



LATER LIFE SECOND EDITION

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Preface

There are many reasons why a particular subgroup of the population is singled out for special study. The seriousness of the problems posed or the benefits offered by the subgroup to society as a whole and an increase in the power of the subgroup by virtue of its size and leadership are two related reasons why gerontology has become a more popular field during recent years. In terms of problems posed, old age is costly to society. The costs of health care, retirement payments, housing, and social services are all increasing rapidly. Expenditures for the elderly now comprise approximately 33 percent of the federal budget.

People who are 65 years of age or older constitute 11 percent of the American population, but they account for 40 percent of physicians' office visits and occupy 33 percent of the hospital beds in the United States. Because of the growing power of the elderly and their spokespersons, Medicare and Medicaid may eventually give way to some form of national health insurance, which may well cost society even more money. With respect to retirement income, the social security system is fast becoming overburdened, being supported by a ratio of approximately three workers for every benficiary today, compared to a projected ratio of 2 to 1 by the year 2000.

In spite of recent improvements in services to the elderly, many continue to be treated as second-class citizens who are waiting on the shelf for death to overtake them. Furthermore, costs are assessed not only in monetary units. It is costly to the young and middle-aged as human beings, both now and in the years ahead when they will be the aged, to treat older people as anything other than respected, valuable members of society.

The elderly can offer skills, wisdom, and psychological support to younger age groups. The anticipated labor shortages of the 1980s and 1990s in many countries, produced by low population growth during the 1960s and 1970s, will necessitate retaining people in the work force for a longer period of time. This circumstance could also help to relieve the financial stress on the retirement system. The findings of several surveys and many other research investigations have shown that most older people desire to be and are capable of being productive members of society.

If for no other reason, the sheer numbers of elderly people will force society to take greater notice of them in the future. Today, nearly 26 million Americans are 65 or older, a figure that is projected to rise to over 32.4 million by the end of the century. Not only are the elderly increasing in numbers, but the proportion of the over-65 group in the total population is growing even faster. These numbers mean political power for the elderly, power that will undoubtedly result in better medical care, increased

housing subsidies, larger retirement incomes, and expanded social services for this age group.

Thus far, research and other efforts directed toward understanding the aged have not been very systematic or ambitious. A few centers have concentrated on topics such as personality development and sexual behavior of the elderly and attitudes of younger people toward the elderly, but few comprehensive longitudinal interdisciplinary investigations have been conducted. Encouraged by federal and private foundation support and stimulated by the growing social, economic, and political significance of the aged, professional interest and hence the body of information on later life has expanded greatly in recent years.

One purpose of this book is to identify and review what is known about later life and the methods by which this information was obtained. The author has attempted to accomplish this purpose in a fairly nontechnical manner, but a certain amount of specialized language has proved necessary. The Glossary, which appears at the back of the book, contains definitions of most of the technical terms used in the book. The Index of Terms and Organizations should also prove helpful.

Another, perhaps even more important, purpose in writing the book was to motivate and point to some directions for further study and research on this most interesting and increasingly influential stage of human existence. Many readers may also be interested in providing services to the elderly or in intervention on their behalf. To assist in this process, suggestions and guidelines for action and interaction with elderly people are given in the text.

The emphasis of this text is on the psychology of later life. But psychology is actually a multidisciplinary field, and later life is merely the final stage in the developmental progression of a biosocial organism. Consequently, the reader will encounter many facts and concepts from biology, sociology, economics, philosophy, and even a few literary quotations in the book. Some information about the earlier stages of life and how they help prepare a person for old age has also been included. All of this material can contribute to our understanding of the total human being—a biological, social, economic, philosophical, and sometimes poetic creature. The many-sided character of human nature becomes especially clear when looking at old age, the final developmental period of life and a time for summing up.

LEWIS R. AIKEN

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The Study of Aging

Human life, like the lives of all animals, begins with a single cell and progresses through a series of developmental stages. The human fetus becomes an infant; the infant, a child; the child, an adolescent; and the adolescent, an adult. The final stage of human development is old age, which can be the best or worst time of life.

