9th EDITION

AGING

CONCEPTS AND CONTROVERSIES

HARRY R. MOODY & JENNIFER R. SASSER

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Preface

This ninth edition of *Aging: Concepts and Controversies* appears at a distinctive historical moment. The oldest members of the baby boom generation are now collecting Social Security, and in the coming years, the process of population aging will accelerate dramatically. Given current demographic trends, it is likely that tens of thousands of Americans born after the year 2000 will live to see the dawn of another century, the 22nd. Students who are reading this book will spend the greatest part of their lives experiencing dramatic changes already evident in telecommunications, biotechnology, and genetics. Within recent years, global upheavals in finance, politics, and the environment have underscored dramatically the choices and risks that we all face over the life course. This ever-accelerating change will produce even more debate and controversy about how we are to live and participate in an aging society and in the 21st century.

This volume responds to public debates and new social conditions with the same unique approach that inspired earlier versions of the book. This approach is to present key ideas and content from gerontology as an opportunity for critical thinking. Memorizing facts is not enough. The approach of this text is to encourage the reader to grasp basic ideas and to reflect more deeply on issues raised by the study of aging.

As we move further into the 21st century with a population growing older not only in North America but globally, we all have a stake in developing a better understanding of the subject (Perkinson, 2013). This book intentionally focuses on issues of interest to all of us as citizens and as educated human beings, not just as potential gerontologists or professional service providers. The book takes a similarly broad view toward what aging is all about. From the opening chapter, students are encouraged to see aging not as a fixed period of life but as a process beginning at birth and extending over the entire life course. This open-ended quality of human aging is a theme woven throughout the book: from biological experiments on extending the life span to difficult choices about allocation of health care resources.

The multiple possibilities for how we might age both as individuals and as a society create complex choices that are important for all of us. New thinking is needed if we are to grasp and respond to the issues at stake. That is why the pedagogical design of this book focuses on controversies and questions, rather than on assimilating facts or coming up with a single "correct" view about aging or older people. The supplemental readings are selected to accentuate contrast and conflict and to stimulate faculty and students to think more deeply about what is at stake in the debates presented here. In contrast to most textbooks,

this volume directs the student's attention toward original sources and encourages instructors to provide the perspectives for responding to the claims made in those original texts.

The point is not to find the single "right answer" raised in the debates in this book. Rather, as students become engaged in the debates, they will appreciate the need for having the factual background necessary to make responsible judgments and interpretations. That is the purpose of the three major chapters, the Basic Concepts sections, around which the book's controversies are organized. The data and conceptual frameworks offered in these chapters will help students make sense of the controversies, understand their origin, engage in critical thinking, and, finally, develop their own views. The introductions preceding each controversy and the questions that follow serve to reinforce the essential link between factual knowledge and interpretation at the heart of the book. This book, then, can best be seen as a textbook constructed to provide drama and compelling interest for the reader. It is structured to encourage a style of teaching and learning that goes beyond conveying facts and methods. The goal is nothing more, or less, than liberal education for gerontology.

Other, more specific features of the book reinforce this pedagogical approach. The **Focus on Practice** sections demonstrate the relevance of the controversies for human services work in our society. The **Focus on the Future** sections make us ever mindful of the accelerating pace of change in our society and its implications. The **Global Perspective** and **Urban Legends of Aging** sections provide additional opportunities for expansive and critical thinking. The appendix offers guidance for researching and writing term papers on aging, and the online resources provided as part of the book's ancillary package open up access to tools for tapping the World Wide Web. Whether students reading this book go on to specialized professional work or whether they never take another course in gerontology, our aim is directed at issues of compelling human importance, now and in the future. By returning again and again to those questions of perennial human interest, we express our hope that both teachers and students will find new excitement in questions that properly concern us all, whatever our age.

What Is New to This Edition?

