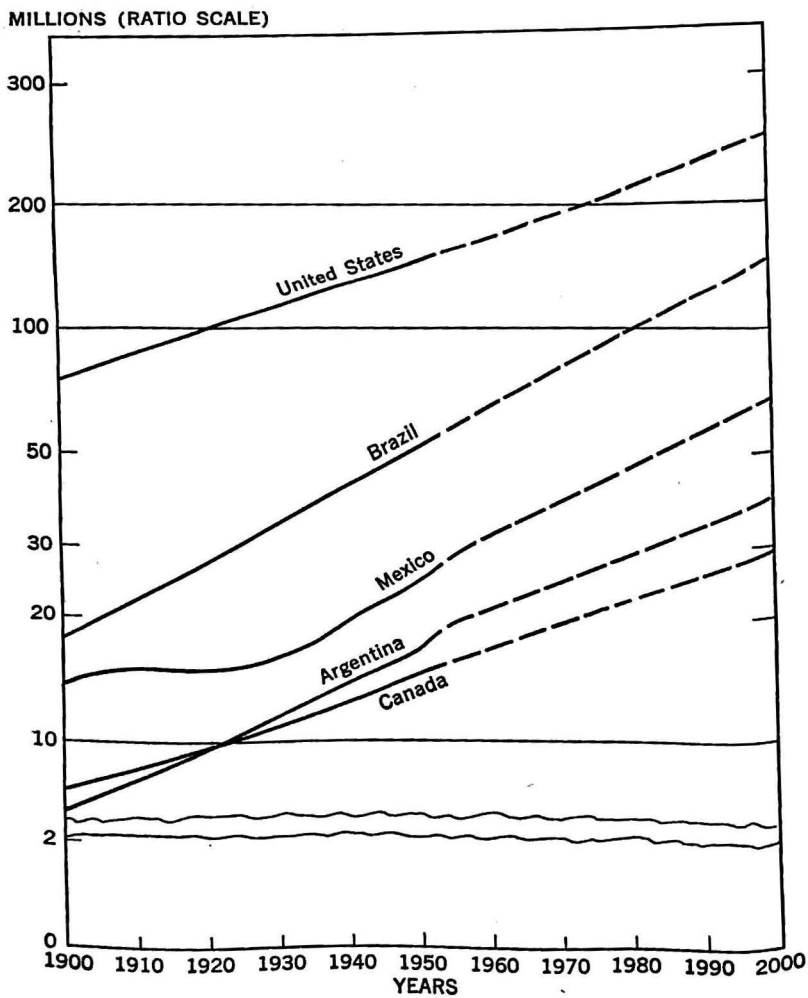
One question that is always qualitative as well as quantitative refers to the sufficiency of land to support a continuous growth in numbers. A second question is whether a people through its own social ingenuity or technical efficiency can compensate for deficiencies in land or other basic material requirements for a secure and sufficient society. A third question is simply one aspect of the foregoing, namely, whether it is possible to plan for population through economic or governmental programs as aided by physical discoveries and inventions.

An index of the imperative nature of these challenges is shown in the following crude projections of population growth:

* *Social Statics* (New York. D. Appleton, 1899), p. 417.

[1] Ian Bowen, *Population* (London. Nisbet, 1954), p. 7.

Population Growth in the Americas, 1900–1955. Projected 1955–2000



Source: Adapted from *Road Maps of Industry*, No. 1042 (New York. The Conference Board, 1955). Reproduced for years 1900–1950 by permission. The projection is added to the original and is simply a ruled line of probable trend.

CHAPTER 19

Trends

If you cannot measure, your knowledge is meager and unsatisfactory.

(SOURCE UNCERTAIN) *

But if you can measure, your knowledge is still meager and unsatisfactory. (JACOB VINER) *

NO SURVEY of population in either its quantitative or qualitative aspects has neglected to reckon with trends. These changes or tendencies may be historical, current, or future. Consequently trends are mentioned and their significance is interpreted in all preceding topics. Moreover, since such changes are variable in duration and in their effects, they are not easily detected in many instances nor in the consensus of a majority of demographic summaries.

Nevertheless, it is no strain at all upon the social observer's or demographer's conscience to be curious about future events. Therefore predictions and prophecies are standard tools as well as risks in studies of population. The most justifiable examples are in probabilities, as in death-rate trends, chances of survival, or life tables, when the operations of the demographer are guided by the rules of mathematics. Demography shares to some extent the objectivity and prestige of the queen of the sciences.

VARIETIES OF TRENDS

Trends are accepted most widely when they summarize historical records and are limited to short-term changes that are based upon constant and repeated events. As population movements, these trends are usually those of the vital rates of growth, births, and deaths. Whenever any aspect of population is associated with variable or qualitative changes, as in its distribution, composition, stability, or quality, the determination of trends

* A widely quoted statement, presumably the test of the accuracy of physical science, credited in the following source to Lord (William T.) Kelvin (1824–1907) and by other sources to his contemporaries Francis Galton (1822–1911) and Thomas H. Huxley (1825–1895); and to which Jacob Viner added his comment. See Louis Wirth (Ed.), *Eleven Twenty Six: A Decade of Social Science Research* (Chicago. University of Chicago Press, 1940), pp. 169 and 177.

is difficult. These variable perspectives subject the demographer to criticisms of guesswork or value-judgments. This liability to criticism is a risk of all writers who are concerned with cultural changes, in such interpretations as in the "streams of history" or in the analysis of periods and movements of literature and other humane or practical arts, and specifically in demography when an author's scholarship as well as his conclusions or foresight are being evaluated.[1]

An examination of trends is designed to supply two primary guides. First of all it shows what conditions are most useful in the study of causes or factors in a changing population (noted heretofore as correlates of a changing demography). This analysis generally supplies some of the con-

RECENT SOCIAL TRENDS IN THE UNITED STATES

Increasing	*Decreasing*
1. Life expectancy	1. Size of family
2. Internal migration and mobility	2. Proportion of the farm population
3. Length of formal schooling	3. Proportion of nonwhite groups
4. Mechanization	4. Maternal mortality
5. Functions of government	5. Illiteracy

ditions that serve to identify different patterns of population as illustrated by ten current trends in the United States population (*see* list on page 31). Next it shows effects of population changes, in other words social or other transitions that follow as results of different demographic patterns. Such effects fulfill the dictionary definition of trends as general tendencies of directions of events which in the case of population are historical move-

[1] Accordingly, the material of this chapter will be devoted chiefly to the "prospects before us." The character and validity of short-time trends that are mentioned in preceding chapters are usually self-evident from the point of view either of their truth or usefulness. No attention will be given to the controversies that are similar to the stages or tables of inevitable cultural progression and that were the principal contributions of different philosophers of history (for references consult footnotes 3, 4, and 8 in Chapter 20). This type of analytical approach is by no means obsolete. It has continued in recent decades and up to the present in such works as: Brooks Adams, *The Law of Civilization and Decay* (New York. Macmillan, 1903); Oswald Spengler, *The Decline of the West* (New York. Knopf, 1926); L. T. Hobhouse, *Social Development* (London. Allen and Unwin, 1924); Lewis Mumford, *Techniques and Civilization* (New York. Harcourt, Brace, 1946); Christian Gaus, *A Primer of Tomorrow* (New York. Scribner's Sons, 1934); H. G. Wells, *The Shape of Things to Come* (New York. Macmillan, 1933); and Harrison Brown, *The Challenge of Man's Future* (New York. Viking, 1954). Likewise, no attention will be given to the equally unanswerable questions as to the inevitability of trends, trendlessness, trends within trends, or the impossibility of projecting trends because of their variability, complexity, or dependence upon unknown conditions or coincidence. The limits of this chapter, therefore, are those accounts of trend that appear in current studies as temporary numerical or statistical projections or as literary contributions and suggested policies which are more or less subject to analytical proof or critical judgment.

ments that govern its composition now and in the future. All these developments, therefore, are valuable as evidence in testing the validity of projections or in the formulation and testing of policies.[2]

WORLD POPULATION MOVEMENT

Most reports of recent national census enumerations support the observation that population growth at a high rate is a typical, current, world movement. This conclusion holds for all the continents, sub-regions, and nations. It is the basis for the assumption that growth will continue for some years to come. At its present rate, as indicated in Tables 1–1 and 1–2 of Chapter 1 (pages 4 and 6), the trend is upward at a rate of more than one per cent per year or possibly at a rate sufficient to double the population of the world by the year 2,000. As previously observed, this rate is not only unusually high but is the source of such terms as population explosion or chaos.

Regional differences in this trend of growth are largely responsible for classifications of nations or groups of nations as potential trouble-spots. Highest growth rates are those of Latin American countries as a whole with an average rate above that for the world and in some areas more than twice as great. In Class I countries, such as the United States, Canada, Australia, and some of the nations of Western Europe, a rate of one per cent per year is not unusual. Smaller rates of growth are expected for Eastern and Southern Europe, most of the Middle East, and Africa. But in these regions, with the exception of Africa, any increase is burdensome because, like Asia as a whole, they are already overpopulated in view of the carrying-capacity of the land and their stage of economic development.

Notestein explains this paradox of growth by the birth-death ratio. Countries already far beyond what is called the Malthusian limits continue to have high birth rates while their death rates have been reduced by improved standards of health.[3] Notestein agrees with Bowen that the prospect of the world economy meeting minimum needs for food is unlikely and that the burden of numbers from this point of view alone is catas-

[2] Each of these points of view is illustrated by such national surveys as *Recent Social Trends* (New York. McGraw-Hill, 1933); J. Frederick Dewhurst and others, *America's Needs and Resources* (New York. Twentieth Century Fund, 1955); and in such world surveys as W. S. and E. S. Woytinsky, *World Population and Production* (New York. Twentieth Century Fund, 1953, in addition to the citations to Bertram, Clark, Hauser, Kimble, Miner, Moore, Notestein, Putnam, Reed, and various periodical reports of the United Nations. There is a brief survey of trends in population and their social consequences in: Harold A. Phelps, *Principles and Laws of Sociology* (New York. Wiley, 1936), Chapter 20, pp. 415 ff. which reviews the literature up to the depression years.

[3] Frank W. Notestein, Chapter 5, in Paul K. Hatt (Ed.), *World Population and Future Resources* (New York. American Book, 1952). Ian Bowen, *Population* (London. Nisbet, 1954), Chapters 2 and 10. See diagrams on pages 18 and 226. Henry P. Fairchild, *Versus: Reflections of a Sociologist* (New York. Philosophical Library, 1950), Chapter 3.

trophic. In spite of the possibility that food supplies can be increased at a rate almost equal to that of population expansion, food costs increase, and the continuation of the *status quo* makes no improvement in diets nor contributes to the reduction of the current widespread malnutrition.

In addition to continuous pressure of population upon land and economy, other equally disturbing conditions are the uneven rates of growth in some countries and the uneven distribution of the man-land balance. All three variables in *populationism* are stimuli to the search for more land or for opportunities to engage in world trade or immigration. When these outlets are closed or inadequate, international relations are complicated and the prospect of war is constant. These global troubles then become the urgent arguments for a world population policy, involving as Fairchild has suggested (1) planned growth; (2) world-wide birth control; (3) planned resettlement of peoples from overpopulated to underpopulated areas; (4) abandonment of colonialism; and (5) a world economy of balanced agriculture and industry.

UNDERDEVELOPED AREAS

The terms underdeveloped or transitional are used to describe those populations that have been for many generations at the bottom of a demographic measurement of balanced land, numbers, production, and standards of living. They apply most critically to the bulk of the world's population, the two-thirds or more in Asia and adjoining territories. These are the regions that are least well off according to the description of rates of growth in the preceding section; they start with gross overpopulation and any further growth not only accentuates this basic problem but impedes every method of suggested relief or improvement.[4]

This combination of demographic and economic trends in the Orient suggests a dim future for several reasons. As Davis observes, the developed or advanced industrial nations cannot hope to supply the resources to modernize Asiatic economies or traditions. One reason for this pessimistic outlook is the impossibility of transferring technical skills and other cultural achievements essential to new industries or a more productive agriculture. This conclusion is the verdict of Oscar Handlin whose study of the possible transfer of people and their skills has demonstrated that it is rarely successful and practically never when the culture of the sending country is radically different from the receiving country. This situation induced Jacob Viner to approach the problem of overpopulated lands at its basic cause, namely, too many people, and to recommend as a preliminary con-

[4] Since any nation is, in part, underdeveloped and transitional, Kingsley Davis has suggested a definition that interprets these terms as most applicable when more than 50 per cent of a country's gainfully employed males are engaged in hunting, forestry, or farming. Kingsley Davis in Paul K. Hatt, *op. cit.*, Chapter 2, p. 15. See also Chapter 3 in the same source by Irene B. Taeuber, "The Future of Transitional Areas."

dition to rehabilitation "an absolute decrease in the number of those living at less than some minimum standard of income."[5]

Similarly, in Taeuber's analysis, overpopulation is the real menace. Population does not slow down under its own weight or through some automatic sequence of events. On the contrary the opposite tendency is more usual and under any change that momentarily affects the economy favorably fertility rates go up and mortality decreases. This trend has occurred in most Asiatic countries when some partial improvement in the economy has resulted in an increased imbalance of the birth-death ratio; also in Puerto Rico which has been cited previously as a prime example of this excess growth. Moreover, under current rates of growth, there is no prospect that an equivalent increase in production could be achieved, because not even the most successful of industrial nations have been able to increase and maintain their annual production at such continuously high annual rates.

TABLE 19–1. Comparison of Underdeveloped and Developed Areas

	Underdeveloped Areas	*Developed Areas*
Population (per cent of world's total)	65 Per Cent or more	20 Per Cent or less
Annual income per capita in U. S. dollars	$41	$461
Food supply (Calories per capita, per day)	2,150	3,040
Literacy (per cent, ten years of age and above)	22 Per Cent	95 Per Cent
Life expectancy at birth (years)	30 years	63 years
Physicians per 100,000 population	17	106

SOURCE: Howard S. Piquet, "Point Four and World Production," *Annals of the Academy of Political and Social Science*, Vol. 268 (March, 1950), pp. 152–53. Adapted from Table 1.

WORLD RESOURCES

Largely because of the experiences in these underdeveloped areas and of the demographic trends in industrial countries that have high densities of population, demographers generally agree that world resources prescribe definite limits upon the rate of population growth. This opinion is based upon material deficiencies that already have been exceeded in most of the world and are being approached in all continents. These restrictions are the limits of land and land use, shortages of essential raw materials, and the limited possibilities of technical skills or capital investments to eradicate the burdens of too many people and too few resources. No substitute, such as the urban-industrial way of life, can be imposed upon an unbalanced agricultural economy. A necessary prerequisite is an immediate reduction in birth rates and a decreasing rate of population increase. Even

[5] Bert F. Hoselitz (Ed.), *The Progress of Underdeveloped Areas* (Chicago. University of Chicago Press, 1952). See pp. 54–59 for Oscar Handlin's analysis, and p. 187 for Jacob Viner's. Handlin's source is: Rowland T. Berthoff, *British Immigrants in Industrial America* (Cambridge, Mass. Harvard University Press, 1953).

these modifications may be too little and too late unless they are combined with improvements in productive skills, lowered costs of production, improved health, and a more balanced age distribution between individuals in the employed and non-producing age groups.

Of all these restrictions the limits of land and materials have been most subject to study and exploration. Some observers are of the opinion that the present world population has already exceeded these limits, resulting in the current well-known "instability of the rural economy." They endorse Whitaker's judgment that 2.5 acres of arable land are required for each person in order to provide for a minimum level of nutrition, whereas the present ratio is 2 acres per person. In the extensive analyses of this man-land balance, every possible contingency is examined, such as increased production per acre; bringing previously unused land into cultivation (through new crops having shorter seasons of growth or being more blight resistant); and such supplements as irrigation, mechanized agriculture, and the discovery or development through chemistry of new foods and new sources of food. For each of these suggestions, however, there are also definite limits of increasing costs and diminishing returns. The same combination of shortages and limits is also found for all the materials necessary to support a growing population, with the possible exception of the sources of energy. Recent studies of food production support these opinions that the world as a whole cannot win or even reach a tie in the race between production and numbers. With the exception of North America and a few of the countries of Western Europe, the rate of food production has fallen (in some areas to a rate that is less than the pre-World War II level); the peoples of the world hitherto on a low-calory diet have doubled, and the proportion of the world's population on the satisfactory dietary of 2,800 calories per day has been reduced by 22 per cent.[6]

Confirmation of these limits of food production is likewise supported by the trend in the production and use of minerals. As determined by the experience of industrial nations, the need for minerals increases at a rate that is larger than the rate of population growth even when they are accessible and evenly distributed. Inaccessibility, the need to import them, or reliance on minerals of inferior quality add to their cost and widen the gap between their rate of availability and that of population growth.

[6] This comparison of dietary trends is from the inventories of the Food and Agricultural Organization of Unesco. It is based upon the original study of the world food situation in 1946. The impossibility of reaching the quantitative level of food production as indicated in the accompanying percentages is explained on both the physical limits of production and the economic limits of consumer income. These problems are reviewed in E. John Russell, *World Population and World Food Supplies* (New York. Macmillan, 1955). The statement relating to low dietaries is on p. 469. Other studies concerning the world food supply, its limits, and possible extension appear in the reference to Paul K. Hatt, *op. cit.*, Part 2. Food Resources. The reference to J. Russell Whitaker is from p. 76; 3. Material Resources; and 4. Energy Resources. The table of necessary food increases is from p. 127.