PERSPECTIVES ON OLD AGE

Traditionally, old age has been the stage of one's life when the decrements outweigh the increments, when opportunities are reduced rather than expanded (Williamson, Evans, & Munley, 1980). The definition of old age, however, depends on the characteristics of older people and also on the attitudes and needs of society.¹ Society, of course, is a collection of individuals, and the stage of development of these individuals affects their perceptions of what "being old" is. To a young child a person of 30 or 40 years appears old, whereas a middle-aged adult may consider 75 years as the beginning of old age.

Influenced to a great extent by retirement legislation, society as a whole has come to view the beginning of old age as sometime during the seventh decade of life. This somewhat arbitrary benchmark, most often considered to be age 65, represents a chronological definition of old age. But chronological age by itself is rarely an accurate index of a person's

biological, psychological, or social age. In defining biological age, one takes into account features such as posture, skin texture, hair color and thickness, strength, speed, and sensory acuity. On the other hand, psychological age is determined by one's feelings, attitudes, and manner of looking at things. Finally, social age is determined by the social roles and activities of a person and whether they are considered appropriate for an individual at a particular age or stage of maturity.

From a strictly medical viewpoint, age is assessed in terms of functional capacity—the ability to engage in purposeful activity. Physicians als distinguish between primary aging, or senescence, and secondary aging, or senility. Senescence refers to genetically determined changes in body structure and function resulting in increased vulnerability; senility refers to disabilities produced by illness or injury as a person ages. Thus the medical viewpoint is consistent with the notion that a person can be old at 40 or 80 years, depending on his or her overall health, attitude, and other circumstances.

Biological, psychological, and social age all interact in defining **age norms**—the physical and behavioral characteristics displayed by most people at a particular stage of development. These norms, and therefore the stage of an individual's development, change as a function of certain developmental milestones, ceremonies, or rites of passage, such as entering school, graduating, getting married, and retiring from employment. Viewed from this developmental perspective, aging is a continuous, lifelong process, and hence there is no specific point at which one can be said to be "old" for the first time. The developmental perspective also recognizes that the process of aging or becoming old is due to a complex interaction of biological, psychological, and social factors. Consequently, the study of aging must be interdisciplinary, involving a variety of subjects and professions.

LONGEVITY AND LIFE EXPECTANCY

Biological organisms vary greatly in their rate and pattern of development, and the life span of an organism is related to its particular developmental rate and pattern. Length of life, the **longevity** of an animal, varies from a few hours in adult mayflies and a few days in fruit flies and houseflies² to over a hundred years in some humans, large birds, and Galapagos turtles. Even greater longevity is found in the plant kingdom, where giant redwoods and bristlecone pines live for thousands of years.

Very Old Humans

On the human level, the unofficial longevity record is held by Methuselah, who is reported to have lived for 969 years. The *Guiness Book of World Records* lists Delina Filkins of New York, who died in 1928 at the



Figure 1-1 Shirin Gasonov, a Russian farmer who was born over a hundred years ago, inspects a vineyard near his home. (Photo reprinted with permission of Sovphoto/ eastfoto.)

age of 113, as having the longest officially verified life span in modern times. The oldest person on the U.S. Social Security rolls was a former slave named Charlie Smith, who was listed as being 136 in 1978.

Other famous, probably exaggerated, accounts of very old people are the cases of Thomas Parr, who was presented to Charles I of England as a 152-year-old curiosity, and Javier Pereira, a Colombian Indian who claimed to be 167 years old. Physicians who examined Pereira when he visited the United States in 1956 concluded that he was indeed "very old," but exactly how old they could not determine. Shirali Mislimov, a native of the Caucasus region of the Soviet Union, is said to have been 168 when he died in 1973. Another Soviet citizen, Rustam Mamedov, who in 1977 stated that he clearly recalled the Crimean War of 1854 and the Turkish War of 1878, maintained that he was 142. Further examination has revealed, however, that these men actually did not know their correct ages and undoubtedly exaggerated them. During the nineteenth century, birth records in the Caucasus region were kept by the local church. By arranging with church authorities to add 40 or 50 years to his age or by assuming the identity of an older man, a young man of draft age could deceive Tsarist inspectors into believing that he was much older than his actual chronological age. During Stalin's time the myth of the ancient Russians was kept alive because the great ages of these men presumably demonstrated the superiority of life under communism (Longworth, 1978).