This new edition builds on the unique approach adopted in earlier editions. There is a close link between concepts and controversies in each of the three broad domains of human aging: the life course, health care, and socioeconomic trends. This link has proved to be so teachable in earlier editions that this organization has been reinforced. We have also updated and augmented the figures and graphics in the book, using an effective illustration and current data wherever appropriate. Information cited has been made as up-to-date as possible to reflect the most recent data and perspectives available. In addition, each chapter of controversies contains a feature section highlighting comparable issues in different countries around the world. These feature sections acknowledge the way in which aging is increasingly a global phenomenon with lessons of international significance. We've also included learning objectives at the beginning of each Basic Concepts chapter, as well as a separate glossary of key terminology used throughout the book. To support students who intend to work in the field of aging or who want to be well prepared to work in any capacity in an aging society, we've updated the concluding chapter that explores new and emerging careers as well as questions about where the field of gerontology is heading now and in the future.

Readers of this book can also make use of a web-based online appendix to get even more up-to-date information and explore topics in depth. To access this appendix, simply visit the website for the book at **http://study.sagepub.com/moody9e**. In addition, instructors using this book can now receive at no cost a monthly electronic newsletter, *Teaching Gerontology,* which provides guidance and current resources on how to approach the concepts and controversies featured in this book. A subscription to this e-newsletter is available by contacting hrmoody@yahoo.com.

Ancillaries

For the Instructor

The password-protected Instructor Site at **http://study.sagepub.com/moody9e** gives instructors access to a full complement of resources to support and enhance their courses. The following assets are available on the Instructor Site:

- A **test bank** with multiple-choice, true/false, short-answer, and essay questions. The test bank is provided on the site in Word format as well as in Respondus.
- **PowerPoint** slides for each chapter, for use in lecture and review. Slides are integrated with the book's distinctive features and incorporate key tables, figures, and photos.
- **Video resources** that enhance the information in each chapter.
- **SAGE journal articles** for each chapter that provide extra content on important topics from SAGE's sociology journals.
- **Web resources** that provide links to websites to encourage additional learning on specific topics.
- **Highlights from the *Teaching Gerontology* newsletter** that provide additional information on teaching the topics.

For the Student

To maximize students' understanding and promote critical thinking and active learning, we have provided the following chapter-specific student resources on the open-access portion of **http://study.sagepub.com/moody9e**:

- **Flash cards** that reiterate key chapter terms and concepts.
- **Quizzes**, including multiple-choice and true/false questions.
- **Video resources** that enhance the information in each chapter.
- **SAGE journal articles** for each chapter that provide extra content on important topics from SAGE's sociology journals.
- **Web resources** that provide links to websites to encourage additional learning on specific topics.

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In preparing this ninth edition, I have been helped enormously by the many professors who have used earlier editions and have thoughtfully offered ideas on how to improve the book.

In my role as director of academic affairs at AARP, it was a privilege to listen to faculty from around the country, and I am indebted to them, although they are not named here. I also acknowledge former colleagues at the Brookdale Center for Healthy Aging and Longevity at Hunter College who helped me over many years to refine the ideas found in these pages. I am especially grateful to Rose Dobrof for her guidance and inspiration. Let me express my gratitude to AARP and to John Rother, its director of policy and strategy, who has shared with me his thoughtful reflections on the future of aging in America. Jennifer Sasser, my coauthor, has once again been indispensable. Above all, I thank my wife, Elizabeth, patient reader and thoughtful editor, and my children, Carolyn and Roger, who have made all the difference in my life.

—H. R. M.

There have been many major changes in my professional life over the past year as I have transitioned out of full-time work in higher education to a "hybrid" career focusing on community-based education, conversation facilitation, activism, and public scholarship. During this transition, one of the projects that has remained a constant is this book and collaboration with Harry "Rick" Moody, for which I'm so very grateful. To all of the students and colleagues across the country who engage with our book, thank you for your generous ongoing feedback and support—I hope you see many of your very excellent suggestions manifested in this new edition! Many thanks as well to my colleagues at Oregon Humanities and the Talking About Dying facilitation team; working with all of you over this past year to engage the community in important conversations has been a great gift. Lastly, thank you to my family and closest friends for their encouragement and support. Where would I be, without your love?

—J. R. S.