TABLE 19–2. Percentage Increase of Foods Required to Support the Current Rate of World Growth to 1960 on a Minimum Diet of 2,600 Calories

	Per Cent		*Per Cent*
Sugar	12.0	Pulses (beans, peas, and other seeds)	80.0
Cereals	21.0	Milk	100.0
Potatoes	27.0	Other vegetables and fruits	163.0
Fats	34.0		
Meat	46.0		

SOURCE: Dennis A. Fitzgerald, p. 127, in Paul K. Hatt, *op. cit.*

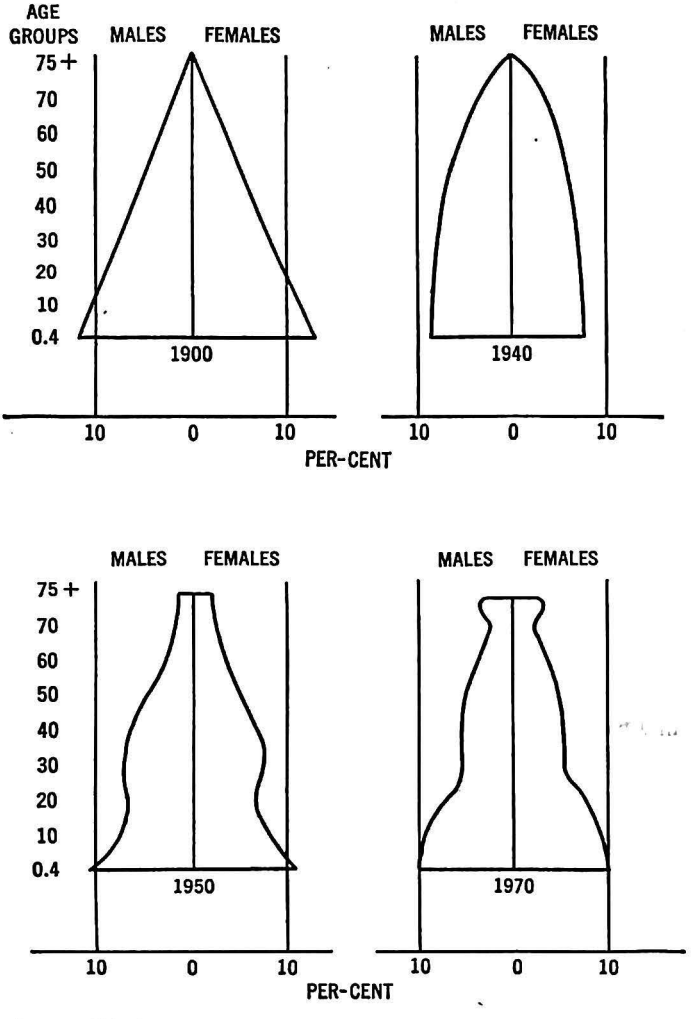
UNITED STATES POPULATION

Primary trends in the population of the United States, as already pointed out in Chapter 2, were the decreasing rates of growth in the decades prior to World War II and the population upsurge thereafter. Similar to the global changes for both periods, the United States population developed in the same manner as Class I countries as a whole, and demographers were led to believe that the pre-war reduced rates would be continuous. During the 1940's, however, population began to increase at a rate somewhat larger than one per cent per year and in recent years at nearly 2 per cent (an average of 1.75 per cent since War II and 1.8 per cent in 1955). There are no sufficient indexes of a slowing down to question current estimates of a total of 200 million by 1970, a total previously set by the Pearl-Reed projection for the year 2,100. This rate of growth is one of the largest of all national trends. It is greater than the increases of any other Class I nation and currently is exceeded only by China, India, and a few of the Latin American countries. Demographers are also in general agreement that no country can maintain such a rapid rate of growth for a prolonged period.

Trends that accompany this increasing rate of increase are also typical of changes that are expected for the composition of a Class I country. Age changes are probably the most conspicuous, with the increasing proportions of the population in the younger (under 20 years of age) and older (65-plus) age groups. These changes will continue so long as population increases; they are considered certain to continue at least until 1975. There will also be a corresponding decrease in the proportion of the employed age group, 20 to 65. Other trends are the changing sex ratio, women outnumbering men; an increasing labor force with increasing proportions of younger workers and employed women; increasing internal migration and consequently disproportionately larger gains in population, especially by the more recently industrialized states in the West and South.

Other social consequences will be indicated in the following discussion of the natural resources that will be required to support this growth, and in the cycle of needs that growth and especially uneven age classes will place upon the national economy.

FIGURE 19–1. Changing Age Pyramids, United States, 1900–1970

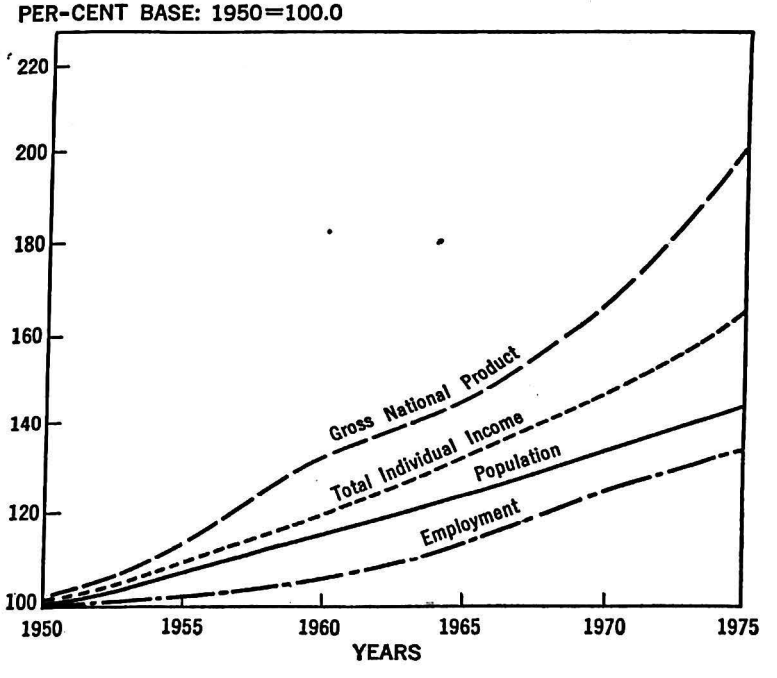


SOURCE: U.S. Census and *Current Population Reports*, P–25, No. 78, August 21, 1953 for the 1970 projection.

RESOURCES, PHYSICAL, ECONOMIC, AND SOCIAL

Although the United States is in an especially fortunate position (compared with most nations) to meet the increasing material needs of an expanding population, it also has several economic deficits; some commodities that are in short supply; and shortages in human resources. In spite of automation with its miracles of mass production, and the optimistic protests of the theorists who have always objected to opinions that land or production can become finite limits to population growth, population in this country, as well as in other countries and in the world as a whole, tends to grow at a rate that exceeds the rate of most valid economic indexes. Figure 19–2 is called "Great Expectations" because it forecasts a future of material prosperity without regard for increasing costs or the value of the dollar. Moreover, unlimited growth of population is a threat to prosperity

FIGURE 19–2. Great Expectations. Trends in Population and Industry, United States, 1950–1975



SOURCES: U.S. Census, *Current Population Reports*, p. 25, No. 78, August 20, 1953, and P–50, No. 42, December 10, 1952. John W. Kendrick, "National Productivity and its Long-Term Projection," pp. 67–104 in *Long-Range Economic Projection*, Studies in Income and Wealth, National Bureau of Economic Research (Princeton. Princeton University Press, 1954), Vol. 16.

and real income as the history of all overpopulated countries has demonstrated (*see* footnote 7).

Restrictions upon growth and improved standards of living can be noted from the surveys of material shortages, especially those on the critical list. These studies and the prospects that they emphasize indicate that a growing population absorbs increasing proportions of natural resources and capital. Costs of raw materials exceed the rate of population growth. Rates of investment for new production also are in excess of population growth. This requirement is the dilemma of the non-industrial, undeveloped country, but even for the United States it tends to depress "real income" and to lower standards of living. Often there are some social needs that occur so suddenly and regionally, such as the current need for new schools and trained teachers, that no method of finance or investment is effective. There are similar indications of growing deficiencies in land-use for recreation and in other leisure-time activities. These strains upon the non-economic institutions are already apparent and are being given increasing attention in government policies.[7]

TABLE 19–3. An Inventory of the Nation's Material Resources

Abundant Supplies	*Short Supply (in terms of demand)*	*Supplies Largely Dependent upon Imports*
New sources of energy	Copper, lead, zinc	Nickel, cobalt, tungsten, chromite, columbite, bauxite, manganese, tin
Synthetic fibers	Bituminous coal	
Agricultural products (*with noted exceptions*)	Iron ore	Natural rubber
Molybdenum	Natural gas	Cordage fibers
	Crude oil	There are 75 items of imported vegetable and animal products
	Forest products	
	Water (*especially in some regions*)	

Economic trends

Quantitative estimates in the rate of land-use and in the need for some of the products in short supply are now available. For urban-industrial expansion, a third of a million acres of land will be required each year, and for agriculture one to two million acres must be converted each year to

[7] The sources of the review of economic and institutional trends are: J. Frederick Dewhurst and others, *America's Needs and Resources: A New Survey* (New York. Twentieth Century Fund, 1955). Robert W. Hartley, *America's Capital Requirements: Estimates for 1946–1960* (New York. Twentieth Century Fund, 1950). Hartley concludes (pp. 31 ff.) that capital requirements increase directly with increases of population. Frank W. Notestein, "Population Trends in the United States," Chapter 7, in Lyman Bryson (Ed.), *Facing the Future's Risks* (New York. Harper, 1953). *The Nation Looks at its Resources* (Washington. Resources for the Future, Inc., 1954). Stephen Rausenbush (Ed.), *The Future of Our Natural Resources*, Annals of the American Academy of Political and Social Science, Vol. 281, May, 1952. See also for an appraisal of the effects of population growth upon national economy, Joseph J. Spengler, "Population Threatens Prosperity," *Harvard Business Review*, Vol. 34 (January–February, 1956), pp. 85–94.

farm land. The requirements for land in order to supply recreational needs is expected to increase more rapidly than population. These trends and the following are for the years up to 1975.

Agricultural production will increase by 40 or 50 per cent, and no difficulty is anticipated from this source in view of current surplus commodities. Forest products and water supplies have no such optimistic prospects. The need for lumber will increase at the same rate as for agriculture, and there is no likelihood that the industry can meet this demand from local forestry operations. At present the trend indicates a deficiency at least one-third below requirements with no allowance for increased per capita consumption. Water supplies are similarly critical. Since 1900, the per capita consumption of water has doubled (from 550 gallons per person per day to the current (1950's) use of 1,100 gallons). Water shortages occur often in most urban areas but they appear in their critical degrees in the West and Southwest. Nationally this problem is one of distribution, but in the Southwest and other regions requiring large quantities of water for irrigation the shortage is an actual depletion of water reserves as well as of distribution.

Energy supplies are expected to cause the least strain on the economy in spite of rapidly increasing use and dwindling supplies of essential metals, especially iron. From 1950 to 1975 the anticipated increase for iron ore is estimated to be 10 million tons per year; energy as a whole will increase 100 per cent; liquid fuels, 170 per cent; and electric power, 250 per cent. The probability is that atomic energy will not be in large supply during this period. The use of crude oil will double and will reach a daily requirement of eleven million barrels. This need will depend upon an annual increase of proved reserves of 2.4 per cent in addition to the current rate of increase of imports. Natural gas will increase in demand from the present annual consumption of 8 to 10 trillion cubic feet per year (1950's) to 20 trillion in 1970 and a decrease to 15 trillion by 1975. Electric power will expand three to five times its present level which is about 1,000 to 1,500 billion kilowatt hours per year.

Other trends and some of the more immediate social and economic accompaniments are:[8]

Demographic trends
- Decrease in the rural farm population and in the farm labor force
- An increasing non-farm rural population
- Increasing suburbanization
- Increasing life expectancy
- Later entry into the labor force and earlier retirement

[8] Colin Clark, "Afterthoughts on Paley," *Review of Economics and Statistics*, Vol. 36 (August, 1954), pp 267–73. Peter Drucker, "America's Next Twenty Years—The Coming Labor Shortage," *Harper's Magazine*, Vol. 210 (March, 1955), pp. 27–32. Stuart Garfinkle, "Changes in Working Life of Men, 1900–2000," *Monthly Labor Review*, Vol. 78 (March, 1955), pp. 297–300.

Economic trends
- Increasing imports
- Increasing productivity per man-hour
- Decrease in average hours per work-week
- Increase in national income per man-hour worked
- Increase in costs of government (a greater proportion of which will be obtained from taxes on business)
- Decreasing housing shortages
- Increasing shortage of medical care
- Increasing number of employment opportunities, especially for trained personnel in science and the professions (basic research, teaching, engineering, law, finance, health and social service)
- Increasing attendance in colleges and universities

Family trends
- Increasing average family income
- Decrease in average individual saving
- Decrease in taxes on family income
- Increase in social security benefits
- Increasing expenditures for luxury items, especially medical insurance, private schooling, and air travel
- Increasing use of fruits and vegetables
- Increasing participant recreation (largely of the "betting" variety)
- Decrease in the housewife's work-week, largely because of more food processing and packaging

MILITARY MANPOWER

All countries are concerned about their security in terms of manpower for civilian employment and potential military needs.[9] This concern is about equally divided among: availability of manpower; the balance between numbers in military services and civilian occupations; military costs; and total war costs including post-war expenditures for aid to veterans.

This country is comparatively secure in its available manpower for military requirements. The total number (in comparison with 1954–1955 reserves) will be slightly less among the 18–29 age group until 1960 because of the declining birth rates of the 1930's. After 1960 the total age group (18 to 37) will increase as shown by the estimated trends of the United States Department of Labor. Although the cost of the military services is not excessive when expenditures of other countries are considered, the total costs, direct and indirect, amount to about one-half of the national budget. This annual expenditure includes the cost of two civilian workers for the support of each member of the military forces and the

[9] For a few national comparisons, consult Ian Bowen, *op. cit.*, pp. 219–23, and such periodical reviews as "Man Power—Where U. S. is Slipping," *U. S. News and World Report*, July 16, 1954, p. 33. For the prospects of the United States: U. S. Department of Labor, *Military Manpower Requirements*, 1954–1960, Bulletin, Bureau of Labor Statistics, No. 1161, 1954. George A. Lincoln and others, *Economics of National Security* (Englewood Cliffs, N.J. Prentice-Hall, 1950).

costs of transportation and supplies. As time goes on this annual expenditure will increase because of the needs of veterans for special assistance. One estimate of total post-war costs of World War II assumes

TABLE 19–4. Military Manpower—Estimates of Male Population, 18 Years of Age, 1940–1970

Years	*000 omitted*	*Years*	*000 omitted*
1940	1,240	1960	1,300
1950	1,090	1965	1,950
1955	1,100	1970	1,910

SOURCE: *Fact Book on Manpower*, Bureau of Labor Statistics, Bulletin No. 1171, September, 1954, p. 6.

that by 1970 these will equal the total costs of military operations during 1941–1945, or $340 billion.

TABLE 19–5. Direct Costs of Wars of the United States

	(In millions of dollars)		*(In millions of dollars)*
Revolution	$ 504	Spanish	$ 3,522
War of 1812	310	World War I	33,132
Mexican	498	World War II	340,000
Civil	13,842		

SOURCE: George A. Lincoln and others, *op. cit.*, p. 377.

MISCELLANEOUS SOCIAL TRENDS

Changes anticipated within the next twenty years include developments in transportation, housing, education, religion, pensions or other forms of social insurance, and recreation. Many of these changes, however, cannot be expressed as rates of growth, nor can they be compared directly with the rate of population growth.

Among the various forms of transportation, the primary trend that is expected to increase is the use of private automobiles. Travel by motorbus and railroads has decreased each year since War II and this trend will continue. Travel by air has increased each year since it entered the competitive field but continues to be a minor industry in comparison with the automobile, which is used for about 88 per cent of all passenger transportation. This trend is associated with a probable doubling in the number of private automobiles by 1975, a proposed interstate highway system, and a modernization of the existing roads and highways for greater efficiency and safety. Such growth is considered essential in order to maintain the continued and necessary rate of gross national product in manufacture and distribution.

The trend in housing will be continuous but at a decreasing rate. It will include both private building and government projects. Associated with

this change will be slum clearance and redevelopment projects, an increasing trend in home-ownership and owner-occupied dwellings, and a modernization of reclaimable housing. The housing shortage that was experienced after War II was one of the most easily corrected. Home-building far exceeded the rate of population growth, and by 1955 supply began to exceed demand. This achievement, however, was accomplished only by a tremendous load of mortgage indebtedness which may become at some future date a heavy burden and eventually a source of economic instability.

Educational trends are generally limited to prospective school enrollments. On several previous occasions mention has been made of post-war increases in schools of all types. In the years ahead enrollments in grade schools will continue at an increasing rate until 1965 when they will increase at a slightly decreasing rate; they will increase in high schools at an increasing rate, and in colleges at the same high rate that has prevailed since 1945. The burden of this strain will be felt immediately by the taxpayer because the need for more school buildings is enormous and is accompanied by a need for more and better-paid teachers. In recent surveys it has been found that trained teachers are leaving the schools at a more rapid rate than new teachers can be trained—an element of economic rivalry that is only one of the many "plights" and wastes in the American school system.

Churches also are in a program of expansion quite similar to that of the schools. They are extending both religious and educational services partly because of population growth and partly because of the high rate of internal migration. Between the present and 1975 an increase of 28 million church members is expected, an annual increase equal to the population of Syracuse, New York, which has for its 200,000 people a total of 106 churches and 155 clergymen. This nationwide growth envisions 100,000 new churches, a capital investment of about $7.5 billion, and an educational extension to train 100,000 clergymen.[10]

SUMMARY

Although this survey of projections includes a wide range of probable changes, they are often accepted without the statistician's usual precaution of high, medium, and low variations. The demographer is not opposed to adventures in such prophecies, as the topics referred to in this Chapter and especially in the appended bibliography demonstrate. However, demographers are ultraconservative when projections of population are based upon a formula. And there are few who are willing to admit the possibility that such a statement of growth is a law of population. Yet they exercise no similar requirements of accuracy in dealing with futures in available land, oil reserves, new sources of food, or industrial production. Moreover,

[10] Warren James Taussig, "Get Ready for What's Coming!" *Christian Herald*, Vol. 77, No. 6 (June, 1954), pp. 22–24.

they do not raise the same objections to the use of life tables which are based upon birth and death records and are equally subject to correction by more and better evidence.

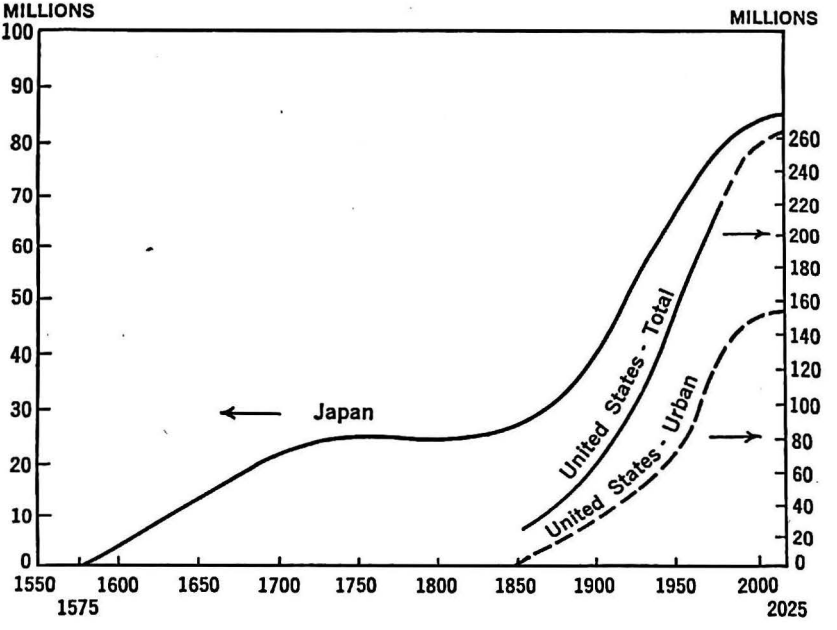
In his discussion of world population Bowen compares various proposed mathematical predictions of trend and mentions their most probable sources of error. Among the primary obstacles to exactness in these projections is the absence of constants in population, such as steady trends in fertility and mortality rates or in net rates of reproduction. Likewise it is impossible to foresee when these statistical trends may alter their historical course because of living conditions that cannot be included in a mathematical formula. Another and more serious obstruction to the accuracy of projections is the variety of these conditioning circumstances, some being reducible to factors in an equation, such as agricultural production, employment, or even standards of living (as the latter may be objectified by indexes of prices), while others, such as the changing attitudes of a society about family, marriage, and children, the teachings of religion, or political propaganda, remain far outside concrete numerical expression. Whether or not these independent factors are too variable and subjective, in all projections they are too numerous to be included in one formula.