Life Expectancy and Longevity Throughout History

Human life expectancy—the average length of time in years that a person born during a certain year can be expected to live—has increased throughout history. From an estimated 20 to 30 years during the days of ancient Greece and Rome, life expectancy rose very slowly to 35 years in the Middle Ages and Renaissance, to 45 years in mid-nineteenth century America, 47 years in 1900, and 73.3 years 1978 (see Fig. 1-2). It is estimated

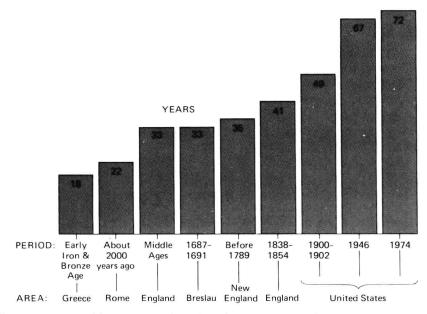


Figure 1-2 Average life expectancy throughout history. (From Smith, D. W., Bierman, E. L. & Robinson, N. M., *The biologic age of man*, 2d ed. Philadelphia: W. B. Saunders, 1978, p. 25.)

that life expectancy in the United States will be approximately 82 years by the year 2000.

These figures, however, do not tell the whole story. Because of the shorter life expectancy in former times, a twentieth-century time traveler would be suprised by the small numbers of older people to be found in earlier historical periods. But the traveler might very well encounter a few very old people even in ancient times. These rare individuals would be those of sound constitution and adaptability who had survived the many diseases, wars, and other dangers that were commonplace and took a heavy toll of the child and adult populations. Furthermore, the oldest people in former times were approximately the same ages as those living today. For example, although inscriptions on tombs suggest that life expectancy was 20 to 30 years in ancient Greece, Sophocles wrote Oedipus Rex at the age of 75 and won a prize for drama at 85. Marcus Seneca, a renowned Roman orator, lived for 93 years (53 BC to 39 AD). In summary, there are more older people today than in earlier times, but they do not live much longer than their historical counterparts. The average life span has increased, but the maximum life span appears to have remained essentially the same.

Relative to the population as a whole, there were no substantial increases in the number of old people until the nineteenth century. Associated with this increase in the elderly population were the first dramatic breakthroughs in medicine and public health. It was also during the nineteenth century that the large numbers and consequently the

increasing needs of this sector of the population prompted certain European governments to institute reforms and social service programs for the elderly.

One of the major causes of shorter life expectancy during previous centuries was the higher rate of infant mortality rather than the greater mortality among older groups. Even in twentieth-century America, infant mortality, defined as death before the age of 1 year, has decreased from almost 100 per 1000 births in 1915 to 30 per 1000 births in 1930 and 14 per 1000 births in 1977 ("U.S. Death Rate Falls," 1978). Next to infancy, the greatest decline in death rate has occurred in early childhood, followed by a smaller decrease in the 5- to 55-year age range and an even smaller decline in the 55+ age group. Advances in the treatment of influenza, pneumonia, tuberculosis, diphtheria, typhoid fever, and scarlet fever by the use of sulfa drugs, antibiotics, and other medicines and public health measures (e.g., mass immunization campaigns) have greatly reduced the incidence of death during infancy and early childhood in particular.

The Elderly Population in Twentieth-Century America

Demographic statistics show that the percentage increase in the population of the United States during this century has been two and one-half times as great in the 65-and-over bracket as in the under-65 bracket. The number of people in the United States who are 65 years of age or older has increased from 3.1 million in 1900 to 20 million in 1970 and 25.5 million in 1980 (U.S. Bureau of the Census, 1981). Every day there are approximately 1600 more Americans over 65 than the day before, and on the average those who now reach 65 can look forward to 16 additional years of life. Population projections indicate that the number of Americans who are 65 and over will rise to over 32 million by the year 2000 and reach a possible 56 million by 2030, at which time people born in the post-World War II baby boom will be over 65. From 11.3 percent of the national population in 1980 and a projected 12.2 percent in the year 2000, it is estimated that 18.2 percent of the population will be 65 or over in the year 2030 (U.S. Bureau of the Census, 1977, 1981). Furthermore, the proportion of the very old (75 years and older) among the elderly has increased steadily since 1900 and is projected to continue rising (see Fig. 1-4).