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PROLOGUE

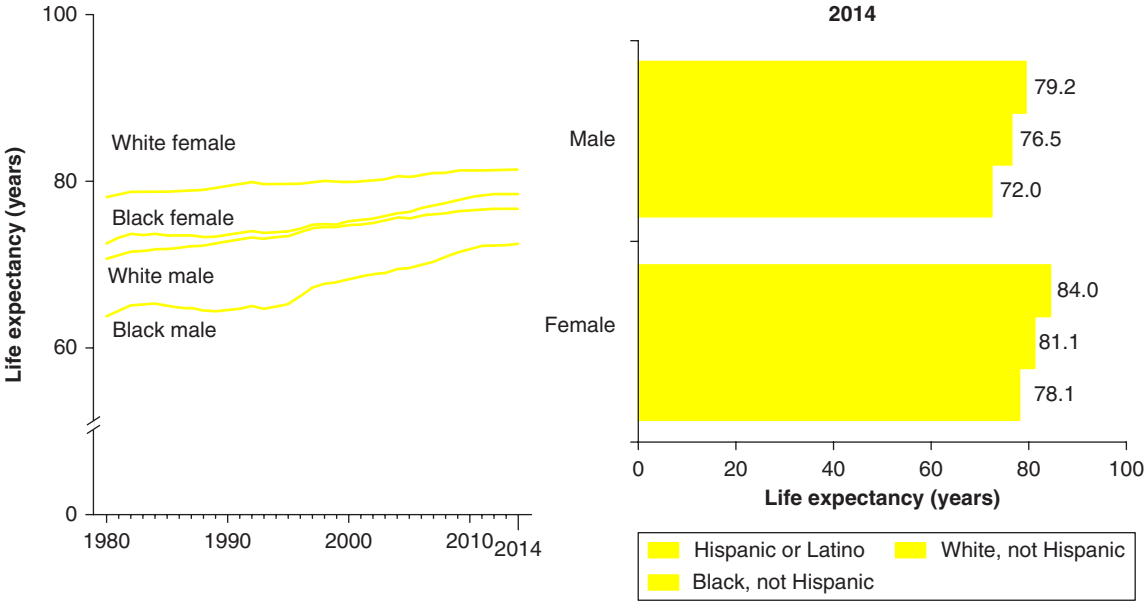
It is no secret that the number of people over age 65 in the United States is growing rapidly, a phenomenon recognized as the "graying of America" (Himes, 2001). The numbers are staggering. There has been a 30-fold increase in older people in the United States since 1870: from 1 million up to 46.2 million in 2014—a number now larger than the entire population of Canada. During recent decades, the 65 and older group has been increasing twice as fast as the rest of the population, and adults 80 and older are the fastest-growing segment of the population globally (Hudson & Goodwin, 2013).

As a result, the U.S. population looks different than it did earlier in the previous century. Life expectancy at birth was 47 in 1900 but is now close to 79. A hundred years ago, only 4% of the population was over the age of 65; today, that figure has jumped to 14.5%. The pace of growth continued in the first decade of the 21st century, and in 2011 the huge baby boom generation—those born between 1946 and 1964—moved into the ranks of older adults. The U.S. Census Bureau projects that by 2030 the proportion of the population over age 65 will reach close to 20% and there will be at least 400,000 persons who are 100 years or older. This rate of growth in the older population is unprecedented in human history. Within a few decades, one in five Americans will be eligible for Social Security and Medicare, contrasted with one in eight today.

We usually think of aging as strictly an individual matter. But we can also describe an entire population as aging or growing older, although to speak that way is metaphorical. In literal terms, only organisms, not populations, grow older. Still, the average age of the population is increasing, and the proportion of the population made up of people ages 65 and older is rising. This change in the demographic structure of the population is referred to as **population aging** (Clark, Burkhauser et al., 2004; Uhlenberg, 2009).