The logistic curve of growth, as employed by demographers, is based upon the major assumption that population increases or decreases in a geometric or logarithmic rate of change. In addition to the Pearl-Reed calculations which are referred to in Chapters 1 and 2 because of their illustrative value (that is, the estimated curves of world growth and the United States Census reports are typical logistic or "S" curves), many others have experimented with similar predictive formulas. George Udney Yule projected the population of England and Wales on the basis of the logistic curve. Arthur Bowley projected the growth of the same population on the base of mortality records of 1910–1912 and the birth rates of 1921–1923. Edwin Cannan, using the same base (namely birth and death records), projected the population of England and Wales from 1895. In spite of the then current annual increase of one per cent per year his projection showed that population growth would slow down in the twentieth century, which is the same trend as the Pearl-Reed prediction for the United States.[11]

The Pearl-Reed projection was based originally upon the reports of the Census up to and including 1910. In addition, their formula was adjusted to historical economic trends with reservations for other adjustments when-

[11] Ian Bowen, *op. cit.*, Chapter 2, pp. 28–40. The same point of view is presented by Peter R. Cox, *Demography* (Cambridge, England. University Press, 1950), Chapter 13. See also: John Hajnal, "The Prospects for Population Forecasts," *Journal of the American Statistical Association*, Vol. 50 (June, 1955), pp. 309–22. Edwin Cannan, "The Changed Outlook in Regard to Population, 1831–1931," *Economic Journal*, Vol. 41 (December, 1931), pp. 519–34. John E. McLean, "More Accurate Population Estimates by means of Logistic Curves," *Civil Engineering*, Vol. 22 (February, 1952), pp. 35–37.

FIGURE 19–3. Illustrative Projection of the Pearl-Reed Curve of Population Growth, United States, 1850–2025, Compared with Japanese Population, 1575–2025, and U.S. Urban Population, 1850–2025



SOURCES: Raymond Pearl, *Studies in Human Biology* (Baltimore. Williams and Wilkins, 1924). p. 626, Table 188, p. 626, Figure 119, for the Japanese figures. *Current Population Reports*, series P–25, No. 123, Oct. 20, 1955, p. 2, for the United States total. This is high estimate of the U.S. Census and is based upon increases up to July 1, 1955. Philip M. Hauser and Hope T. Eldridge, "Projection of Urban Growth and Migration to Cities in the United States," *Milbank Memorial Fund Quarterly*, Vol. 25 (July, 1947), p. 296, Table 1 and p. 299.

ever there was evidence of probable decisive changes in cultural or social relationships. From that combination of numerical factors, their projection exceeded the actual count of the 1920 census by 1.6 per cent, was lower than the 1930 census by 0.3 per cent, was greater than the 1940 census by 3.5 per cent, and was less than the 1950 census by only 0.8 per cent. This formula and proposed law will be stated and reviewed briefly in the next chapter under the general topic of contributions and in comparison with other suggested laws or projections some of which are economic, biological, social, or combinations of all three. In this context the Pearl-Reed law can be compared with the projections that are included in the demographic studies of Cox, Sumner, and Fairchild. The comparison in Figure 19–3 is a substitution of the original Pearl-Reed projection based upon the 1910 census count and revised by the 1940 census. In Figure 19–3 the projected estimates are those of the United States Census for the period, 1960–1975. The Japanese curve (also a Pearl-Reed projection) is given for

comparison because its two cycles of rapid growth resemble the cycles of the United States population. It is plotted on the base of the figures of the ordinate to the left as indicated by the arrow. The United States trend is also compared with the expected urban growth, both of which are plotted on the base of the figures of the ordinate to the right as indicated by the arrows.

As the title of Figure 19–3 states, it is simply an illustration of potential growth. It makes no claim to mathematical or statistical exactness. However, in terms of volume and direction of growth, and also in its suggestion of logistic growth in two cycles, it may be related to the curve of Indian depopulation and revival in Chapter 9, Figure 9–2 and also to the curves of Japanese and Chinese population trends in this country in Figure 9–3 of the same chapter.

The trends or variables that will continue to be regarded as most significant in a pattern or formula of population are: (1) such direct demographic conditions as changing birth, marriage, and death rates; changing age, sex, and regional composition; changing size of families; and the question of changing population quality; and (2) such direct socio-economic modifiers as changing per capita supplies of food, arable land, mineral resources, and water supply; changing planes, standards, or costs of living; changing international relations, overseas and internal migration, occurrence of war, imports and exports, undernutrition and malnutrition; changing per capita rates of productivity and income; and changing requirements and per capita costs of such institutional services as government, education, health, and recreation.

This limited approach to trends would be considerably clarified by an itemized list of long-time or short-term changes in a population to which attention has been given in preceding chapters. These historical trends are useful in the interpretation of many schools of demographic thought which are reviewed in the next chapter. They are equally important, too, in support of statistical or verbal analyses of the projections that are stated in this chapter; or in the development of policies, which is the content of the final chapter.

Most of these previous statements of trend are collected and summarized under readily identified topics, such as the "High Points" of Chapter 1 and "Population Projections" of Chapter 2. In other chapters they are found for the most part under the several reviews of "Correlates." Hence, in order to avoid as much duplication as possible, they will not be reviewed in this summary.

In conclusion, it is well to observe that, among the varieties of projections into the future, there are some trends (straight-line or cyclical) that are general or a complex of variables. In order to ensure their credibility, there is constant need for re-computations and tests. There is also another class of trends, more specific in character and often of more immediate human

concern, but not necessarily easier to discover or prove. These trends are, for example, in specific causes of death, such as trends in the mortality or prevention of heart disease; in all types of social disorders, such as mental disease or crime; in the operation of the social institutions; and in the internal components of a population that are always important in their own contributions to demographic understanding as well as being partial supplements in the verifying of the general and complex movements of population.

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CHAPTER 20

Demographers

Well-established calculations in political arithmetic enable us to say that the aggregate population of the nation . . . in the year 1950 will be 200,000,000.

W. H. SEWARD*

There is no surprise greater than that of the prophet whose prophecies come true.

ARTHUR KOESTLER**

DEMOGRAPHY, although one of the most recent additions to the social sciences, traces its historical background to the earliest interest in statistics about people, groups, and culture. Accordingly, contributions and contributors can be found in all literate societies. The oldest documents of religious professions, tribal law, or moral code referred to questions now recognized as basic problems or policies in demography. As in its current scope, this interest has been concerned with numbers and quality of people, the basic conditions that help or hinder a sound and healthy population growth, the efficiency with which population is supporting the social institutions, and the mysteries of fertility, death, and the expectations of life.

The same trends in the new learning that reshaped and redirected the sciences and arts during the period of the Renaissance in Europe also supplied *a demography in being* with the basic credentials of a new and worthwhile field of investigation. The social institutions of an organized society require a constantly expanding and refined collection of facts about people. As a result the pioneering studies, at first called political arithmetic and later moral, human, or social statistics, had provided a significant literature, various ingenious methods of research, techniques of proof, and numerous unanswered but highly important questions long before they were unified and first called demography in 1855.

Most contemporary demographers agree that the turning point in the history of the evolving science of population was the *Essay on Population*

* *Speech in the Senate,* March 11, 1850.
** *The Gladiators* (New York. Macmillan, 1947), p. 205.

by Malthus, first published in 1798. In this work Malthus provided an organized statement of demographic theory, a framework of causes and results, and a series of problems to be solved. This essay has been called a theory, doctrine, principle, or law with long and tedious arguments in support of its truth. It has also been regarded as a wordy belabored interpretation of the obvious, as a political "white-paper," and as a "bogey" theory of overpopulation. Probably because of these controversial opinions and the long-continued debate as to its merits, the *Essay on Population* attracted an attention that has rarely been equalled in the records of publishing, and it continues to be included in most lists of "best" and "influential" books. It was prominent in social, political, and moral discussion of the nineteenth century, and continues to be the basis from which much contemporary research and many arguments begin. However, the contribution of Malthus was neither new, complicated, nor designed to be controversial. Stangeland's concluding paragraph is a good interpretation of the fame of the *Essay* and of its major theme.[1]

> Malthus's work was a great one, written in an opportune time, and though it cannot lay claim to any considerable originality as far as the theories presented are concerned, it was successful in that it showed more fully, perhaps more clearly, and certainly more effectively than had any previous attempt, that population depends on subsistence and that its increase is checked by want, vice, and disease as well as by moral restraint or prudence.

ORIGINS OF DEMOGRAPHY

Although modern demography is essentially a product of the nineteenth century, partly because of the attention Malthus's essay received in the literature of political economy, and partly because of the rapid extension of official governmental census reports, the roots of demographic thought reach far into the past. There was considerable publication, and there were various experiments in the collection and analysis of vital statistics from the beginning of the sixteenth century. In this and earlier periods historians have repeatedly discovered ideas similar to the central theme of Malthus in scattered and fragmentary commentaries; and Neo-Malthusianism—efforts to control the birth rate—and the elements of eugenics also precede the rise of European nations. All these earlier interests have noted the connection between human welfare and the size, subsistence, and security of a population. They associated defective social institutions with human misery, a result of over- or under-population, and they charged government, religion, morals, and the family with some responsibility for economic hazards and the failure to recognize the need for more effective practices and policies.

[1] Charles E. Stangeland, *Pre-Malthusian Doctrines of Population* (New York. Columbia University Press, 1904), p. 356. For complete citations of sources throughout this chapter, consult the appended bibliographical notes.

As demography gradually acquired a background of publications and was dignified by the objectivity of statistical facts and correlations and occasionally by the support of mathematical proof, earlier origins were traced to the more elusive literature of many ancient societies. These manuscripts have been used to support or deny recent developments in the theory of demography through their ethical, religious, or arithmetical formulas. They also supply evidence about fertility, marriage, death rates, sex ratios, and various regulations that resemble present-day methods of eugenics and contraception (as well as providing historical sources for information concerning practically all demographic factors).

Probably the best known of these early documents is the Old Testament. The fortunes of Saul and David were repeatedly endangered by cycles of prosperity and starvation. Israel was menaced by constant wars when crops were good and by starvation, plagues, and social unrest when crops failed, and *populousness*, as it was first called, began to draw attention to the relationships between numbers and subsistence. At this time and on many later occasions even the most innocent efforts to learn something about population, such as David's census, were opposed and feared as violations of the divine order in human affairs.[2]

Such reminders of the origins of demography are needed to show that no directory of contributors can ever be complete. Most of the early documents are anonymous; some survive only in the tribal memory of sacred myths. Many of the immediate predecessors to the nineteenth century had to be re-discovered from the works of obscure and forgotten scholars. All of these scattered commentaries can be summarized under the two related headings of numbers and quality. Each has something to say about too many or too few people, policies to ensure a proper man-land ratio, and the principles and laws of population growth. On the basis of these subjective (the theoretical aspects of opinions and attitudes) and analytical (statistical) contributions, the contemporary field of demography has expanded as indicated by census reports, the bibliographical divisions that are used in the *Population Index*, the classified fields of research and administration in the Demographic Section of Unesco, and by the titles of the sections and chapters of this book.[3]

In the following survey attention with few exceptions is given only to the history of demographic thoughts and methods prior to 1900. This limit is adopted in part to keep the account as brief as possible but mainly to

[2] I Chronicles, Chapter 21. References to other documents prior to the Renaissance are given in the appended bibliography. See "Ancient and Medieval Sources" and "Medieval Religious Interpretations." *Populousness* as a word meaning many people or overpopulation is practically obsolete. However, as the nearest one-word synonym of Malthusianism among the early writers, it helps to abbreviate the contribution of the *Essay* to its chief ideas: too many people, too few resources.

[3] References to major demographic issues in the growth of population are given in the bibliographical notes. See "Overpopulation" and "Underpopulation."

avoid repetition of material cited in previous chapters. However, in the summary of the chapter, a list of contributors appears that violates this limitation in a few cases in reference to writers whose works are closely identified with questions of long historical interest.[4]

EARLY CONTRIBUTIONS: THE SEVENTEENTH CENTURY

Among the several radical changes that hastened the new learning and sciences of the fifteenth and sixteenth centuries, one that gained little attention at the time was the study of human institutions. This interest was stimulated by the demoralization of the masses, particularly when their distress and helplessness were compared with the settled social-class relations of the Middle Ages. The poverty and hardships of rural people were accentuated by the luxuries of landowning proprietors. And the increasing numbers of urban dwellers were landless, often unemployed, with no means to obtain a minimum of subsistence, and no visible prospects of future betterment.

Before the seventeenth century these evils had been the inspiration of utopian writers who outlined plans for perfect societies in this world or fell back on the hope of a better life in the hereafter. Philosophies of history (actually the earliest experiments in social science) made one concrete and forward-looking suggestion in their efforts to explain the inefficiencies of social organization and to recommend appropriate revisions in the economy and government. Their rival philosophies showed the folly of moral deductions in an imaginary plan of inevitable historical developments, and stimulated the different economic proposals of mercantilists, cameralists, and later of the physiocrats. Incidentally and wholly by accident they discovered *populousness*. For the first time in Europe's history many nations began to experience a novel and rapid increase of population, overcrowded land, deficient food, and no plan to effect a solution or to moderate these immediate burdens.

Of the scholars who first observed and reported upon these changing social conditions, four are given particular attention. The first, Thomas Hobbes, represents the old-school philosopher of history with his emphasis upon a fixed system of stages in social-class relations. But he also was a philosopher in transition in his discovery that human institutions are subject to human control. Unlike the other three, Graunt, King, and Halley, he paid no attention to the need for facts. Other contributors who came closest to the objective standards of political arithmetic in their quest for explanations and proof were Thomas More, Giovanni Botero, and Walter Raleigh. Each of them observed the hazards of increasing population when food is lacking and they also pointed out the probable causes of sickness

[4] See appended bibliography: "Contributors to Demography."

and high death rates. Jean Bodin advanced this contribution by noting the relationship between economic production, subsistence, and birth rates, and Matthew Hale foresaw the possibility of a trend toward higher birth rates. He calculated some of these rates and was among the first to state that a population can quickly restore numbers that are lost by war or colonization and with equal rapidity can exceed a minimum of subsistence.

PREDECESSORS AND CONTEMPORARIES OF THE SEVENTEENTH-CENTURY PIONEERS IN DEMOGRAPHY*

Thomas More (1478–1535)
Jean Bodin (1530–1597)
Juan de Mariana (1536–1623)
Giovanni Botero (1540–1617)
Walter Raleigh (1552–1618)
Francis Bacon (1561–1626)
Tommaso Campanella (1568–1639)
Thomas Mun (1571–1641)
Matthew Hale (1609–1676)
James Harrington (1611–1677)
William Petty (1623–1687)
Blaise Pascal (1623–1662)
William Temple (1628–1699)
Josiah Child (1630–1699)
Charles Davenant (1656–1714)
Daniel Defoe (1661–1731)
Abraham de Moivre (1667–1754)
Charles de Montesquieu (1689–1755)

* SOURCES: See footnote 4.

Thomas Hobbes (1588–1679)

Hobbes was a typical philosopher of history in his dual belief in institutional security and in the priority of one institution. Early in life he had planned to write a survey of all knowledge from the oldest of the physical sciences to the study of man and his social institutions. However, like other philosophers who had similar goals, he reversed the order of his plan and began with the human sciences. This decision was forced upon him because he was convinced that war is the chief obstacle to social security and populousness is the chief cause of war. Thus, government is the only instrument that can insure peace by regulating population. In his first two books, *De Cive* (1642) and *Leviathan* (1651) he sought a social system that would save the citizen from a life "solitary, poor, nasty, brutish, and short"; he became convinced that the security of society or the state required a strong central government.

In opposition to other solutions (the agricultural plans eventually embraced by the physiocrats, the fiscal policies of the cameralists, and trade relations as endorsed by the mercantilists), Hobbes related the well-being of a people directly to material resources regardless of the nature of the economy. In this manner he anticipated the primary doctrine of Malthus in the dependence of population upon subsistence. He also discovered one of the Malthusian positive checks—the inevitability of war when population outgrows its economic base. Since colonization does not increase the

food supply of the sending country and also fails to effect an appreciable reduction in population, the alternative is war. From this revelation of the identity of the interests of the individual and the state, Hobbes established two of the relationships in the Malthusian doctrine, but he failed to identify populousness as growth with the economy and he overlooked all the preventive checks.

John Graunt (1620–1674)

Graunt was the first of the students of population to see the need for facts and the significance of observing the relationship and regularities of these facts. Because of his compliance with the elementary requirements of scientific method in his study of the *Bills of Mortality* and in his construction of the first London life table, Graunt has been called the founder or father of English demography.[5] He took great pride in the brevity of this work and called attention thereto in his preface by stating that it could be read in two hours.

Graunt was persuaded to prepare this study by his own observations of the rapid urban growth of London, by the cycles of plague, and by many unexpected correlations such as the rural migration and urban increase, the failure of plague or war to reduce the population, and the lowered urban birth rates (compared with the rural) because of migration, intemperance, immorality, and "urban" diseases that are associated with smoke and fog. The four statistical relationships that are called Graunt's major contributions are: (1) the rural rate of population growth exceeds the urban; (2) the urban death rate usually is greater than the rural; (3) the number of males at birth exceeds the number of females; (4) mortality rates are highest in the early and late years of life.

The life table that was prepared from records of baptisms, burials, and causes of death is important because other statisticians were encouraged to construct more exact estimates. Graunt had no rural figures, age at death was not given, and his sample was too small. However, he was able to classify deaths and death rates by cause. In addition he reported as fairly well-established correlations: seasonal and annual variations in certain death rates; rural natural increase as an important source of urban growth; the constancy of certain death rates, abortions, and stillbirths; the tendency of male mortality to exceed female mortality; the effect of populousness (density) on the death rate; the conditioning of fertility by age and sex composition, by the health of a population, and by other social and physiological conditions; the apparent fact that the period of male fertility exceeds that of the female.

From his statistical and other conclusions, he suggested as a general

[5] The complete title of this work of seventy-two pages is: *Natural and Political Observations upon the Bills of Mortality, with reference to the government, religion, trade, growth, air, diseases, and several changes in the city* (London. 1662).

theory that a population can double every 64 years and that this growth is governed by the availability of material resources and checks that are about the same as those enumerated by Malthus. Graunt also expressed certain opinions that had no basis in statistical evidence about occupations and health, land ownership and social-class inequalities, and the usefulness of population as a measure of national wealth. Since there was no census, he was an ardent advocate of such an inventory and of full and accurate registrations of vital statistics.