The increasing proportion of older people in the U.S. population since the late 1950s has also been due in part to the declining fertility rate. The effect of a declining fertility rate, defined as the number of children per woman of childbearing age, is to reduce the proportion of people in younger age categories while increasing the proportion of older people in the population as a whole. For example, the number of Americans aged 65 and above increased from 20 million in 1970 to 24 million in 1978, but the number of children under five decreased from 20 million in 1960 to 17 million in 1970 and 15 million in 1978 (U.S. Bureau of the Census, 1978). The U.S. fertility rate declined from 3.76 children in 1957 to 1.75 in 1976,

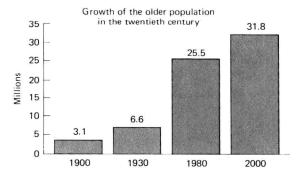
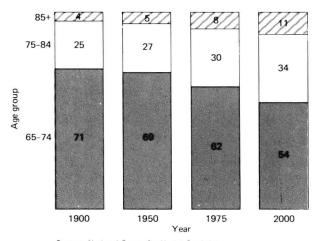


Figure 1-3 Growth of the U.S. older population in the 20th century. (Adapted from U.S. Dept. of Health & Human Services, 1979 and U.S. Bureau of the Census, 1981.)



Source: National Center for Health Statistics

Figure 1-4 Increase in pecentages of very old among the elderly in U.S. from 1900, projected to year 2000. (From *Our future selves*. U.S. Dept. of Health, Education, and Welfare. DHEW Pub. No. 77-1096, p. 9. Courtesy of Administration on Aging.)

and by the late 1970s the United States and many other Western countries were well on their way to zero population growth (ZPG). If the drift toward ZPG continues, it is estimated that by the year 2030 the percentage of people below 20 years of age will have decreased to approximately 8 percent, whereas the percentage of people 55 years and older will have increased by the same percentage.

Also indicative of the growing elderly population is the increase in median age. The median age was 16 years in 1790, when the first U.S. Census was taken. It had risen to 28 years by the time of the 1970 census and to 30 years by 1980 (U.S. Bureau of the Census, 1981). If the present trend continues it will approach 35 years by the year 2000 and 40 years by

2030. In addition to declines in infant mortality and the fertility rate, the steady rise in the median age and the proportion of elderly people can be attributed in some measure to the decline in deaths due to heart disorders and other killer diseases among 45 to 75 year olds. This is reflected in the fact that the death rate for people between 45 and 54 dropped six times faster and the death rate in the 65 to 74 age group more than four times faster between 1973 and 1975 than during the preceding 13 years ("The Graying of America," 1977).

The marked increase in the U.S. elderly population documented by the preceding statistics amply attests to what gerontologist Robert Butler has called the "graying of America." This growth is expected to have a pronounced effect on our economic and social institutions during the years to come and has already begun to create problems. For one thing, it has increased the **dependency ratio**—the ratio of the number of dependent (retired) persons to the number of active wage earners in the population. The rising dependency ratio is causing difficulties for the social security system in particular, which could be bankrupt if the dependency ratio becomes too large.

The graying of America also carries with it the challenge that the addition of "years to life" not be wasted and that new opportunities for personal development be provided, which will also add "life to years." As is discussed in more detail in Chapter 8, the growing political power of the aged, which promises to surpass that of the black power and women's movements of the past two decades, is exerting a great deal of influence in realizing this challenge. In particular, compared with their counterparts of today, the "young—old" group of people aged 55 to 75 years, who have retired from a first career but want to remain active and involved, are expected to be healthier, better educated, and more demanding of a greater variety of options in life than their predecessors (Neugarten, 1975).

GROUP DIFFERENCES AND OTHER FACTORS IN LONGEVITY

Human longevity and the proportion of older people in the population vary with factors such as sex, ethnicity, nationality, geography, exercise, diet, personality, and especially heredity. Studies relating these factors to longevity have, of necessity, been primarily correlational rather than experimental, but the findings are interesting and pose some intriguing questions.