Population aging results from two factors: The proportion of older persons in a population increases because of persons living longer (e.g., "longevity"); and the proportion of children in the population decreases because of lower birthrates. Both of these trends took place throughout the 20th century and have continued into the early part of the 21st century, but the drop in the numbers of children being born is a more significant factor for population aging than is people living longer. In 1900, the United States had a relatively "young" population: The percentage of children and teenagers in the population was 40%. According to U.S. Census Bureau data, by 2010, the proportion of youth had dropped to 24%, an all-time low. By contrast, those ages 65 and older increased from 4% in 1900 to 14.5% in 2014, with

Exhibit P.1 Life Expectancy at Birth, by Sex, Race, and Hispanic Origin: United States, 1980–2014



SOURCE: Figure 18 in Centers for Disease Control and Prevention (2015); CDC/NCHS, National Vital Statistics System (NVSS).

NOTE: Life expectancy data by Hispanic origin were available starting in 2006 and were corrected to address racial and ethnic misclassification.

larger increases still to come. During the next several decades, overall population growth in the United States will be concentrated among middle-aged and older Americans.

The United States is not the only country undergoing population aging (Bosworth & Burtless, 1998; Cherlin, 2010). For example, average life expectancy at birth in Japan is currently 82 years, the highest in the world, and the proportion of the population ages 65 and older there is 21%. In Germany, Italy, and Japan, the population is aging because of low birthrates as well. Think of the state of Florida today as a model for population aging: a population in which nearly one in five people is already over the age of 65. We can ask: How long will it take different nations to reach the condition of "Florida-ization"? The answer is that Italy already looked like Florida by the year 2003, Japan by 2005, and Germany by 2006. France and Great Britain will resemble Florida in 2016, whereas the United States in general will not reach "Florida-ization" until 2023.

Population aging also shows up as an increase in the **median age** for the entire population, that is, the age at which half the population is older and half the population is younger. The median age of the U.S. population in 1820 was only 17 years; it rose by 1900 to 23 and by 2014 to 37.7. It is estimated that the median age of the American population by 2030 will be 42 years. This shift is a measure of the dramatic impact of population aging.

It is clear, then, that populations "age" for reasons different than individuals do, and the reasons have to do with demographic trends. In the first place, population aging occurs because birthrates go down. With a smaller proportion of children in the population, the average age of the population goes up. Population aging can also come about because of improvements in life expectancy—people living longer on average. Finally, the process of population aging can be influenced for a time because of birth **cohorts**. A cohort is a group of people born over a particular time who thereby experience common **life events** during the same historical period. For example, the cohort born during the Great Depression of the 1930s was relatively small and thus has had minimal impact on the average age of the population. By contrast, the baby boomers born after World War II are a large cohort. Because of this cohort's size, the middle-aged baby boomers are dramatically hastening the aging of the U.S. population.

In summary, then, trends in birthrates, death rates, and the flow of cohorts all contribute to population aging. What makes matters complicated is that all three trends can be happening simultaneously, as they have been in the United States in recent decades. Casual observers sometimes suggest that the U.S. population is aging mainly because people are living longer. But that observation is not quite accurate because it fails to take into account multiple trends defined by demographic factors of fertility, mortality, and flow of cohorts.

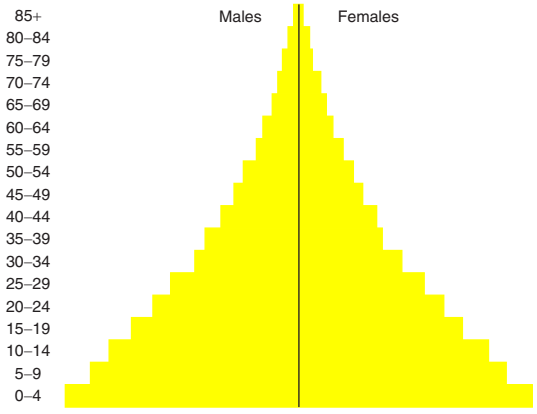
A demographic description tells us what the population looks like, but it does not explain the reason that population trends happen in the first place. We need to ask: Why has this process of population aging occurred? The rising proportion of older people in the population can be explained by **demographic transition theory**, which points to a connection between population change and the economic process of industrialization. In preindustrial societies, there is a generally stable population because both birthrates and death rates remain high. With industrialization, death rates tend to fall, whereas birthrates remain high for a period, and so the total population grows. But at a certain point, at least in advanced industrial societies, birthrates begin to fall back in line with death rates. Eventually, when the rate of fertility is exactly balanced by the rate of mortality, we have a condition of stability known as zero population growth (Chu, 1997). The population is neither growing nor shrinking.