Gregory King (1648–1712)

An English statistician by occupation, King continued the collection of vital statistics that Graunt had begun and made similar applications to the analysis of trends in population. In addition he collected genealogies, and through his knowledge of topography and mathematics he prepared maps of London and its adjoining areas. Like Graunt he was handicapped by inadequate data but in the use of official statistics and his own enumerations his work has been judged to be exceptionally accurate and well analyzed, with evidence of unusual imaginative insight as to the management of his methodological procedures and his appreciation of trends in population.

His studies were collected in a volume of manuscripts during the years, 1695–1712, under the title: *Natural and Political Observations and Conclusions upon the State and Condition of England.*[6] King's primary contribution was an estimate of the population of England which he computed to be about 5.5 million in 1690. This count was derived from the average number of individuals inhabiting each house, based upon hearth tax returns and further supported by assessments levied on births, marriages, burials, bachelors, and childless widowers. Later studies confirm this estimate as the most accurate of the period. King had hoped to be able to describe in more detail the social and economic structure of the population. He did add to Graunt's findings some evidence as to the production of cereal crops, the approximate distribution of the population by social class and average income, and he verified Graunt's conclusion as to the excess of males in the sex ratio.

Edmund Halley (1656–1742)

Halley was primarily a mathematician and astronomer best known for the discovery of the comet that was named for him. Later in life he became the Royal Astronomer. His association with demography was accidental and for one of the briefest contributions on record, a monograph of eighteen pages. From the collection of the *Breslau Table of Mortality* he constructed

[6] Edited and published by George Chalmers in 1802.

a life table that continued to be commercially usable by English life insurance companies for 175 years.

This monograph is considered to be one of the most original and useful contributions to demography because of the several "firsts" that it achieved. Halley took advantage of the German records because they were more numerous, exact, and complete than the registrations in London. They gave sex and age as well as births and deaths (Graunt had to reckon without the facts of age). From this material Halley was able to relate birth and death rates in estimating rates of population growth, to formulate the term, "expectation of life," and to apply it to life annuities. From this evidence he succeeded in eliminating some of the public opposition to life insurance which at that time was often refused either because of superstitious notions about its hastening death or because it was supposed to be a form of gambling. Thus in establishing insurance as a form of investment, its acceptance was encouraged and its development as a business was accelerated. From these records he also computed age-specific death rates, the chances of survival, and from the combination of these rates he reckoned the cost of insurance and annuities. His joint contributions to insurance and population studies that most closely anticipated the actuarial computations of later decades were based upon the idea of probabilities which he obtained from the mathematics of Blaise Pascal. From this theory he reasoned that births could increase to four times their current number if there were no restraints such as the forces of natural selection, economic distress, delayed marriage, or some other form of birth control.

An odd fact in the preparation and publication of Halley's manuscript is noted in the records of the Royal Society. The Society happened to be in a period when material for its *Transactions* was in short supply. In order to fill the gap, the officers of the Society persuaded Halley to undertake an analysis of the Breslau records and to write the monograph of which the full title is: "An Estimate of the Degrees of the Mortality of Mankind drawn from curious Tables of the Births and Funerals at the City of Breslau, with an attempt to ascertain the Price of Annuities upon Lives." (Published in 1692 or 1693.)

Two other forerunners in the political arithmetic of this period are often mentioned as outstanding for their originality. *William Petty* (1623–1687) was a close associate of Graunt and verified most of his statistical generalizations by independent observations and analysis. In one venture he did strike out on a new course in his quest for an invariable measure of value, an objective that is yet to be realized. Petty also is credited with a constant insistence on quantitative exactness. His most original thoughts, however, are considered to be those in the growing science of political economy, especially in his treatment of land and labor as the chief sources of a nation's wealth. Similarly, the other scholar of this period, Josiah Child (1630–1699), who is often called a forerunner in the development

of population theory actually made his most original studies on such topics as industry, trade, and wages.[7]

CONTRIBUTIONS OF THE EIGHTEENTH CENTURY[8]

Increasing population—which had brought to the attention of seventeenth-century scholars such problems as insufficient land, together with such inevitable conditions as displacement of the rural population and the rapid expansion and overcrowding of cities—continued at a rapid rate. This boom or population explosion dominated the thinking of eighteenth-century political economists and charged them with the immediate need to relieve the menace of underproduction in agriculture as well as to seek new sources of production or wealth. Economics, therefore, flourished under the burden of scarcity and became the gloomy science of deficits. Few or none of the most imaginative economists or statesmen were gifted with the foresight of surplus production, technological revolution, or automation. "Populousness" remained as the shadow over the continent. The economy was weakened by the same network of costly disadvantages that had been typical of the previous century—a large laboring class, excessive urban unemployment, forced migrations, unstable governments, revolutions, large families, low wages, and high poor-relief rates.

This background is a partial explanation for the shift in demographic interests to basic economic questions of food supply and scarcity. It also accounts for the gradual recognition that smaller families, reduced birth rates, delayed marriages, and thrift are necessary precautions. Though much less prominent, political arithmetic made noteworthy achievements in establishing estimates or rates of growth. Statisticians perfected methods of collecting and analyzing local reports and developed schemes for more extensive systems of vital records. They also began to advocate the need for a national census. In order to clarify these trends according to eventual developments in population theory, the contributors who are selected for special notice slightly overemphasize the political-arithmetic approach. These representatives are Richard Cantillon who, according to William Stanley Jevons (1835–1882), the British economist, anticipated Malthus in nearly every aspect of his theory; Willem Kersseboom and Johann Peter Süssmilch, the fathers respectively of Dutch and German demography; and Arthur Young, a practical farmer, who foresaw the possibility of increased agricultural production.

Richard Cantillon (1680–1734)

Like Walter Bagehot (1826–1877), Cantillon was primarily a business man and only secondarily a writer or economist. Also like Bagehot, his

[7] William Petty, *Political Arithmetic* (1690); Josiah Child, *New Discourse of Trade* (1668).

[8] Most of the references of this century are relatively inaccessible and generally secondary; a few titles are appended in the bibliography. See "Forerunners of Malthus."

PREDECESSORS OF MALTHUS: CONTRIBUTORS TO THE ECONOMIC AND STATISTICAL DEVELOPMENTS OF THE EIGHTEENTH CENTURY

Jakob Bernoulli (1654–1705)
Robert Wallace (1694–1771)
François Quesnay (1694–1774)
Benjamin Franklin (1706–1790)
David Hume (1711–1776)
James Steuart (1712–1780)
Giammaria Ortes (1713–1790)
Richard Price (1723–1791)
Adam Ferguson (1723–1818)
Adam Smith (1723–1790)
Theodore A. Mann (1735–1809)
Joseph Townsend (1739–1816)
George Chalmers (1742–1823)
William Paley (1743–1805)

literary reputation was established by one book. Here the resemblance stops, because Cantillon's book had to be discovered, as it was by Jevons, who in 1880 called it "the cradle of political economy." Little is known about Cantillon as to his birthplace, nationality, or education. By some writers he is called Irish or English. His one book, *Essay on the Nature of Trade in General,* was published in French in 1755, though written presumably twenty-five years earlier. This use of French and the fact that he established his banking house in Paris are the reasons for his classification as a French economist or contributor to demography.

In his economic point of view Cantillon stressed the thesis of the physiocrats that land is the important source of wealth. The details of this theory are the source of his ideas concerning population which resemble those of Malthus. According to this interpretation the ownership and distribution of land are directly related to economic production. When land is held by a few proprietors, production and income are diminished and unevenly distributed, commerce—particularly foreign trade—decreases, and there are important economic and social changes in class structure and planes of living that are unfavorable to a sound and productive economy. Population, accordingly, flourishes or decreases in accordance with the prevalence of land ownership and use.

Cantillon's explanation of population growth is based on the system of land-use, the volume of production and its distribution, and prevailing standards of living. Any interference that lowers the scale of living reduces the population. From this rule he established the two conclusions that (1) population increases up to that number which can be sustained at the prevailing standards of living, and (2) that, as standards of living increase, the rate of population growth slows down. The latter generalization is in agreement with the usual opposition of the physiocrats to large proprietors, superfluous luxuries, and the employment of any considerable proportion of the population in nonproductive occupations. A nation continues to be strong, according to Cantillon, so long as it is able to maintain a balanced and stable economy and organization of the social and economic classes. In this dual conclusion he not only preceded Malthus

in his economic theory of population but he also stated the essential thesis of Dumont's explanation of dwindling birth rates and depopulation because of changes in social-class position.

Willem Kersseboom (1691–1771)

Kersseboom, an official in the government of Holland, followed the pattern of statistical research that Graunt established. Through his position and opportunities to travel he had access to vital statistics that were more complete and representative than those of the English. From them he constructed a life table similar to Graunt's but which had better information concerning younger and older age groups. On the basis of these additions he revised the English life table and used it to calculate the total population of Holland.

His book, *Problems of Political Arithmetic,* was published in 1748. One innovation that attracted considerable attention was his formula for the computing of total population from the number of births, namely, "a country has 35 times as many inhabitants as its yearly births." This generalization failed to be accepted because it was derived from a stationary population. In all his calculations Kersseboom worked hard to achieve mathematical accuracy. He introduced and followed the theory of arithmetical progression as established by Abraham de Moivre (1667–1754), and adapted this to his studies in two later volumes, *Lottery Loans* (1737), and *Numbers of the People of Holland, 1738* (1742).

Johann Peter Süssmilch (1707–1767)

The father of German demography, Süssmilch, had a broad and liberal educational background. He studied law, then medicine, and finally theology. After a brief period of teaching, he became an army chaplain, and was promoted rapidly in the church. Later in life he was elected to the Berlin Academy of Science. Following the methods of Graunt he constructed a life table based on a wider range of evidence than any of his predecessors or contemporaries. This table became the standard in use by German Insurance Companies up to the middle of the nineteenth century. He verified the same trends and correlations as noted in Graunt's observations, and ventured beyond the computations of other statisticians by trying to estimate the total world population and the rate of its increase. He pointed out the desirability of large numbers in order to insure a better sample and to avoid too great variability.

These findings were published in 1741 under the title, *The Divine Order in the Changes of the Human Race Shown by its Birth, Death, and Propagation.* By "divine order" he meant repetition, regularity, continuity, or orderly sequence as the important requirement for certainty in either statistics or demography.

In his own interpretation of population growth and policy he supported

the prevailing idea that populousness is to be cultivated as the source of a nation's strength, prosperity, and peace. In this use of the term, populousness did not mean overpopulation. He had no fear that overpopulation would ever become burdensome because he felt that the economy could be improved both in agriculture and industry so as to support all future increases without the risks of such misery-producing results as starvation, high death rates, and war. He favored early marriage and suggested that the state should introduce measures to help young people and to discourage delayed marriage. He recognized rising standards of living and luxury as impediments to marriage. As methods of stimulating the growth of population, he advocated free labor, freedom of labor mobility, cheap food, fair taxes, and new industries.

Arthur Young (1741–1820)

Beginning life as a practical farmer, Arthur Young became a collaborator as well as a forerunner of Malthus. He was also a major figure among the British rural political economists through his many reports on farm production and agricultural methods. Early in life he began to study the possibility of agricultural improvements. He made repeated tours throughout the British Isles as well as in Europe. Being an alert observer and shrewd reporter, his extensive essays on land-use, agricultural production, and rural workers gained a reputation for him as an expert in all three areas, although he continued to regard himself as merely a practical farmer.

As his major publications point out, Young was familiar with the ideas of his predecessors. He recognized the hazards of populousness, the waste and underproduction of current agricultural systems, and the need for constant expansion of agricultural resources. ("Agriculture is the first and foremost of all business and the foundation which supports manufactures.") In other comments he recommended the use of manures, rotation of crops, control of erosion, cover crops, and sound financial management by maintaining farms of sufficient size and capitalization to be profitable. He associated deficiencies in a rural economy in the formula of sequence: high quality agricultural production leads to high quality standard of living and in turn to high quality population.

Young's theory of population, which Malthus admitted to be one of his chief intellectual influences, is based upon this sequence. He was induced to include population in his economic writings by his observation in France of inadequate production, the low level of subsistence, and the ever-present burdens of poverty, unemployment, wasteful competition, and low farm income. In the details of this theory he adopted the three conclusions that James Steuart had reached; namely, (1) food limits numbers in all forms of life, the number of people being a result of soil fertility, climate, amount of food produced, and the efficiency of the producers; (2)

the most desirable number of farmers is enough to insure an adequate national product; and (3) the number of inhabitants is best that occurs with full employment. In order to achieve these goals he recognized and endorsed the methods of scientific agriculture, the use of machines, and other technological improvements. Most of Young's publications were incorporated in his *Travels* (1792–1794). His association with earlier scholars is indicated by his *Political Arithmetic* (1774), and one of his favorite topics appears in the title, *Observations on the Present State of the Waste Lands of Great Britain* (1773).

Benjamin Franklin, from his essay, *Observations Concerning the Increase of Mankind and the Peopling of Countries* (1711), is also classified among these predecessors of Malthusianism. Among his important observations, four are cited as good examples of contemporary demographic ideas. One is the prediction that the American population could double every twenty-five years up to 1860. The second includes his reasons for this growth, namely, cheap land, high wages, and a productive agricultural and industrial economy. The third holds that marriages are more numerous and occur at younger ages when the standard of living is favorable, and finally as a fourth conclusion he believed that a population is increased by immigration and that a country should adopt a policy to regulate it.

CONTRIBUTIONS OF THE NINETEENTH CENTURY

Social conditions immediately prior to and during the age of Malthus did not differ from those already described as typical of a country that is becoming industrial except in degree of intensity. Populousness now began to be understood as overpopulation. The impoverished classes were both more numerous and conspicuous. Unemployment appeared in more frequent cycles of longer duration. Wars were more costly and taxes became increasingly burdensome. There was no prospect of relief in any of the remedies that had been proposed heretofore. This characteristic pattern of population for Great Britain and most of the continent was typical of the situation, described in Chapter 1, p. 22, as now current for most of the world: too many people, too little land, too few resources, and too inaccurate and deficient information.

The French Revolution was chiefly responsible for nineteenth-century trends in population theory. Frightened by the possibility of a revolution of their own, the British government was induced to appoint another Royal Commission to study the problems of poverty and poor-relief. From his association with this Commission Malthus began to look for a solution to poverty and thereby discovered an answer in overpopulation. In this way demography became a political as well as an economic issue. Malthus added its social components and accidentally and unintentionally found it useful to consider such aspects as the biological explanations of fertility

and the medical, moral, and religious complications of birth control, public health, and eugenics.[9]

Thomas Robert Malthus (1766–1834)

The second son of a well-to-do, middle-class family, Thomas Malthus had all the educational advantages available to this class. He was educated privately until he was eighteen years old, when he entered Cambridge University. In 1788 he was ordained in the Church of England and in 1793 he became a fellow in the University and followed both professions until his marriage in 1804. After his marriage he devoted his full time to his professorship and to revisions of the *Essay*, although nominally he also held his curacy for the rest of his life. Malthus had three children, one of whom died before maturity and the others, a son and daughter, though married, died without issue. His own death was due to heart disease.

The main theme of the *Essay* is that a population can reproduce at a more rapid rate than the economy can produce subsistence and in consequence a number of demoralizing social conditions arise. This explanation of the growth of population contains its own solution as noted in the following traditional analysis of the thesis:

1. The growth of population is limited by the means of subsistence.
2. Population usually increases when the means of subsistence increase.
3. There are two types of checks:
   Positive checks, such as poverty, disease, misery, vice, war.
   Preventive checks, such as delayed marriage, moral restraint (a check that first appeared in the second edition), and continence or any other "prudential restraint" except birth control.

The *Essay* immediately became a best-seller and was published in six editions by 1826. However, no substantial change was introduced after the second edition of 1803.

Malthus did not create an original theory of population in these three statements. As Stangeland observed, it is a summary of the contributions of many earlier writers who perceived the dilemma of overpopulation. Much of the material in the essay is designed to rebuke the optimism of the utopians who were prone to argue that unlimited numbers of people can be maintained in health, comfort, and happiness by the creation of a scientific social organization. Another stimulus to the essay was the English

[9] In addition to the following discussion of Malthus, attention to three other contributors is given primarily to show trends in the statistical movement through the work of Quételet, the agitation for birth control in the reforms of Place, and the origin of eugenics by Galton. The Malthusian theory, as well as the comments of his supporters and critics, are abbreviated in order to stress the essential conclusions; hence the omission of the irrelevant geometric-arithmetic rates of growth. References are given in the chapter bibliography that cover the entire debate. The complete title of the first edition is: *An Essay on the Principle of Population, as it affects the future improvement of society with remarks on the speculations of Mr. Godwin, M. Condorcet, and other writers* (London. J. Johnson, 1798). The digest of the theory is from pages 140–141. See in appended bibliography, "The Malthusian Controversy."

system of poor-relief administration. Malthus reached the conclusion that both of these social systems intensified the positive checks and failed completely to comprehend the background of overpopulation.

Although the *Essay on Population* has been one of the most discussed, approved, and condemned works among population studies, it has been endorsed by many outstanding scholars during the nineteenth century and up to the present time. Most recent interpreters accept its primary thesis as an explanation of the growth of human populations. In 1858 Henry Buckle (1821–1862) wrote:[10] "This great work, the principles of which have been grossly misrepresented, is still the best which has been written on the important subject of population."

In a similar vote of acceptance, Alfred Marshall (1842–1924) referred to the *Essay* as one of the basic foundations of the science of political economy, and John Maynard Keynes (1883–1946) called it the work of a youthful genius.

As happens to many participants in controversial issues, Malthus's theory has been interpreted to include many conditions that he did not discuss or pretend to include in his major thesis or in the checks. Contraception, or birth control, often identified as Neo-Malthusianism, is one of these misconceptions. Actually if there is a prevailing current in demography that could be called the new Malthusianism it would be the work of those students who are seeking to discover rates of growth, especially such rates as those which project current trends into the future and become predictions. There is, however, evidence in the *Essay* that Malthus was familiar with birth control, but none that he approved it. Other sources of controversy were based on his asserted failure to see the possibilities of increased production through invention, machinery, and scientific farming, to understand the principle of diminishing returns, or to incorporate in his checks the depressing influences of a rising standard of living upon birth rates.

Malthus considered that his major contribution was simply a clue to the prevalence of human misery. All of his later writings consistently upheld this theme so clearly and thoroughly that he has been ranked with Adam Smith, Darwin, Mill, and Ricardo as a leader in the social thought of his own and later generations.

Adolphe Quételet (1796–1874)

Quételet, a Belgian astronomer, mathematician, and statistician, worked chiefly to make statistics more reliable and more adaptable in the studies of the social sciences. His efforts aimed primarily to obtain numerical counts or measures of moral or human conditions. He studied with Pierre Simon de Laplace (1749–1827), the French astronomer and mathemati-

[10] *History of Civilisation in England* (New York. Appleton, 1880), Vol. I, Chapter 2, p. 63, 109 f.

cian, and became familiar with the theory of probabilities. He was associated with the offices of the census in Holland and Belgium, and helped to organize the Belgian Central Commission of Statistics. He was also largely responsible for the establishment of the International Statistical Congress which held its first meeting in 1853.