Sex Differences

Longevity varies considerably with the sex of the person. Statistics on aging among women during different historical periods are more difficult to obtain than those on men, but it is estimated that the average life span of women in pre-Christian days was approximately 25 years and had reached

only 30 years by the fifteenth century. Death during childbirth was a major cause of the difference in longevity between the sexes in earlier times.

In 1900 life expectancy was 51.1 years for white American women and 48.2 years for white American men. By the year 1976 these figures had risen to 77.3 and 69.7 years, respectively (see Table 1-1). As the statistics

Table 1-1 LIFE EXPECTANCY OF AMERICANS AT BIRTH AND AGE 65 IN 1900 AND 1976*

	Year			
	1900		1976	
Group	At Birth	At Age 65	At Birth	At Age 65
Blacks				
Men	32.5	10.4	64.1	13.8
Women	35.0	11.4	72.6	17.6
Whites				
Men	48.2	11.5	69.7	13.7
Women	51.1	12.2	77.3	18.1

^{*}Data from U.S. Bureau of the Census, Current Population Reports, Series P-23, No. 78.

indicate, the increase in life expectancy has been greater for women than for men. Although the ratio of women to men in the general population is approximately 51 to 49, among Americans in the 65-years-and-older bracket is approximately 148 to 100. Today, women tend to outlive men by 8 years on the average. One out of every eight American women, compared with one out of eleven American men, is 65 years or older. In fact, women begin to outnumber men by age 25 (see Table 1-2). The ratio of older

Table 1-2 NUMBER OF WOMEN PER 100 MEN IN UNITED STATES IN 1980 BY AGE*

Age (Years)	Women per 100 Men	
14 and under	95.6	
15-24	98.4	
25-44	102.6	
45-64	110.3	
65 and over	147.9	
Total U.S. population	105.9	

^{*}Data from U.S. Bureau of the Census (1981).

women to older men is projected to become even greater by the year 2000, at which time it is estimated there will be 154 women for every 100 men in the 65-and-over category.

The widening sex differences in longevity and life expectancy is due primarily to the fact that although there are more boy babies than girl babies, at every period of life males are more susceptible than females to disease. This is especially true for heart disease, cancer, and respiratory disorders, which are more common in later life. Among the 1.2 million older people who died in 1978, the cause of death was heart disease in 44 percent of the cases; cancer, in 19 percent; and stroke, in 12 percent. These three disorders accounted for the deaths of 67 percent of the older men but only 54 percent of the deaths of older women in this group (U.S. Dept. of Health & Human Services, 1981).

Marital Status

It is a statistical fact that, on the average, married people live longer than unmarried people, but the reasons are not clear. One plausible explanation is that married people eat better and take better care of their health than unmarrieds. Three other reasons that have been offered for the greater longevity of married people are (Kobrin & Hendershot, 1977): (1) marriage selects rather than protects, in that longer-living people are also more likely to marry or stay married; (2) society views unmarried people as odd or unusual, a circumstance that places them under social stress and consequently wears them down physically; (3) close interpersonal ties, which are more likely to be absent in unmarried people, are important in maintaining a sense of well-being, which, in turn, promotes longevity.

The relationship between marriage and longevity is not a simple one, because the effects of marriage interact with those of sex. Women live longer than men, but the difference is much less for married than for unmarried people. Gove (1973) also interpreted this finding in terms of social ties. He noted that unmarried women tend to have stronger ties than unmarried men to family and friends but that compared with those of married men the roles of married women are more confining and frustrating. As a result, from a psychological viewpoint women are seen as benefiting less from marriage and suffering less from being single than men.

Kobrin and Hendershot (1977) tested Gove's (1973) theory concerning the importance of social ties to longevity in a national sample of people who had died between the ages of 35 and 74. They found a complex interaction in the relationships of sex, marital status, and living arrangement to mortality rates. Among the men, those who were heads of families lived longest, followed by those who were living in families but not as heads. Those men who lived alone had the lowest average longevity. Among the women, those who were heads of families lived longest, but, in contrast with the men, those women who lived alone had the second highest longevity. Lowest of all women in average longevity were those who lived in families but not as heads.

The findings of Kobrin and Hendershot are, in general, consistent with those of Gove: Close social ties and higher social status, which are more likely to be found in marriage than outside it, favor greater longevity. This is truer for men, however, than for women. Unmarried men typically have