The Western industrial revolution of the 19th century brought improved agricultural production, improved standards of living, and also an increase in population size. Over time, there came a shift in the age structure of the population, known to demographers as the demographic transition. This was a shift away from a population with high fertility and high mortality to one of low fertility and low mortality. That population pattern is what we see today in the United States, Europe, and Japan. The result in all industrialized societies has been population aging: a change in the age distribution of the population.

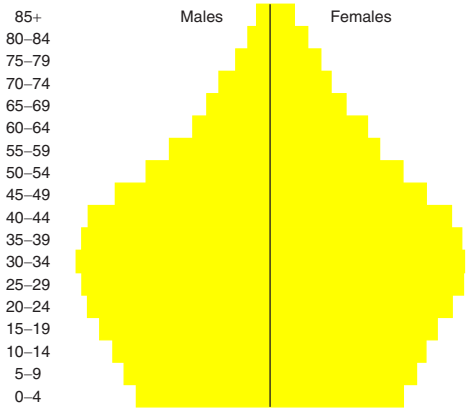
Most developing countries in the Third World—in Africa, Asia, and Latin America—still have fertility rates and death rates much higher than those of advanced industrialized countries. For the United States in 1800, as for most Third World countries today, that population distribution can be represented as a population pyramid: many births (high fertility) and relatively few people surviving to old age (high mortality). For countries that are approaching zero population growth, that pyramid is replaced by a cylinder: Each cohort becomes approximately the same in size.

As we have seen, the increased number of older people is only part of the cause of population aging. It is important to remember that, overall, population aging has been brought

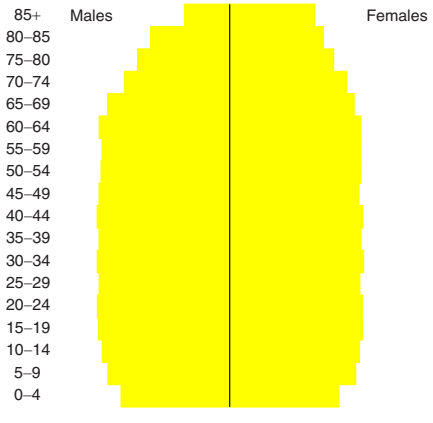
Exhibit P.2 Demographic Transition



EARLY. Each successive age group (from 0–4 to 85+) is smaller than the preceding age group. The working age population (shown in medium dark shading) has to provide for a comparatively large population of children. However, children can help their parents in growing food, collecting firewood, etc.



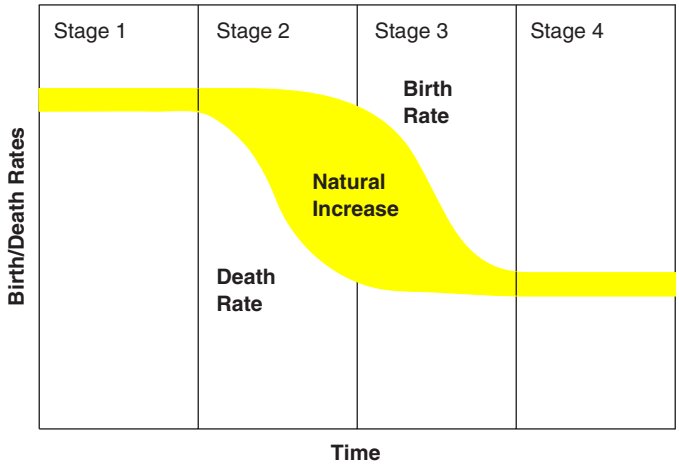
INTERMEDIATE. The age pyramid is dominated by the working age groups. Given appropriate conditions (low unemployment, etc.) the working age population is potentially well able to support the old and the young. Notice here and in the following diagram the left-right asymmetry. This is because women tend to live longer than men.