As the titles of his publications reveal,[11] Quételet aimed to develop procedures for the study of human facts of population. His moral or social statistics dealt with average human conditions and social laws derived from the social components of a population. This venture, being new and different, made little impression upon the contemporary statisticians or demographers.

In general demography he extended the previous discoveries concerning changing birth, marriage, and death rates, and their contribution to rates of growth. He calculated a life table and a law of total population growth. In the narrower range of human or moral statistics, he studied separate causes of death, changing sex ratios, and marriage rates, the incidence of prisoners and the indigent poor. His concept of the average man and his social laws was concerned largely with the interpretation and application of recent figures in a census of population to its composition.

Francis Place (1771–1854)

Place lived as a child under the conditions that Malthus called the positive checks. When he eventually achieved enough leisure and money, he undertook to introduce reforms that he considered indispensable for the health and security of the British working classes. Being an ardent disciple of Malthus, his prime objective was to introduce the means by which the growth of population could be controlled and he became one of the first advocates of contraception.[12]

Francis Galton (1822–1911)

Founder of the eugenics movement, Galton was a personal example of human mental ability as well as research scholar of this subject. His family had already become outstanding because of its many distinguished members. According to Lewis Terman, as a child Galton was a mental prodigy with a record that is not equalled by more than one child in every 50,000. He could read when he was two and one-half years of age and by his fifth year he could read almost any book in English and some French.

[11] *Recherches sur La Population* (Brussels, 1827); *Sur L'homme* (Paris, 1835), revised as, *Physique Social* (Brussels, 1862); *Du Système Social et des Lois qui le Régissent* (Paris, 1847). Frank H. Hankins, *Adolphe Quételet as Statistician* (New York. Columbia University Press, 1908).

[12] His leading publications are: *Illustrations and Proofs of the Principle of Population* (London, 1822), and, *Improvement of the Working People* (London, 1834). Graham Wallas, *The Life of Francis Place,* 4th ed. (New York. Burt Franklin, 1951); the first edition was published in 1898. For the influences of Place, consult: Norman E. Himes, *Medical History of Contraception* (Baltimore. Williams and Wilkins, 1936).

Because of his independent financial position, Galton was able to follow his own interests. At first he travelled widely and then he devoted his full attention to science. The following activities indicate the range of these interests. He studied weather, proposed the idea of anticyclones, and used this discovery in weather forecasting. He was interested in aeronautics and electrical devices. He developed several improvements in photography, map-making, and blood transfusions.

He established an anthropometric laboratory which later became the biometric laboratory of University College in London. Among the studies that developed from this interest and eventually led to eugenics were investigations of height and weight of school children, twins, sterility, evolution, and a system of fingerprinting. These interests led to experimental psychology in studies of human resemblances, visual imagery, taste, smell, and muscular sense.

After the publication of Darwin's *Origin of the Species* in 1859, he returned to his researches in heredity. He classified and analyzed his discoveries according to his idea that ability tends to run in families. The results of these researches were published in 1869 as *Hereditary Genius* which, according to Blacker, he would have entitled *Hereditary Ability* if he had possessed the facts of later researches. In connection with these later studies, he became acquainted with Karl Pearson (1857–1936) and eventually devised the coefficient of correlation as an aid in his statistical interpretations.

Galton's interest in eugenics was based upon his studies of heredity. He concluded that the human race could be improved by planned breeding from the best stock (positive eugenics) and by restricting the breeding of the worst (negative eugenics). Realizing that neither aspect of eugenics could be introduced without further study, he established a eugenics society, a research journal *Biometrika,* and a eugenics laboratory which he bequeathed to the University of London with his entire fortune for a chair in eugenics.[13]

SUMMARY

In view of the slump in population studies after 1850, despite continued debate concerning Malthusianism and such fringe activities as the birth control and eugenics movements, formal demography made few advancements until World War I and the depression of the 1930's furnished the required stimuli. As a result a summary of recent developments can be made in terms of the main achievements of the period after 1700. Since the time of Malthus there has been steady advancement in vital statistics, especially in the public health movement. Malthusianism as a theory, law,

[13] C. P. Blacker, *Eugenics: Galton and After* (London. Duckworth, 1952). Blacker mentions on p. 126 a bit of irony concerning Galton's marriage, which took place in 1853, "rather late in life into a distinguished family, noted for its learning. Here was a perfectly designed eugenic mating" except that "the marriage was childless."

or explanation of the growth of population inspired the creation of various restatements or substitute theories or laws.

Vital statistics and the public health movement

In recent years and throughout the nineteenth century, vital statistics made steady advances. The statisticians followed the trends already established by the originators of political arithmetic. They enjoyed a prestige in their reputation for practical services. Their work was supplemented by the increasing availability of census materials. Occupational opportunities were extended to include most large business firms (in addition to life insurance) and many public offices (other than health agencies).

In their special contributions the following representatives are best-known either because of the originality in their administrative innovations or because of publications:

John Shaw Billings (1838–1913)	Arthur Newsholme (1857–1943)
Edwin Chadwick (1800–1890)	Lemuel Shattuck (1793–1859)
William P. Elderton (1877–)	John Simon (1816–1904)
William Farr (1807–1883)	George C. Whipple (1866–1924)

They improved statistical techniques, introduced new procedures and areas of administration, and continued to engage in researches that had to precede practical methods of directing public health.

Statistical contributions included the development of mechanical techniques of tabulation, new classifications of disease and death, a continuous clarification of terms, and a share in the establishment of the International Classification as well as in achieving some steps toward uniformity in the statistical reports of all countries. Among administrative advancements, they improved systems of record-keeping and registration of births and deaths. They encouraged community health surveys, proposed and obtained laws to improve sanitation, water supply, sewage disposal, and to make certain diseases reportable. They increased the responsibilities of local boards of health, raising minimum health standards, enforcing quarantine, and educating the public as to the necessity of prevention. In other community studies, they made numerous advances in the understanding of the causes of diseases. They supported laws to reduce child labor, to make industry safer, and to secure pre-marital examinations. Studies of communicable and epidemic diseases led through their co-operation to vaccination, pasteurization, chlorination of water, control of disease-carriers (human, animal, or insect), and immunization.

Theories and laws

Post-Malthusian theories and laws are both too numerous and too complicated to be reviewed briefly and intelligibly. Accordingly, this summary

aims to do no more than to call attention to them and to refer to sources of the original studies or to more complete interpretations. It is always surprising to find that most experienced scholars in demography are the least concerned about laws. Warren Thompson's attitude is probably the best guide. He has never been interested in adding a law to his various contributions, but he does not deny the possibility that there are laws in growth or other aspects of demographic change. If there are such laws, however, he believes that they will be derived for homogeneous groups similar in culture, period of development, institutions, and values and attitudes.[14]

Most of the following suggested laws do not admit the limits that Thompson has established. In general these laws can be separated into two types. They are verbal statements of a trend or relationship, similar to the form that Malthus used. Or they are presented in statistical or other symbolic formulas. In either class they may endorse or refute Malthus on his own grounds of economic and social conditions. A few laws are wholly biological. Most of them use terms that are hard to understand, are unclear, are not current in the vocabulary of demography, or that are subject to confusion—such as *fertility* and *fecundity*. They also may use mathematical symbols that are not defined precisely in the formula of which they are a part.

These statistical or mathematical laws are the continuations of political arithmetic. They have the advantage over descriptive explanations in being brief, and they generally appear as a rate or a derivation from rates, such as Halley's distinction between fecundity and fertility, or Kersseboom's computation of total population from birth rates. In other words they bear little resemblance to prophecies, such as Mr. Seward's, that is quoted at the beginning of this chapter. A complete inventory of statistical or mathematical laws would cover all the sections of this book. In addition to growth rates and trends, they appear in the other sections as rates of concentration or dispersion, sex ratios, life expectancies, and probabilities.

LAWS COMBINING SOCIAL AND BIOLOGICAL VARIABLES

Michael Thomas Sadler (1780–1835): *The fecundity of human beings varies inversely to their spatial distribution.*

Thomas Doubleday (1790–1870): *The fecundity of human beings varies inversely with the quantity and quality of food.*

Herbert Spencer (1820–1903): *Fecundity decreases as the complexity of life increases.*

Corrado Gini (1884–): *Fertility decreases in harmony with a cycle of institutional growth and complexity.*

[14] Warren S. Thompson, *Population Problems*, 4th ed. (New York. McGraw-Hill, 1953), Chapter 3. Most of the laws or theories referred to in this section are discussed by Thompson. There is also a brief review of general laws of population, of rural and urban changes, of migrations, social-class differences, social maladjustment, and cyclical variations in Harold A. Phelps, *Principles and Laws of Sociology* (New York. Wiley, 1936), pp. 209–217; 259, 277, 309–312, 363–64, and 395.

LAWS THAT ARE ESSENTIALLY A COMBINATION OF SOCIAL FACT

Karl Marx (1818–1883): *Excess fertility is a result of adverse social conditions, and if overpopulation occurs the cause is the capitalistic system.*

Henry George (1839–1897): *Excess fertility and overpopulation are results of inequitable land holding and use.*

Arsène Dumont (1849–1902): *Fertility varies inversely with social-class status.*

A. M. Carr-Saunders (1886–): *Population growth is limited by man's wish to achieve an optimum number (a number that is related to standard of living).*

Howard Woolston (1876–): *Population is a function of the composition and size of population based upon economic resources and the standard of living.*

Ezra Bowen (1891–): *Populations grow as wealth increases and decline as standards of living rise.*

MATHEMATICAL AND SYMBOLIC FORMULAS

Henry P. Fairchild (1880–1956): *Population is a function of land, economic culture and standard of living or* $P = \frac{LXEC}{SL}$. This formula is also found in the works of William Graham Sumner (1840–1910).

THE PEARL-REED LAW

All populations (human or animal) grow at a functional rate as indicated by the formula:

$$y = d + \frac{K}{1 + e^{a_1x + a_2x^2 + a_3x^3 \ldots a_nx^n}}$$

The Pearl-Reed formula is a description of cyclical growth. It is referred to in Chapter 1 and is illustrated by the curve of world growth. It is also illustrated in Chapter 2 by the curve of growth of the population of the United States. The exactness of fit in both of these natural populations gives considerable support to the accuracy of the law and formula. As the formula is translated, it shows a period of slow growth, a period of growth at an increasing rate, a period of growth at a decreasing rate, and finally a stationary population. This law is essentially a biological law, being based upon the birth-death ratio.[15]

[15] Raymond Pearl, *The Biology of Population Growth* (New York. Knopf, 1925), pp. 25 ff. The formula as mentioned in Chapter 1, page 5, was the work of a Belgian mathematician, Pierre F. Verhulst (1804–1849), and was discovered by Pearl (1879–1940) and Reed (1886–) independently of this origin. Compare with George K. Zipf's law of population distribution as described in his book, *National Unity and Disunity* (Bloomington, Ind. Principia Press, 1941). Other specific examples appear in George K. Knibbs, "The Laws of Growth of Population," *Journal of the American Statistical Association*, Vol. 21 (December, 1926), pp. 381–98: Vol. 22 (March, 1927), pp. 49–59. Alfred Sauvy, *La Population: Ses Lois, Ses Équilibres* (Paris. Presses Universitaires de France, 1948).

It also allows for social and economic influences as do the Malthusian and the Sumner-Fairchild statements of growth. In this proviso the Pearl-Reed curve can be recomputed on a second, higher base as illustrated by Figure 19–3 in Chapter 19. In their own review of this supplement, they stated this safeguard in commenting upon the original 1910 projection:[16]

> A basic postulate of the logistic theory of population growth (holds) that any particular population can be expected to continue to follow in its later growth the same logistic curve that it has followed in its earlier growth *only* if there has been no serious or cataclysmic alteration of the conditions (climatic, geological, biological, economic, or social) under which its earlier growth has taken place.

Many studies of growth were used to verify this theory. Among these types of growth were the body growth of the rat, the growth of a pumpkin, regeneration of a tadpole's tail, the growth of a population of yeast cells and of fruit flies, and annual changes in the increases of agricultural and industrial production. In addition, the logistic growth curves of most countries with census records were computed, one of which, Japan, has two cycles as noted in Figure 19–3 of Chapter 19. Germany also has had a similar demographic background. One curve, beginning in 1690, reached its peak in the middle of the nineteenth century and remained stationary until after the war of 1870. Thereafter, a new curve of growth began, for which a projection is available to the year 2,000.[17]

Other contributors may be classified under the following topics, but it should be noted that the specific classification is simply one of emphasis and that not all contributors are included:

16 Raymond Pearl and others, "The Logistic Curve and the Census Count of 1940," *Science*, Vol. 92 (November 22, 1940), pp. 486–89. This point of view and the methods and precautions in mathematical analysis are stated in Raymond Pearl, *Introduction to Medical Biometry and Statistics*, 3rd ed. (Philadelphia. Saunders, 1940), Chapter 18. The Logistic Curve. Note also the comments by Frederick C. Mills, *Statistical Methods*, rev. ed. (New York. Holt, 1938), pp. 675–80.

17 Raymond Pearl, *Studies in Human Biology* (Baltimore. Williams and Wilkins, 1924), Chapters 24 and 25. A discussion of the Sumner-Fairchild law is also found in William Graham Sumner and others, *The Science of Society* (New Haven. Yale University Press, 1927), Vol. 1, pp. 45–46. The statistical proof of this formula appears in the unpublished thesis of Alfred Stafford, *Criteria of a Systematic Sociology* (Pittsburgh. University of Pittsburgh Library, 1939). Stafford tested the relationships indicated in the formula by land area = L; gross product = E C; and a price and cost of living index for S L.

The formula suggested by Peter R. Cox resembles both of these proposed methods of projection. It is $Pt = C_e^{rt}$:

Pt is the population for a given year.
C and *r* (the rate of growth) are constants.
t is time; and e is the exponential.

This formula and other methods of projection are reviewed in his book, *Demography* (Cambridge. University Press, 1950), Chapters 12 and 13, and in his article: "Estimating the Future Population," *Applied Statistics*, Vol. 1 (June, 1952), pp. 82–88.

Growth

Jacques Bertillon (1851–1922)
Arthur L. Bowley (1869–)
Edwin Cannan (1861–1935)
Adolphe Coste (1842–1901)
James W. Glover (1868–1941)
Benjamin Compertz (1779–1865)
Robert R. Kuczynski (1876–1947)
E. John Russell (1872–)
James S. Sweeney (1896–)
Pierre F. Verhulst (1804–1849)
Walter F. Willcox (1861–)
Carroll C. Wright (1840–1909)
Harold Wright (1883–1934)
G. Udney Yule (1871–1951)

Composition

Louis A. Bertillon (1821–1883)
Franz Boas (1858–1942)
Hannibal C. Duncan (1885–1950)
Karl A. Edin (1880–)
John M. Gillette (1866–1949)
Melville J. Herskovits (1895–)
Frederick L. Hoffman (1865–1946)
Aleš Hrdlička (1869–1943)
Edward B. Reuter (1880–1946)
William S. Rossiter (1861–1929)
Georg von Mayr (1841–1925)
Francis A. Walker (1840–1897)
Albert B. Wolfe (1876–)
Thomas J. Woofter (1893–)

Quality of Vitality

Gunnar Dahlberg (1893–)
Charles B. Davenport (1866–1944)
Charles V. Drysdale (1874–)
Edward M. East (1879–1938)
Havelock Ellis (1859–1939)
James A. Field (1880–1927)
Samuel J. Holmes (1868–)
Ellsworth Huntington (1876–1947)
Karl Pearson (1857–1936)
Paul B. Popenoe (1888–)
Caleb W. Saleeby (1878–)
Edgar Sydenstricker (1881–1936)
Harald L. Westergaard (1853–1936)
Robert M. Woodbury (1889–)

Distribution

Maurice R. Davie (1893–)
Edmond Demolins (1852–1907)
Henry P. Fairchild (1880–1956)
Albert G. Keller (1874–1956)
Bruno Lasker (1880–)
P. Émile Levasseur (1828–1911)
Richmond Mayo-Smith (1854–1901)
Frank W. Notestein (1902–)
Lawrence D. Stamp (1898–)
Donald R. Taft (1886–)
Warren S. Thompson (1887–)
Leon E. Truesdell (1880–)
Pascal K. Whelpton (1893–)
George K. Zipf (1902–1950)

Balance or Stability

Oliver E. Baker (1883–1949)
Harold Cox (1859–1936)
Louis I. Dublin (1882–)
Ronald A. Fisher (1890–)
Frank H. Hankins (1877–)
Harry Jerome (1886–1938)
Clyde V. Kiser (1904–)
Alfred J. Lotka (1880–1949)
Gunnar Myrdal (1898–)
Francesco S. Nitti (1868–1953)
Lowell J. Reed (1886–)
Joseph J. Spengler (1902–)
Nathan L. Whetten (1900–)
Rupert B. Vance (1899–)

Policy

Annie Besant (1847–1933)
Guy I. Burch (1899–1951)
Enid Charles (1894–)
Leonard Darwin (1850–1943)
Robert L. Dickinson (1861–1950)
Charles R. Drysdale (1829–1907)
Eugène Dupréel (1879–)
John B. S. Haldane (1892–)
Norman E. Himes (1899–1949)
Lancelot T. Hogben (1895–)
George H. Knibbs (1858–1929)
Frank Lorimer (1894–)
George F. McCleary (1867–)
Frederick H. Osborn (1889–)

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° Both of these books have extensive bibliographies.

CHAPTER 21

Policies

Wisdom is the principal thing; therefore get wisdom:
and with all thy getting get understanding.
PROVERBS, 4:7

PLANS FOR POPULATION usually appear as elements in a nation's general ideology or social doctrine. In this contribution they deal with numbers, occasionally with distribution, and also but rarely with questions of vitality or quality. Historical projects to improve population have often recognized the logic of this threefold sequence but they have never been able to design a completely acceptable system. Planning, therefore, can rarely be separated from the trends of population movements or from the teachings of the different schools of demographic thought. In achievement or objective all three share the same liability to error for the same reasons. They may be obstructed by tradition, hampered by the absence of necessary facts, or balked by faulty diagnosis. Suspicions already observed in the previously cited interpretations of an optimum population confirm each of these barriers. As a discrete segment of the role of population in human affairs, therefore, policies also must be viewed in perspective.

Most of the writers whose names appear in an index of the literature of population have had something to say about policy. Occasionally their analysis of suggested controls has been a closely reasoned system, following the typical sequence mentioned above. In this way their complete program is connected with growth and the distribution of a people, with any obvious source or type of an unstable population, and with measures that could improve a nation's health and general well-being.