LATE. Now the pyramid is almost rectangular in shape. The working age population needs to support a large population of older people.

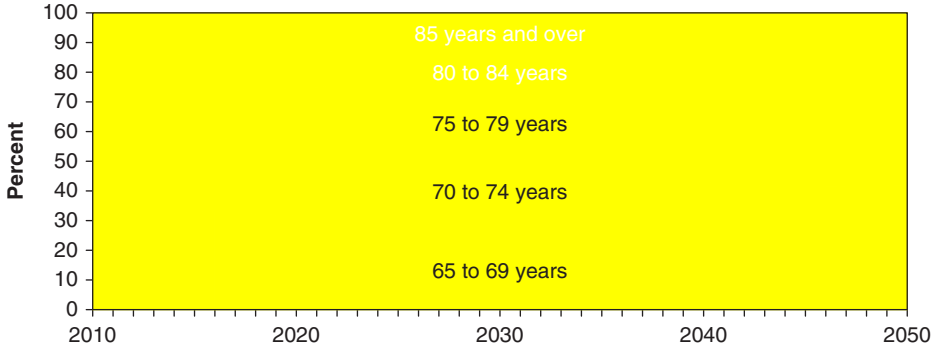
SOURCE: *Population: A Lively Introduction*, 4th edition, by Joseph A. McFalls, Jr.

Exhibit P.3 Birthrates and Death Rates



SOURCE: "Population Momentum and Population Pyramid," by John Byrd, D. R. Gordon, and Richard Grossman from Anthro 225, Online Education, Fort Lewis College. Reprinted by permission of the authors.

Exhibit P.4 Distribution of the Projected Older Population by Age for the United States, 2010 to 2050