In this perspective, plans for population are developed and adapted to general or national social inventories that try to give a clear-cut statement of resources and needs. Their goal is more efficient adjustment. Their acceptance is measurably insured when they can be associated with recognized defects in a society's current organization or policy. But, as in the poet's observation about the best-laid schemes of men, they "gang aft a-gley". They must overcome the age-old opposition of people who fear the new or mistrust the reformer, and they must be more convincing to

scholars who can and do separate their discoveries from applications especially to human programs of social adjustment.[1]

CHALLENGE TO THE ARTS AND SCIENCES OF PLANNING

This interpretation of social planning in general and of population programs specifically can be found in the histories of most societies. Some elements in a policy of population are widely prevalent and are very old. They enjoy the prestige of all traditions. Usually they are beyond the range of successful criticism and easy modification. Such elements include the concern for the sanctity of human life, the desire for group survival, approved and condemned sex practices, marriage, the family, and standards of living. They deal, therefore, with birth and death rates, the sex ratio, infant and maternal health, the protection of dependent groups, and occasionally with such special-purpose needs as industrial and military manpower or other specialized talent and hence lead to questions of qualitative needs and the correlation of numbers and quality. However, the fact that many traditional population practices have no particular merit and have been outmoded for many generations does not hasten their replacement or encourage more timely and efficient practices. Instead, being the wisdom of the ages, they rank high among theories of population and persist in spite of being contrary to fact.[2]

Often when plans or policies are viewed wholly from an objective survey, as illustrated by the prospects in *The Proper Study of Mankind*,[3] population is regarded either as of secondary importance or as a basic societal factor that is able to effect its own adjustment without human intervention. This point of view is still dominant in spite of the numerous sponsors of the quotations that are introduced in the first several chapters of this book who argue for the priority of a controlled population in such deliberate phrases as "the keystone," "the vital combination of size and quality," "the modern dilemma," "limits of the earth," "plundered planet," "road to survival", "the world's hunger," "human destiny," "the challenge of man's future," and "standing-room only." As a result, a plan of population is neglected or it is merged with some other key concept such as land, economic production, race, nationality, or world political federation.

In the light of this indecision there is no reason for surprise in the discovery that a complete program of population has never been achieved by any country or that the likelihood of a worldwide policy is not a possibility in the foreseeable future. Despite Bertrand Russell's conclusion that "world government cannot be stable until every important country has a nearly stationary population," the leading nations of the world continue to be pro-natalist—meaning that their aim is to increase numbers regard-

[1] References to the literature are given in the appended bibliography: for footnotes 1–9 inclusive, see pages 476–482.

less of their already excessive overpopulation. While most demographers are disposed to agree with Russell or with the broader range of challenges to world society that are proposed by Toynbee, there is no optimistic prognosis in the current programs of the United Nations or in other world projects suggesting that they could be achieved within the next several decades. Even Jolliffe's practical and similar advice to the individual (reduce and stay reduced) is a simple plan for health and well-being that is beyond the will power of many individuals who need it most. And like a national or world plan of regulated population growth, it is equally unenforceable.[4]

BASIC NATURE OF PLANNING

There are, however, numerous plans—international, national, sectional, or for special groups—that are receiving more attention and support than at any other time. These measures could supply eventually the foundations of a world policy or of a policy for particular countries. The needs that such elementary plans seek to fulfill, and the problems that they would solve or avoid, are suggested in the many different sources of unrest and disorder which heretofore have been associated as cause, effect, or correlate with changes in population. These conditions are listed alphabetically as the most frequent incentives to the search for a plan:

NEEDS OR PROBLEMS IN ADDITION TO VARIABLES IN GROWTH OR QUALITY THAT ARE GENERAL INCENTIVES TO PLANNING

Abortion or other pregnancy wastage
Accidents
Child or youth neglect
Costs of living
Crime and delinquency
Deficit or surplus agricultural production
Dependent aged
Dependent families
Disasters
Educational needs
Housing needs
Human rights
Income, low or irregular
Manpower shortage
Marital discord
Maternal and infant mortality
Migrations
Minorities
Physical handicaps
Planes and standards of living
Production, industrial needs
Refugees
Sexual pathologies
Sickness and death
Sterility
Unbalanced vital rates
Under- or malnutrition
Unemployment
War
Women, inferior status of

Another guide to programs of population is the movement for social legislation and for voluntary means of improved social relations and adjustments. For many decades all industrial, urban societies have in-

troduced numerous social, economic, and legal aids that in theory would protect the individual or family and thereby encourage higher birth rates and more wholesome environment for the growing child. The elements of these social policies include:

Annual wage plans
Artificial insemination
Assimilation
Child-care provisions
Child spacing
Conservation of natural resources
Contraception
Custodial institutions
Education
Eugenics
Euthanasia
Family allowances
Genetics
Governmental subsidies for education, farmers, veterans
Health insurance
Housing
Immigration laws
Insurance, other than health
Labor legislation
Marriage grants and loans
Marriage laws
Mental health provisions
Nutrition research
Public health provisions
Recreational provisions
Retirement plans
Safety legislation
Social security programs for families, children, aged, dependent mothers and children, handicapped
Standards of living
Sterilization
Tax allowances
Transportation
Vocational training and rehabilitation
Wage supplements

At present a nation's social policy or population program can be described in terms of these problems and controls. Different countries will recognize a varied selection of problems as deserving immediate attention and their social plans will vary accordingly. As a rule most countries have adopted a combination of these practical measures which can be identified as their current policies. On the international level, these policies are illustrated by the publications and programs of the United Nations concerning economic rehabilitation, health, food, agriculture, child welfare, and immigration or the needs of refugees.[5] In the experiences and needs of the individual nations, their policies (deliberate, or accidental products of traditional practices) can be surveyed in terms of the verbal formula that has been used previously, namely:

Needs or problems arise from (1) too many people; (2) too deficient an economy; (3) too little objective knowledge.
Plans or programs aim to (1) control growth; (2) raise standards of living; (3) improve health.

An analogy that may help to clarify the requirements of an effective population policy and to demonstrate how a policy is to be formulated and

tested is the life-insurance policy. Life insurance is a plan that was invented and introduced by the formal, technical demographer. A similar basic course of research and experiment is a prerequisite of all social policies. In a comparatively simple fashion, the development of life insurance shows how policies are conceived, introduced, and modified with changing needs and more refined information, how they must overcome (as a business) traditional obstacles, and how they must change and expand according to the requirements of all six variables in the above formula. This is the same pattern that all national security programs are following, except that intricate social plans do not have the accuracy of actuarial tables nor a similar capacity to be enforced by laws.

Many types of programs and policies include questions that exceed the scope of the present review. No attention will be given to such pertinent considerations as the human limits in planning, the merits of particular methods or legislative enactments, the nature of a complete or consistent program, the effectiveness of direct measures versus general or indirect programs, or the circumstances under which legal versus voluntary action is to be recommended. In addition to these qualifying conditions, there are many other topics that deserve to be mentioned at this point, such as the choice of alternative plans, tests or correlations of the professed objective and its actual results, the changing social values that produce, sustain, or eliminate particular programs, and the varying influences of sound, opportunistic, or defective administration. This background of the fundamentals of planning is analyzed in a number of recent studies.[6]

THE WORLD'S DANGER ZONES[7]

Since any social policy is most effective when it is least needed, all the countries within that portion of the world called underdeveloped, or transitional, submit the most serious tasks to the policy-makers. These countries are listed in current news reports as the world's trouble spots. Sometimes attention is given to the Near East, Africa, or to various groups of countries in Asia and in the Caribbean area. *The* trouble is always the same, namely, overpopulation, with its train of associated social liabilities—high birth rates and the economic inability to keep productive technology at a rate of increase sufficient to maintain even a low level of subsistence.

In all these areas no single or multiple policy is especially to be preferred, for the obvious reasons that excess numbers are the chief obstacles to economic reorganization. Such sure sources of "mass relief" as enforced redistribution, emigration, or birth control are morally unacceptable. Industrialization is too slow (in addition to its other handicaps of inadequate capital, excess labor reserve, and low capacity of the population to pay for consumers' goods). Land policies and agricultural adjustments are ineffective because of the same handicaps. And medical and other health

provisions are actual deficits since their initial effects reduce the death rate without equivalent success in reducing the birth rate.

These measures, which have been tried and approved by most Western nations as most hopeful in the control of numbers, offer no immediate prospects of relief for India and similar trouble spots. However, they are the only known elements as yet available to the policy-makers. They are recommended for all overpopulated countries, subject to some system for the control of the birth rate. Thus, the policy for India that is suggested in the writings of Thompson, Notestein, and Davis and that rests on the assumption that first steps will be directed toward the stabilization of the birth rate include:

1. Industrialization of the economy to supplement agriculture, reduce the proportion of agricultural workers, increase export trade, and raise the standard of living.
2. Birth control.
3. Emigration.
4. An educational system (1) to train technicians who will be needed in an industrial economy, and (2) to supply other leaders, administrators, and professional personnel for this new society.
5. Public health programs.
6. Social and education programs to minimize the traditional obstacles of family or moral resistance to change.

In India these proposals are being studied by a commission that has been appointed by the government. Originally this movement started with a national committee on population (without power) that was convened in 1952.

Closely similar social economies, as in Burma and Malaya, are mentioned as examples of peoples who are now in a favorable position to avoid the general instabilities of excess numbers and inadequate economy. At their current rate of growth, each could become overpopulated. But not having reached that condition, and with the further advantages of a stable government and a balanced social organization, both have the prospect of achieving an industrial economy by way of the same policies that are recommended for all transitional areas—the small-family system; improved standards of living, of health, and of education; an extension of birth control presumably on a voluntary basis; urbanization; foreign trade; moderate emigration and restricted immigration; in conjunction with supplementary refinements in a policy such as a population optimum suggests.

NATIONAL PLANS[6]

Any current national policy for the control of population is a combination of social measures that are approved by the mores. Some of these measures are considered sufficiently expedient to be recognized in social

legislation. In a limited interpretation these legal enactments and the scope of their application represents a nation's major program. Voluntary plans or the general trends in tradition, mores, or conventional practices are regarded as supplements to, or interferences with, such programs.

This multiple origin of policies is characteristic of all advanced or Class 1 nations. Their particular choice of specific elements varies somewhat in terms of their place on the curve of population growth, and with their other primary variables, such as population density, the agricultural-industrial relationship, stability of the economy, and general cultural standards. Otherwise, national policies are not much more than a system of social benefits or restraints that have emerged through a process of trial and error to increase numbers, to retard increase or decrease, to bring about a more stationary population, or (by special measures) to diminish the numbers of obviously pathological individuals.

Spengler's definition of policy is based upon this major and uniform characteristic of all national plans. Since most programs are more the result of chance than of planning, he recognizes the need to distinguish the instruments of a policy from its objectives so that the effectiveness of particular provisions can be studied. A few nations have recognized the desirability of population research and have appointed population commissions or have established research institutes. Since World War II, forty-five nations (in the revision of their constitutions) have made some legal provisions for social services that are usually considered to be instruments of a population policy.

An outline of the usual instruments of population control reveals the following most frequent practices or objectives:

1. Food and other subsidies in addition to those stated below, to ensure a national minimum
2. Family allowances, including:
   - Marriage grants
   - Aid to childless couples
   - Birth premiums
   - Tax reductions
   - Food rebates
3. Marriage laws to encourage marriage or to restrict it.
4. Housing allowances, including grants to raise the level of living, such as for education, transportation, and recreation
5. Employment
   - Preferential for heads of families
   - Supplemented wages
   - Exemptions from military service
6. Health programs
   - Child welfare
   - Maternity
   - Rehabilitation
   - Insurance
7. Old-age allowances
8. Population transfers
9. Birth control, including:
   - Clinical and advisory services
   - Sex hygiene and education
   - Child spacing
   - Sterility control
   - Abortion, voluntary and compulsory
   - Permanent custodial care
10. Sterilization
    - Therapeutic or eugenic
    - Compulsory or voluntary

These measures for the most part are obviously nothing more than the continuation of nineteenth-century social legislation which in turn is a continuation of the historic public or private practices of poor-relief. As a rule they appear in national plans in three general combinations. One is essentially the encouragement of voluntary undertakings which may or may not be implemented by legislation. Another is legislative and compulsory. A third is a campaign against forbidden activities with legal penalties for non-observance. Their value as elements in a deliberate or rational policy can be easily determined by their indiscriminate adoption to achieve any of the objectives noted above.

Family allowances

An example of the same measure or combination of devices now sponsored to effect opposite objectives is the system of family allowances. Since this system appears in most industrial-urban countries with only minor variations in eligibility, type or amount of supplement, and percentage of the covered population, it is reviewed separately in order to avoid needless repetition. This series of provisions is popular, because they can be used by France to offset a falling birth rate, by Germany or Italy to encourage marriages and an increasing birth rate, and by Switzerland, Great Britain, or Sweden to maintain a stable birth rate and to improve economic standards. It is needless to add, probably, that proof of these achievements is wholly inconclusive.

These economic supplements to family income have appeared in various forms among the earliest types of social legislation. In their contemporary use, they are generally traced to the reforms of Bismarck. They are regularly substituted for older poor-laws when a system of public poor-relief is judged to be a failure. And they spread and are made more substantial whenever any disaster, such as war, depressions, unemployment, mass migrations, or as previously noted, a falling birthrate, prompt legislative intervention.

Most of these subsidies are applied to the family as unit because they are easier to administer and they affect the largest number of needy individuals, in this way. As economic devices, they presumably ensure minimum standards of health and decency and they cover most of the sources of ill-being that have previously been listed as the stimuli for social, protective policies. They resemble the non-contributory provisions of the United States Social Security Acts. Most national plans also supplement a fixed or narrowly interpreted allowance to provide for such other needs as health; maternity; marriage grants and loans; tax abatements; allowances for housing, fuel, and furnishings; educational allowances and school lunches; provisions for the handicapped; old-age pensions; preferential employment and exemption from military services; and recreational programs including summer camps for mothers and children, kindergartens, and

nursery schools. All such extensions are in harmony with the United Nations' declaration of human rights, adopted in 1948, to multiply these services and to unify and improve the standards of the laws and their administration.

Other specific measures or objectives of a national policy will be mentioned as they appear in a few plans which are selected for further description because of their stress on law, voluntary co-operation, or effective administration and results.

The British plan

Populousness, as overpopulation was originally called, became a recognized responsibility of the British government many years before the time of Malthus. It has continued since his *Essay* and up to the present and was rechristened by Ian Bowen as populationism in his 1954 publication, *Population*. Thus, the Malthusian bogey survived the criticisms of the economic sceptics, and the best thought and planning of the many Royal Commissions since 1793 did not improve much upon the policy as set forth by the *Essay*.

The Royal Commission of 1793 was convened to formulate a new system of poor-relief. From its report Malthus discovered what he regarded as the real reasons for overpopulation. But he was unable to devise a more acceptable plan than has been devised since by the Commission of 1946, which was empowered to recommend a policy that would insure replacement of population, promote family welfare, maintain health and vigor, and avoid the distress of a poor and inadequate domestic economy. What both Commissions have shown most clearly is that it is easier to discover problems than to find solutions, and that policies are more readily formulated than applied or administered.

The report of the Royal Commission on Population was published in 1949. Its two basic problems, namely, how to reduce the surplus population (reckoned at about fifteen million people) or how to redistribute them throughout the Commonwealth, remain unchanged. Its recommendations—birth control or the return to a replacement-level family size—continue on a voluntary basis and its proposals for planned emigration continue as topics for further study. The current British policy, therefore, has been changed only in incidental items. As in previous decades, there are provisions for family allowances, services, and tax relief, for health, and for improved housing and education. Minor changes suggest that more attention should be given to families, usually those of the middle and upper middle classes, that have been below a replacement rate of fertility. In order to hasten this achievement health services were extended, sex education was introduced into school curricula, and a program of continuous research was recommended. There have been no changes either

in law or policy concerning abortion, sterilization, or the distribution of contraceptives.

The Swedish plan

Sweden's population policy resembles other European policies in its general provisions. It differs in that numerous measures enforceable by laws in some countries are voluntary or optional in Sweden. Sweden encourages by favorable legislation rather than discourages by prohibition. The same economic and family subsidies already noted throughout Europe are current in Sweden. Since 1935 sex education has been required in the schools and since 1945 government grants have been made for the study of sex problems. Abortion was made legal on medical or eugenic grounds in 1938 and was extended to include certain social conditions, such as the protection of the mother, in 1946. Legal provisions for sterilization were introduced in 1941.

The essential aim of the Swedish plan is to prevent the population from declining in either numbers or quality. It is one of the few examples of a plan that has been formulated by professionally trained social and medical personnel. Instead of trying to increase the birth rate by family allowances, its aim is to spread the birth rate more evenly in all classes. In place of efforts to enforce ignorance about sex and to maintain conditions favoring involuntary parenthood, it has pursued the opposite course of educating the people fully about sex and thus encouraging voluntary parenthood or child-spacing. Another difference lies in its administration of the allowance system and of other aids or subsidies—Sweden preferring payments in goods or services rather than in cash supplements to the family's income.

This plan is more or less typical of Scandinavian countries. It is often called the most nearly complete plan, largely because of its stress upon education, voluntary co-operation, and its liberal approach to sex. It is also distinguished by its approximation to some of the goals of positive eugenics. Nevertheless, most of these provisions are still of the trial-and-error variety, and whether they will prove to be effective in the long run, or more useful than repressive policies, are questions that cannot be answered at present.

The French and Italian plans

These plans can be described by comparison primarily because they use the same methods to achieve different objectivies, and also because both have relied upon a system of legal penalties and other means of compulsion. Both programs illustrate the essential policies of all Latin countries and of Southern and Eastern Europe in general. They are also similar in that the administration of the plans has been accepted as a total governmental obligation with little or no dependence upon the co-operation or good will of the people.

Both countries are and have been pro-natalist. France introduced measures as far back as the seventeenth century to increase the birth rate; during the nineteenth century, because of threatened depopulation, the French made the most deliberate efforts to prevent the birth rate from decreasing. Italy by contrast has always been a nation of high birth rates and of excess population. It was saved from some of the worst features of overpopulation by emigration and by its schemes of colonial expansion. Throughout most of its recent history it has adopted every conceivable instrument to encourage or enforce high birth rates. In order to maintain this primary goal of increasing growth, or slowing down decrease both countries have relied on the same systems of economic allowances and the same legal restraints on birth control, abortion, and sterilization.

Recent changes can be dated back to 1930 in French policy and to 1946 in Italian policy. Italy relaxed its drive for increasing growth after World War II because of a manpower surplus. It encouraged emigration and it modified the provisions of family allowances that heretofore were recognized largely as birth bonuses. France continued to encourage growth by increasing family allowances. To this end it tried to administer the allowances so as to improve the family's standard of living. In addition, a selective system of immigration was adopted in order to attract young workers and their families to fill the gaps in certain occupational fields that were suffering from manpower shortages.