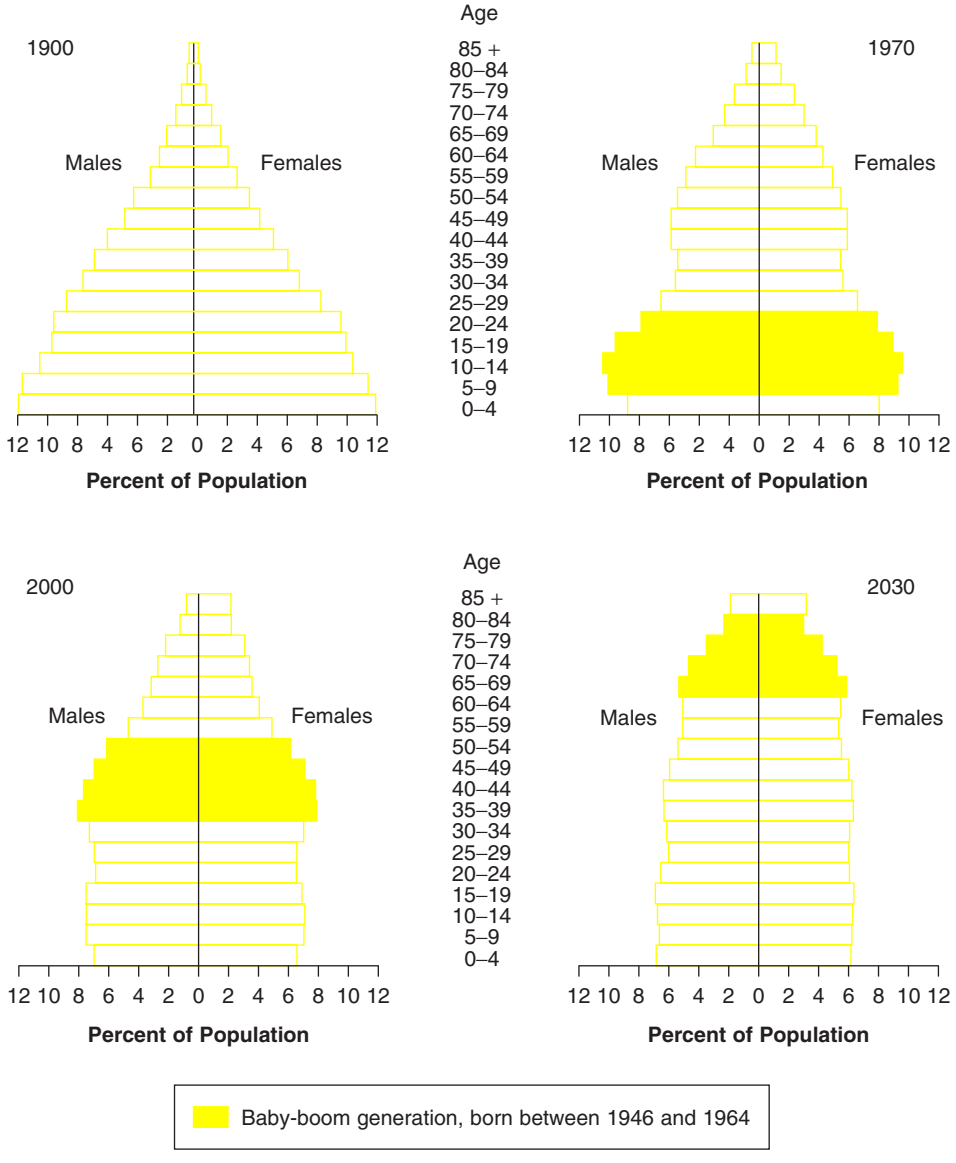


SOURCE: U.S. Census Bureau (2010).

NOTE: Line indicates the year that each age group is the largest proportion of the older population.

about much more by declines in fertility than by reductions in mortality. The trend toward declining fertility in the United States can be traced back to the early 19th century, and the process of population aging has causes that date back even longer (Olshansky & Carnes, 2002). To complete the demographic picture, we need to point to other factors that influence population size and composition, such as improvements in the chance of survival of people at different ages, or the impact of immigration into the United States, largely by younger

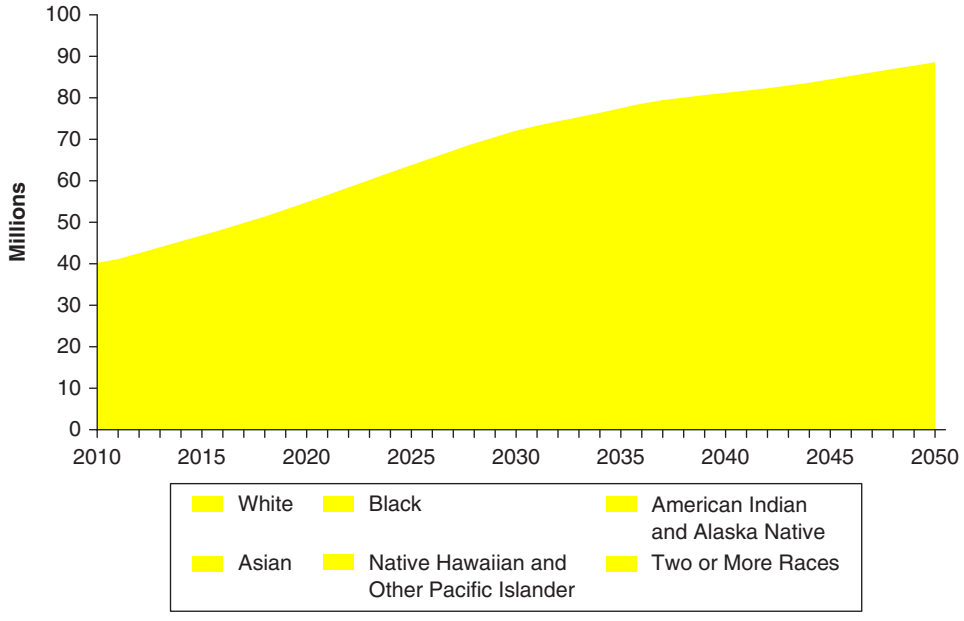
Exhibit P.5 The Dramatic Aging of the United States, 1900–2030



SOURCE: U.S. Census Bureau. Adapted from Himes (2001).

people. But one conclusion is inescapable. Today's increased proportion of people ages 65 and older springs from causes that are deeply rooted in American society. Population aging is a long-range trend that will characterize our society into the 21st century, driven largely by changes in immigration and the aging of the baby boomers. It is a force we all will cope with for the rest of our lives.