The value of these systems has never been tested in the light of French or Italian total policy. Various combinations of the same essential policy have been found to occur with increased birth rates, or curtailed decrease in the birth rate (as in France), but most students of demography are not particularly enthusiastic about them as social or population policies. Watson's conclusion as to French policy is the most critical, including such observations as "a society that heavily penalises parenthood" and "the present policy of France is utterly to be condemned"—which are precisely the reverse of the opinions in Eldridge's appraisal (see footnote 8, page 76 in the cited work).

The Japanese plan

Prior to World War II Japan had a large and growing population. This situation has been shown in the growth curve in Figure 19–3, Chapter 19, when a new cycle of rapid growth began about 1870 at a rate that could be sustained only by an industrial economy and a plan for emigration—a trend resulting from a combination of high fertility, large families, and both religious and governmental approval of high rates of natural increase. The government favored this trend of rapid increase by opposition to the birth control movement and by a limited program of social legislation for health and old-age insurance. No other organized or intensive effort to encourage increase was considered necessary until 1939 when an in-

stitute of Population Problems was established under the Ministry of Welfare. For a short period, and largely for military purposes, the Government approved a policy that resembled the German Nazi plan.

After the war, this Institute was continued, but only as a research organization. It was supplemented, in 1949, by a Council on Demographic Questions but this organization also had no legal authority and acted wholly in an advisory capacity. Both the pre- and post-war policies of Japan are somewhat comparable to those of the United States because in both countries population growth has been sufficient without direct legal encouragement. Japan, however, has found it necessary to modify its previous opposition to birth control because of its surplus manpower and the absence of opportunities for this surplus to emigrate.

A revision in Japanese policy was made a part of the new constitution, and the Eugenics Protection Law was passed in 1948. Under the former a social security program, primarily for family allowances, was adopted for a limited portion of the population (about 10 per cent). Under the latter, provisions were introduced to legalize abortion and sterilization and to extend the availability of birth control information and guidance under a system of Eugenic Marriage Consultation Offices. The drastic reduction of the birth rate from 34.3 per 1,000 in 1947 to about 23 per 1,000 in 1953 is interpreted by Japanese demographers to be partly a result of this service and partly a result of the nation's precarious economy and the unwillingness of families to reduce their standards of living any more than they have been curtailed already by unstable industrial opportunities.

The Australian plan

The population program of Australia is distinctive in comparison with that of other nations in its stress upon white supremacy. This objective shapes all its specific provisions and unites population and foreign policy more intimately than in other countries, with the exception of New Zealand and the Union of South Africa which similiarly fear race mixture. Another difference that arises in connection with the racial goal is its professed aim for eugenic improvement.

Thus, both in its pre- and post-war programs, Australia has been pronatalist and the sponsor of a plan for selective immigration. The emphasis on an increasing birth rate aims to encourage fertility of its own native white stock, and its immigration quotas are geared to attract culturally similiar migrants from Great Britain and adjacent European nations. Prior to World War II the incentive was mainly to ensure adequate military manpower and to forestall immigration from the high birth rate Asiatic countries. Since the war the aim has been shifted slightly to the "peopling of a continent" and the more efficient development of its economic resources.

Australia has been handicapped by its own secular trend of decreasing

fertility and small families, and the quest of its people for a constantly improved standard of living. It has, moreover, ranked among the more liberal of countries in recognizing the inevitability of the trend toward voluntary birth control and child-spacing. In addition, therefore, to a social security program similar to the European or American, which is administered to encourage fertility among the presumably sounder eugenic and economic classes, it promotes or recruits immigrants and assists with the costs of passage and settlement. Its laws concerning abortion, sterilization, or the sale of contraceptives are not equally progressive, and like those of Great Britain or the United States they are broadly included under the decency regulations or they are left to the control of custom.

The Canadian plan

The population plan of Canada is similar to the Australian plan in two respects, both of which occur when a country is large and sparsely settled. One is the encouragement of increasing growth through selective migration. The other is the need for more manpower for increasing production and greater military security. The only drawback to an enthusiastic official endorsement of both policies is uncertainty as to whether increasing population actually does produce a higher standard of living or whether it may exceed the agricultural and industrial carrying capacity of the economy. Canada, therefore, provides for a limited system of assisted and selective immigration, for a moderate program of family allowances, and for other social assistance services, such as old-age pensions—all of which are more poor-relief than population policies.

THE UNITED STATES PROGRAM

In the history of social policies in the United States, little or no deliberate attention has been given to measures that would directly modify the birth rate or the rate of total growth. It is true that there has always been a favorable attitude toward the increase of population and its efficient distribution regionally. With the exception, however, of two nation-wide studies, one by the Hoover Committee on *Recent Social Trends* (New York. McGraw-Hill, Inc., 1933), and the other by the Roosevelt Committee on *The Problems of a Changing Population* (Washington, U.S. National Resources Committee, 1938), there has been no official attention to the needs of population. Public sentiment has been influenced at times by an occasional expression of the opinions of prominent individuals, or by private research societies inquiring into threatened race suicide (the fear of the rising tide of color during the early 1900's), or by attempts to assess the economic and social consequences of declining birth rates (during the 1930's). American programs have been concerned chiefly with general policies of economic or social welfare, supplemented by typical poor-relief provisions that are now incorporated in the Federal Social Security Acts.

The policy of the United States, therefore, can be distinguished from such specific plans as those of most European countries, or of Australia and Japan; and it is even more unlike the absence of plans in most underdeveloped countries. In the comparison of national policies in the survey by Eldridge, attention is called to the fact that the United States have never had a family allowance plan, or a provision for maternity grants and services, or a history of legislative aids to encourage the family or to increase fertility. And the same absence of specific demographic objective is characteristic of its immigration restrictions, the family protective measures of its poor-relief and security acts, and its venture toward eugenic considerations under its health and decency regulations.

TABLE 21–1. Federal Aids for General Social Welfare
(Grants under the 1956 budget)

	(in millions of dollars)		*(in millions of dollars)*
Agriculture	$2,355	Maternal and child welfare	$ 31
Conservation	952	Public health	354
Veterans	4,640	Vocational rehabilitation	42
Home owners	89	School lunch program	87
Slum clearance	91	Disaster relief	17
Labor	463	*Total*	*$9,121*

(or 14.6 per cent of the total Federal Budget)

SOURCE: *Federal Economic and Social Programs, Fiscal 1956* (New York. Tax Foundation, April 1955), p. 19.

ELEMENTS IN THE UNITED STATES POPULATION POLICY

Agricultural policies	Education
Conservation policies	Public health, including the stress on mental hygiene
Minimum wage	Medical research
Immigration laws	Social Security Legislation
Marriage laws	
Housing	
Employment	

The United States program is essentially one of general social policies that are designed to improve the health and economic status of all social classes. Its specific measures have been mentioned in their connection with previous topics and are reviewed here simply to indicate their resemblances to other national plans. One source of evidence as to prospective plans is the changing content of the census; another consists of the numerous enterprises to ensure efficient land use, adequate production, high standards of living (through taxation and other fiscal policies), housing projects, recent social security protections, and research under both governmental and private agencies. In other words, the social provisions

of the Federal Budget suggest the nature and scope of a population program *in being*. Details of this budget are given in Table 21–1 and its direct and specific benefits, as noted in Table 18–5 in Chapter 18, suggest both the nature and volume of its coverage.

PROPOSED QUALITATIVE MEASURES: EUGENICS[9]

Originally eugenic prospects for the development of population were radical and somewhat utopian. In addition to the foregoing economic and other social policies, they advocated hereditary and other biological standards and they continuously stressed the imperative need and desirability of *rational* measures of control. Thus, eugenics is actually a multiple plan and "rational" means a co-ordinated series of movements to combine the economic and social protections with biological regulations of marriage and breeding so as to bring about the genetic improvement of human stock. Its final goal, therefore, is a more complete program than most societies are ready to undertake—one which hastens the achievement of better physical and mental health as well as the advancement of economic and social welfare. It is a more inclusive plan than any that has been introduced in practice up to the present, because it would employ most of the resources of negative eugenics and encourage the adoption of positive eugenic resources. It would also continue to expand all the incentives for the voluntary improvement of human biology and it would seek the aid of more drastic legal restraints, especially of the permanent separation of some individuals from society.

EUGENIC PLANS AND PROGRAMS

1. Genetic inventories of a people's hereditary resources. Studies of the variability and distribution of genes; blood groups; metabolism; effects of atomic energy.
2. The distribution and types of defective genes.
3. Studies of disease and defects in families; assortative mating, consanguinity; twins; mutations.
4. Distribution of intelligence.
5. Biology of inter-racial breeding.
6. Genetic records.
7. Genealogical research.
8. Sterilization and other varieties of feticide.
9. Research in sterility.
10. Genetic counseling from findings in these researches, especially from the records of genetic or hereditary registers.

Demographers are in general agreement as to the need for positive eugenics. But they are also aware of its limitations. In general they endorse

those eugenic devices that help to restrict the breeding of the obviously biologically or physically handicapped. However, for the different grades of physical or mental capabilities above this loosely designated classification of the unfit, there is no one plan for selective or improved breeding because geneticists do not know exactly how genes are distributed in the general population or the consequences of such positive genetic regulation. This knowledge is a primary goal of genetic research and must be acquired before eugenics and other social policies can join forces.

Accordingly, the prevalence of negative eugenics continues to be the real substance of eugenic achievement. This progress is marked by the extension and intelligent use of contraception, sterilization, and abortion, and by the segregation of individuals who are obviously unfitted to reproduce. Up to the present negative eugenics is enforced unevenly in various countries under legislation that limits all three measures for the control of fertility. As nations mature, this legislation is rarely enforced directly but is left to the vague regulations of health or decency laws or to the voluntary discretion of individuals and families. There are few nations or states, as in the case of this country, that have laws deliberately aiming to make such measures compulsory; and when legal compulsion does occur, it is usually limited to degrees of mental pathology, to a few types of physical illness, or to conditions of moral degeneracy that would bring about little or no change in the eugenic character of a people. Osborn is of the opinion that the best evidence of substantial gains in social policies, and the realization of eugenic ideals, are now being achieved through voluntary trends in family limitation and child-spacing. As evidence of this trend he calls attention to the discoveries of the Indianapolis fertility surveys.

From this observation Osborn has suggested a combined eugenic-environmental program as an adaptable policy for the particular needs of any society. In his judgment, this course could result eventually in the acquisition of a complete program of positive eugenics; that is, as complete as current genetic facts can support. This program, reduced to its simplest outline, indicates first of all the need for constant improvement of living conditions and elimination of the chief impairments to improvement such as poverty, ill-health, and ignorance. The second requirement is the availability of birth control on about the same basis as now prevails in most Class I countries. The third is a system of incentives for families to regulate their size in terms of eugenic standards. These ideals also appear in the type of policy that Henshaw advocates in his outline of the measures for "fertility management." Henshaw's proposal is an arrangement that is necessary for the stabilization of the number of people, for the welfare of the family, and for the dignity of the individual. Thus, in the combination of the goals for numbers and quality, both plans agree that an immediate objective is the need to increase the quantity of quality.

Nearly every age before as well as after Galton has had a few advocates of drastic eugenic policies. Their demands include various forms of extermination as well as the more recent proposals for euthanasia. As a rule reputable demographers are rarely found to be in favor of these extreme suggestions, partly because they question the wisdom of policies that are not based upon research and partly because they doubt that radical or utopian programs could ever be enforced. However, many prominent demographers have included such measures among their researches, and all professional students of population heartily endorse Emerson's philosophy that a nation is known and a civilization is tested by the caliber of the people which it creates.

SUMMARY AND CONCLUDING OBSERVATIONS

Demography, like most studies of people, is obliged to be both a science and an art. In its formal contributions, as well as in its somewhat temperamental ventures in planning, demography covers an extensive and complicated range of social experiments. Its responsibilities are merged with a people's adjustment to the physical world and are modified by all technical miracles that improve or threaten the chances of survival. They are also concerned with the equally dramatic realism of vital rates in a census or registration and with other less measurable indexes of social adjustment. As one of the human sciences, demography has its full share of the variables and possible sources of error that are always associated with human problems or with personal attitudes about love, sex, marriage, reproduction, wholesome family life, standards of social and personal health and decency, child care, growing up and becoming mature, growing old, and death. Research is the one reliable need and guide. It is the tie that combines problems, goals, and plans in a unified social system and in which all people can have confidence.

Specific measures that are now recognized as plans or programs represent a cross section of national culture in all of its inflexibility, confusion of interests, divided loyalities, and dubious goals. Some of these measures or programs have no demographic significance. They are used to appease political unrest that is always present in an economy of scarcity. Or they are used by disorganized and inefficient governments as substitutes to conceal the real sources of instability; as a camouflage of ignorance; or as props to moderate the weaknesses and flaws in social institutions.

The prospects of a rational program for the world as a whole or for individual countries are not as futile, vague, or hopeless as fatalists and pragmatists have argued. W. I. Thomas[10] accepted this challenge when he based his theory of social change upon the opportunities of the individual or group to adjust to temporary social reverses or demoralization and thus

[10] Thomas, W. I., and Znaniecki, Florian, *The Polish Peasant in Europe and America* (New York. Knopf, 1927), pp. 1127–1130.

to acquire the resources for a re-adjustment upon a more wholesome and effective foundation. He made no concessions to the philosophy of *laissez-faire* and he refused the suggestion that man's rough road cannot be paved.

There are no grounds for suspecting the optimistic prospects for the population of the future when societies adopt sound principles, when they accept as goals the freedom, dignity, and happiness of mankind, and when they construct programs to achieve these ends by realistic, elastic, and vigorous methods of research and social administration. The needs of the successful society were clearly presented by Lester F. Ward in *Dynamic Sociology* (1883).[11] Ward used the word *dynamic* to mean thoughtful planning that only the right combination of research, imaginative forethought, and deliberate implementation can produce. In his presidential address to the American Sociological Society in 1920, James Q. Dealey emphasized eudemics as both the science and goal of a nation's well-being.

There is nothing top-secret about the ingredients of eudemics. It means a good population, composed of good citizens, communities, and societies. All these goods are the requirements of a population optimum, a goal or policy that science, the humanities, and philosophy are constantly trying to clarify and achieve. Thomas Aquinas condensed this prospect in the following words:[12]

> *Every privation of good . . . is an evil;*
> *Every evil in some way has a cause.*

A DECALOGUE OF PROSPECTS

General recommendations:

1. A comprehensive national or world program that has provisions for the control of growth, distribution, composition, stability, and quality; and that combines the pre-requisites of fact-gathering, analysis, and interpretation.
2. A program that is adaptable to the particular requirements of regional groups, varying as they do in their demographic make-up and institutional needs.
3. Abandonment of the idea that planlessness or "do-nothing" policy is especially meritorious. Also recognition that one measure, such as family allowances, is not sufficient to produce all the results that are needed both for quantitative increase or qualitative improvement.
4. Recognition that trends in population and in conditions of social life are not inevitable nor immune to social control.
5. Establish a sequence of immediate and long-range goals.

[11] A theme developed later on in his article, "Eugenics, Euthenics, Eudemics," *American Journal of Sociology* Vol. 18 (May 1913, pp. 737–54. James Q. Dealey, "Eudemics, the Science of National or General Welfare," *Proceedings, American Sociological Society*, Vol. 15 (May, 1921), pp. 1–15.

[12] Saint Thomas Aquinas, in Vol. 19, *Great Books of the Western World*, edited by Robert M. Hutchins (Chicago. Encyclopaedia Britannica, 1952), pp. 265 and 717.

Eugenic recommendations:

6. Introduce from the experience of the eugenic movement the idea of a blueprint stage in planning that corresponds with the scientific method; first, in formulating reasonable hypotheses as to goals, possibilities, or ways and means; and then in the promotion of research that may seem to be unrelated to eugenic policies but that suggests new sources of information.
7. Suspend judgment on the popular prejudice that the idea of making the right choices as to group survival is a human impossibility. This tentative suggestion agrees with item 3. Here the comparison can be made with the "natural process" of expendibility in war, industry, the accident-death record, in most causes of death, and in the current effects of most social institutions, when choices equally human and risky are constantly being made, but on a basis of fact or wisdom that is no more moral or right than eugenic programs.

Euthenic recommendations:

8. Ensure a basic minimum of environmental protections in employment, family life, and all services of the social institutions as suggested by Osborn (pages 241–42 in *Preface to Eugenics*).
9. Introduce a continuous research program, to be supplemented by tests to prove the effectiveness of specific measures.
10. Work toward the gradual merger of eugenic and euthenic ideas, a goal that will depend upon the effectiveness of administrative agencies.

These achievements are described by Osborn as an approach to a new era or to a new type of human revolution:

> "The change in attitudes toward reproduction which is now taking place in the Western World is as epochal as was the first use of fire, the domestication of plants and animals, or the organized control of water and soil resources. The change from uncontrolled reproduction to the conscious control of births is an essential feature of our civilization."[13]

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[13] Frederick Osborn, *Preface to Eugenics*, rev. ed. (New York. Harper, 1951), p. 189.

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Henshaw, Paul S., *Adaptive Human Fertility* (New York. McGraw-Hill, 1955), Chapter 9, and Chapters 10–12 for recent and prospective practices. Another review of primitive policies.

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FOOTNOTE 5

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APPENDIX

Words, Methods, Sources and Research Problems

MANY STUDENTS are of the opinion that research studies of population are sufficiently specialized to require a glossary and other explanations of technical procedure. This observation is found most often in the quest for interpretations of the tools of the demographer and of his source materials. Fundamental to such interpretation is the way in which demographic questions are stated as problems and the manner in which the data of demography are condensed by use of rates, graphs, or other pictorial devices, the occasional formula or other mathematical techniques.

In this book we have aimed to avoid some of the confusion from all these sources by using special words or concepts in a context that helps to explain them or by giving a brief definition. This device is not completely satisfactory partly because many words that are current in everyday speech are given meanings that are peculiar to the demographer's thought. Occasionally they have more than one meaning as they refer to their origin in, or association with, statistical, biological, psychological, sociological or other divisions of bio-social research. Moreover, many words are redefined as already noted in the refinements of Census terminology.

This absence of uniformity and precision is most confusing and annoying when words are not used consistently or lead to incorrect interpretations. Probably the most disputed example is the choice of words that Malthus employed in his explanation of the growth and instabilities of population. Whether or not this explanation is law or principle, true or false, it continues to be the most debated of demographic statements. On the other hand, neo-Malthusianism (meaning birth control both by those who endorse or oppose it) is neither new nor Malthusian. Other examples are the use of wealth to mean income, family expenditures as the equivalent of standard of living, or standard of living as an index of economic status.

Many other words or concepts could be cited as further grounds for the preparation of a dictionary of demography. This need is shown especially in the technical advances of demographic research when rates, laws, and

formulas combine words and numbers as noted throughout the text in such expressions as cohort, age-specific, household, optimum, standard million, perinatal, and numerous other bio-social words or idioms. The explanation for this confusion is to be found in the constant effort of demographers and scholars in allied fields who, in adding to demographic knowledge, are trying to expand the validity and practical usefulness of *moral* statistics.

For all these reasons it is more important for the reader to acquire the ability to interpret general demographic trends than to adhere to a routine explanation of rates or terms. As pointed out in various sections of the text, the reader is warned that earlier writers used terms that are now considered obsolete and computed rates from inaccurate counts or records and unknown universes (such as the census of religions or the illiteracy rate). Hence the suggestion has been made that for better understanding the reader should try to remember what are average rates so that he can detect more readily when rates are really average, exceptionally high or low, or when they are actually incredible. Constant reminders of the latter need appear regularly in newspaper accounts of multiple births, longevity, or some similar departure from average experience when there is no reliable medical or other evidence to support the statement.

Numbers and rates

Statistics and rates become less disturbing and more familiar when the reader recognizes them as simple comparisons. Numerous forms are found in everyday experience and speech, as wage per hour, per cent of interest, or tax per $1,000 of a property's assessed value. Thus rates are comparisons (or ratios) between numbers that represent people by classes, or as a total population, and their qualities or experiences, and they are usually stated for a given period of time. Rates may include two or more compared measures, such as the number of gallons of water consumed per inhabitant per year.

The computation of rates rarely exceeds the elementary arithmetical process of division and multiplication. In the example of birth or death rates, the smaller number (the reported number of live births or deaths for a year) is divided by the larger sum, the total population. This quotient is multiplied by 100 to become a per cent, by 1,000 (per 1,000 population), or by 100,000 population. All such rates are called general or *crude* rates. The crude divorce rate, for example, would be the ratio between the number of divorces and the total population. When, however, the number of divorces in a given period is compared with the number of marriages taking place in the same period, a *specific* rate is obtained. Similarly, other specific rates may be computed for sex and age groups, social classes, occupations, income divisions, religious denominations, and years of schooling completed.

Rates or per cents of growths are computed in the same way for the total

population or for selected components. Such comparisons include rates of growth, net and gross rates of increase, replacement rates, sex ratios, maternal mortality, occupational diseases, the stillbirth rate, and per cents of illiteracy or of crime of which the meaning depends as much upon the definitions of the words as it does upon the reported figures. Usually all studies will cite the meaning of these terms as well as the method of their computation. Specific rates are also referred to as adjusted, refined, or standardized largely because of their intent to be more accurate than crude rates. (On these matters consult the discussion of Leo Siberman in the appendix of *Population Problems* by Paul Landis and P. K. Hatt, 2nd Ed.—New York, American Book, 1954). For information on special or technical insights and tools the reader is encouraged to consult such volumes as:

Robert R. Kuczynski, *The Measurement of Population Growth* (New York. Oxford University Press, 1936).

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The census and other sources

An appreciation of the sources of information that are basic to all studies in population should be acquired by the student as early as possible. This understanding will include the availability of materials in the official census and other relevant government reports.

There is no better evidence of the indispensable need for an accurate census than the casual (though often brilliant) efforts of demographers to report totals or trends in population prior to a national census. An account of some of these early studies is included in Chapter 20 with brief descriptions of their methods of estimating the total population of a country, its composition by age groups, life expectancies, and other general and representative information. Another equally cogent spur to achieve accuracy, continuity, and comparability in a series of periodical reports is illustrated effectively in current deficiencies as described in Chapters 13 and 14 in instances of inadequately reported educational or religious statistics. Similarly, the need for accuracy and the difficulties of census-taking are always apparent in the studies of the socially inadequate classes (Chapter 18), especially when these studies are compared with the more precise data on physical health and disease as determined by the Census device of registration.

In the following more elaborate survey of available government materials, attention will be limited to the Table of Contents of the *Statistical*

Abstract. Because of numerous subdivisions by geographic or political area and the many subordinate and cross-classifications, it is practically impossible to describe all possibilities in the separation or combination of current census figures. Morover, since 1902, when the Bureau of the Census was established as a continuous operation, it makes regular monthly and annual reports on the basis of sample studies and also offers to make available special reports that may be of interest to particular localities or groups. However, in spite of its rapid expansion, neither the Census nor other closely allied governmental agencies have been able to keep pace with the public's requests for specialized information. Some of these requests seem to be as impossible now as the idea of a census seemed during its early history to be heretical or intolerable interference with individual privacy. A few of these "foolish" requests are mentioned in the story of the growth of the Census to its current proportions.[1]

After the first census of 1790, this form of public service was extended each decade in order to report more specifically on population and its social composition, physical and economic base, and the social institutions that must be understood for intelligent interpretation of future trends and needs. An abbreviated comparison of items in the 1790 and 1950 reports is outlined at this point in order to show this growth and to suggest the range of topics in the first two volumes, entitled, *Characteristics of Population.* The Bureau of the Census has found revisions, the addition of new items, and the modification or abandonment of items once included to be necessary; but they have also found it to be a source of considerable criticism. In comparing decennial reports, students will observe redefinitions of such terms as "rural," "urban," "race," and "illiteracy" (all of which are described in detail in the preface to Volume 1); they will also note irregularity of reports on such subjects as "Religious Bodies," or in some of the vital and social statistics now the responsibility of the Department of Health, Education, and Welfare. Other volumes of the Census and the year of first publication are *Manufactures* (1810); *Mineral Industries and Fisheries,* and *Agriculture* (1840); *Vital Statistics, Education,* and *Religious*

[1] Carroll D. Wright and William C. Hunt, *History and Growth of the United States Census: 1790–1850* (Washington. Government Printing Office, 1900). U. S. Bureau of the Census, *Uncle Sam: How He Grew* (Washington. Government Printing Office, 1943). On p. 17 there is a reproduction of the statistical form used for the first census in 1790. U. S. Bureau of the Census, *Fact Finder for the Nation* (Washington. Government Printing Office, 1948). On pp. 30 ff. there is an explanation of the methods employed in collecting and tabulating census items, of field operations, mechanical aids, sampling, and maps, and of the organization of the Census Bureau.

United States Department of Health, Education, and Welfare, *Vital Statistics of the United States* (Washington. National Office of Vital Statistics, 1950). Vol. I. A condensed account of both sources is: Irene B. Taeuber, *General Censuses and Vital Statistics in the Americas* (Washington. U. S. Bureau of the Census, 1943), pp. 43–90.

United States Department of Health, Education, and Welfare, *Teamwork and Changing Concepts in Vital Statistics* (Washington. National Office of Vital Statistics, 1956). Selected Reports, Vol. 45, October 15, 1956.

Bodies (1850); *Business* (1930); *Housing* (1940); and *Transportation* (a volume that was proposed for the 1950 Census but was not taken).[2]

ITEMS IN THE CENSUS, 1790

1. Number of heads of families.
2. Free white males of 16 years and above, including heads of families.
3. Free white males under 16 years.
4. Free white females, including heads of families.
5. All other free persons.
6. Slaves.

ITEMS IN THE CENSUS OF POPULATION, 1950.
CENSUS VOLUMES I AND II

1. Total population—by regions, divisions and states; by places according to size, rates of increase, density, rank of states, and economic subregions, metropolitan areas, and cities with special reports by census tracts. Farm, rural nonfarm, urban and suburban population, place of residence, and changes of residence (mobility).
2. Race and color, with classifications under most of the topics in 1, such as urban, rural, native, foreign, age, sex.
3. Age, reported for each year and with classifications as in 2 above.
4. Nativity and citizenship, and country of birth for the foreign-born.
5. Marital status, as single, married, widowed and divorced.
6. Household and family.
7. School enrollment, by age, year of school, and years of school completed. Illiteracy (discontinued after 1930) but now reported in *Current Population Surveys.*
8. Employment status, general economic field, subclassified by color, sex, urban, and rural; and others not in the labor force, such as housewives, those who are unable to work, inmates of institutions, students, retired, those who are overseas in the Armed Forces, and occasionally, seasonal workers. Hours worked during the census week.
9. Industry, occupation, and class of work. An occupational classification of 158 categories for males and 67 categories for females with about as many sub-classifications.
10. Income, by families, unrelated individuals, urban, rural, nonfarm, and other sub-classifications.

Vital statistics

The National Office of Vital Statistics, an affiliate of the Department of Health, Education, and Welfare, is now the official compiler of vital and social statistics. These sources from registrations, in the case of the former, and from reports of custodial institutions in the case of the latter, differ mainly from the statistics of the Census in that they are collected con-

[2] Otis Dudley Duncan, "Report of the Committee on the 1960 Census," *Population Index,* Vol. 23 (October, 1957), pp. 293–305.

tinuously. Registration began in 1842 in Massachusetts and was slowly extended by the organization of Registration Areas (previously referred to in the discussion of birth and death rates) to include uniform reports on:

1. Birth and death rates (general)
2. Reproduction rates
3. Fetal, infant, and maternal mortality
4. Sickness, classified according to the International nomenclature
5. Specific death rates (classified according to the International nomenclature)
6. Accidents
7. Marriages and divorces
8. Hospital populations for general and for mental patients
9. Other public institutions
10. Numbers of personnel in health work
11. Immigration and emigration
12. School enrollments
13. Years of schooling completed
14. Vocational schools
15. Expenditures for schools
16. Illiteracy
17. Crime and crime rates
18. Prisoners in the various types of penal institutions
19. Police and court reports
20. Labor force
21. Employment and earnings
22. Labor turnover
23. Occupational injuries
24. Union membership
25. Military personnel and costs
26. Social security programs (types of assistance, numbers assisted)
27. Vocational rehabilitation

This outline is given to show the approximate types of information that can be found in addition, or supplementary, to the Census of Population. It does not pretend to be complete or to indicate details within the different classes of reports.

Among other official governmental sources of facts relating to population, there are the Bureau of Labor Statistics, the Department of Agriculture, the Federal Reserve Board, the Commerce Department, the Bureau of Internal Revenue, the Department of Justice, the Federal Bureau of Investigation, Immigration and Naturalization Service, Housing and Home Finance Agency, Veterans Administration, and the National Resources Planning Board, all of which are condensed in the *Statistical Abstract*. The chief criticism of most of these agencies is not their costs, duplication and overlapping, or inconsistent reports but their failure to do a better job in the interpretation of their findings.

The Statistical Abstract of the United States is an annual summary, and in part a historical review, of these official sources. Accordingly, the table of its contents is reproduced for illustrative purposes. In addition, a review is included of the seventy-fifth anniversary edition of the *Abstract*, as prepared by *Time* magazine, in order to show the range of basic resources in the study of population. This summary helps to clarify both the availability of information and the trends and correlations that can be determined.

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A NATION'S FACE IN NUMBERS

In recording his joys and sorrows, his struggle for existence, his encounters, good and evil, man has used words, music, paint, stone, steel, film. The U.S. Bureau of the Census uses numbers. Last week it issued its 75th Anniversary edition of the Statistical Abstract of the United States, *a volume which embraces the raw material of American drama. Some ore from this 1,056-page mine:*

THE 3,909,000 Americans who are born each year° have a life expectancy of 68.4 years (17 years more than they would have had 40 years ago). Births in hospitals are the rule (90% of the total registered) rather than the privilege (36.9%) that they were 20 years ago. Americans (aged 5 to 34) enrolled in school number 32,796,000 (up more than 3,000,000 in three years), of whom 3,515,000 are six-year-olds (up one million in three years, reflecting the attainment of school age by the postwar bumper baby crop).

Life & death. Americans celebrate 1,566,793 marriages and agonize over 388,000 divorces in a year. The typical groom is 23.8, the bride 21.4 (they are oldest in Connecticut—23.6; youngest in Idaho—20.9). The nation's 46,828,000 families are smaller (3.4 persons) than in 1940 (3.77) or in 1890 (4.93). The U.S. has 814,000 more married woman than married men (due to reporting discrepancies and absences of husbands on overseas assignments), but Mormon Utah is one state with more (633) husbands than wives. The U.S. has 1,776,681 more women than men (the reverse was true 75 years ago), 50.7 people per sq. mi. (*v.* 16.9 then), and its population (median age: 30.2, ten years more than in 1879) is 59% urban (*v.* 72% rural then).

In the nation's employed labor force (62,242,000) there are only 6,970,000 farmers. The 17 million labor force of 75 years ago was divided almost equally between farm and non-farm. Women workers (19,353,000) today are 31% of the labor force, compared to 25% in 1940. There are 1,273,000 fewer farm workers and 321,000 fewer domestic servants than in 1940, but 1,836,000 more commercial service workers. Of the nation's 2,678 female morticians and embalmers, 35 are unemployed.

A 65-year-old person today can expect to live another 14.1 years, but death strikes 1,519,000 times a year in the U.S. The biggest killers are heart disease (545,675) and cancer (215,525), both of them highest in New Hampshire and Massachusetts, lowest in New Mexico. Infant mortality (28.4 under a year old per 1,000 live births) is down from 47 in 1940, 99.9 in 1915. It is highest in New Mexico, lowest in Connecticut and Massachusetts. In a year 7,495 Americans are murdered (but the rate is lower than in any year since 1910) and 15,909 are suicides (less per capita than in any year since 1920).

Each day 1,309,377 Americans receive hospital treatment, 584,455 in mental hospitals (the load was 352,279 twenty years ago). Among major diseases, the biggest gainer is polio (57,879 cases *v.* 1947's low 10,827); the biggest loser is syphilis (165,853 cases *v.* 1946's peak 385,524).

In a year the typical American receives 305 pieces of mail, makes 438 telephones calls, eats 397 eggs and 151 lbs. of meat, drinks 1.1 gal. of hard liquor (*v.* 2.24 a hundred years ago) and 16.7 of beer and ale (*v.* 1.6 a hundred years ago), and makes $1,639 (average family income is $4,070 up from $3,270 in 1949). But his share of the national debt is $1,666.11. He contributes $2.86 (per capita of adult population) to Community Chest and United Fund campaigns. If he is one of the nation's 92,277,129 church members, he gives $41.94 a year

to his church, which is likely to be small if he is a Methodist (39,906 churches, 9,180,428 members), large if he is a Roman Catholic (15,723 churches, 30,253,427 members).

In a year, Americans voyaged 18,059,000,000 scheduled air passenger miles and 34,033,000,000 rail passenger miles. They drove 46,289,000 passenger cars (*v.* less than 20,000,000 in all the rest of the world) 521,741,000,000 miles at an average speed (on main open highways) of 51.1 m.p.h. and caused 360,030 traffic-accident deaths.

Americans are migrants. During a year, 30,786,000 U.S. citizens moved, as many as the number of aliens who immigrated to the U.S. during the last 70 years. Many of them (20,638,000) stayed in the same county but, nonetheless, they moved. Of the rest, 4,626,000 moved to a different county in their state; 5,522,000 moved to a different state. Mississippi has the smallest portion (10.5%) of residents born in other states, but more living Americans have moved to Mississippi than have stayed in three other states (Nevada, Wyoming and Delaware). Nevada has the most mobile population among the states: 49.4% of native-born Nevadans have moved away; 68.7% of today's Nevadans were born out of the state. Of California's 9,324,515 people, 5,425,935 (58.2%) were born elsewhere. But even native Californians wander away, though proportionately fewer (11.4%), to be sure, than natives of any other state.

For that ever-threatening rainy day, Americans have saved $206.4 billion ($4,408 per family) and are adding to it at the rate of $12.4 billion a year. There are 6,490,000 U.S. stockholders, more of whom are farmers (320,000) and skilled workers (410,000) than executives (300,000).

Although they save, Americans also have $229.9 billion a year to spend. Household appliances are one thing they like to spend it on. More (9,160,000) homes have vacuum cleaners than do not. Still more (11,420,000) have television sets than do not. Only 1.6% of the nation's homes have no radio set. Fewer homes (4,183,000) have no refrigerator than do have an electric blanket (4,296,000). There are air conditioners in 1,381,000 homes, deepfreezers in 5,955,000, washing machines in 34,194,000. During the 1940s, the number of homes with indoor plumbing increased by over 10,000,000. But there are still 11 million homes with an outdoor privy or none at all.

SOURCE: *Time*, Nov. 29, 1954, p. 14. Reprinted by permission from *Time* Magazine; copyright Time, Inc., 1955.

Research problems

The following is an outline of the major historical problems of demography. In general they are correlations that can be derived from numbers dealing with growth, distribution, composition, balance or stability, quality, and predictions. Although some of the correlations can be dignified by the artificial precision of arithmetical indexes, ratios, and percentages, they are nevertheless chiefly concerned with human traits; their truth is limited; and few or none should be interpreted as absolute and invariable facts. This element of inconclusiveness and indecision is the reason for most demographic controversies and for the continuous stress upon more and more exact research.

CORRELATIONS BETWEEN CHANGES IN THE SIZE AND RATES OF GROWTH OF POPULATION AND CHANGES IN ITS COMPOSITION

Distribution, including rates and types of migration, the rural-urban balance, suburban trends and developments.

Changing bio-social groups, especially the occurrence of distinctly different groups, such as Negroes, whites, and orientals in the United States; their tendencies to assimilate and amalgamate (intermarriage); rural, urban, or other sectional evidence of ability to survive, and their reactions to primary developments in the social institutions.

Changing qualitative variations in physical constitution and individual differences (especially in health, intelligence, and achievement).

Changing social differences in the internal components of a national population, such as:

Age-groups and life expectancy.

Differences in birth and death rates in different economic or social groups.

Marital status.

Households or families, especially, their size, economic status, durability, and other evidences of cultural similarity or difference; child-spacing and voluntary control of numbers; housing supply or adequacy.

Degrees of educational achievements as related to reproduction, family size, economic status, and various indexes of cultural well-being.

Nurture and use of talented individuals for leaders.

Types and degrees of social mobility and other forms of changes in social classes and social-class alignments.

Religious affiliations and the basic correlations suggested thereby in indexes of social behavior, marriage, reproduction, education, stability, and the like.

Major economic fields and occupational divisions of the labor force, specific economic class alignments and rivalry or co-operation; sources and use of energy; invention; automation; capital investment; increasing leisure-time; family income.

Standards and planes of living, nutrition, and habits of consumption.

Requirements of a nation for military personnel, and the costs to maintain the military establishment.

Types, costs, and efficiency of government. Amount and adequacy of economic production. Increasing complexity of all the social institutions, especially in their particular relationships to each other, such as the costs and adequacy of the school system, of the provisions for public health, recreation, or other types of public or private social services. Supplements in money and personnel that are required by this rising tide of institutional societies, in comparison with the more moderate and less costly needs of small populations.

Social strains, cultural lags, or sources of instability that arise from these demands on the natural resources, land-use, transportation, communication, systems of public finance and taxation, prices, inflation, costs of living, or marketing with subsequent exposure to international rivalries in commerce or war, international migrations, diminishing returns, wastes of natural or physical and human resources, the balance or rates of dependent and self-maintaining groups, and all types of biological or socially dependent groups.

Standards of welfare, mainly indicated by social security programs.

Policies to regulate growth, distribution, size, or quality.

Projections of these relationships and trends, forecasting, for example, relationships between labor-force and gross national product; rural and urban trends of population; aging and the relationships between different age groups; educational needs because of changing birth rates; and questions of future social adjustment that arise from changing bio-social composition, family size, life-expectancy, and the prospective demands for labor or other vocational skills.

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