Exhibit P.6 Projected Population Adults Aged 65 and Over by Race for the United States: 2010 to 2050



SOURCE: Figure 4 from U.S. Census Bureau (2014).

NOTE: Unless otherwise specified, data refer to the population who reported a race alone. Populations for each race group include both Hispanics and non-Hispanics, as Hispanics may be of any race.

But how is American society coping with population aging? How are the major institutions of society—education, health care, government, the economy, the family—responding to the aging of a large number of individuals? The answer, in simplified terms, is rooted in a basic difference between individual and population aging. As human beings, we are all familiar with the life course process of individual aging. It is therefore not surprising that, as a society, we have devised many policies and practices to take into account changes that predictably occur in the later years, such as planning for retirement, medical interventions for chronic illnesses, and familiar government programs such as Social Security and Medicare.

Whether it involves changes in biological functioning or changes in work roles, individual aging is tangible and undeniable, a pattern we observe well enough in our parents and family members, not to mention in ourselves. But population aging is more subtle and less easily observed. We have many institutional policies and programs to deal with individual aging, but our society is just beginning to wrestle with the controversies generated by the population aging trends now emerging, with the prospect of even more dramatic debate and change in the decades ahead. These demographic changes are significant and are stimulating tremendous ferment in our society's fundamental institutions. For that reason, this book is organized around controversies along with the facts and basic concepts that stand behind them.

Our society's response to population aging can best be summed up in the aphorism that generals prepare for the next war by fighting the old one over again. That is to say, in our individual and social planning, we tend to look back to past experience to guide our thinking about the future. Thus, when the railroad was first introduced, it was dubbed "the iron horse." But it wasn't a horse at all, and the changes that rail transport brought to society were revolutionary, beyond anything that could be expected by looking to the past.

The same holds true for population aging. We cannot anticipate the changes that will be brought about by population aging by looking backward. Population aging is historically unprecedented among the world's societies. Moreover, we should not confuse population aging with the process of individual aging. An aging society, after all, is not like an individual with a fixed life span. Why is it that people are so often fearful when they begin to think about the United States' future as an aging society? Part of the reason is surely that many of us are locked into images of decline that are based on prejudice or outdated impressions of what individual aging entails. Because our social institutions have responded to aging as a problem, we tend to see only losses and to overlook opportunities in the process of aging.

An important point to remember is that the solutions to yesterday's problems may not prove adequate for the challenges we face today, or for those we'll face in the future. For example, Social Security has proven vital in protecting older Americans from the threat of poverty in old age. But Social Security was never designed to help promote second careers or new forms of productivity among older people. We may need to think in new ways about pensions and retirement in the future. Similarly, Medicare has proved to be an important, although expensive, means of guaranteeing access to medical care for older people, but it was never designed to address the problems of long-term care for older people who need help to remain in their own homes. Finally, as the sheer number of people ages 65 and older increases—from 46.2 million in 2014 to a projected 88.5 million by 2050—the United States as a society will need to consider which institutions and policies are best able to provide for the needs of this growing population.

Social gerontologist Matilda White Riley pointed out that our failure to think deeply about population aging is a weakness in gerontology as a discipline. Gerontologists know more about individual aging than about opportunity structures over the whole life course. By "opportunity structures," we mean that the way society is organized or structured affects an individual's chance or ability to gain certain rewards or meet certain goals. A good example is the way the life course has been shaped, with transitions from education to work to retirement. These transitions do not seem to prepare us for an aging society in the future. In effect, we have a "cultural lag" in facing the future (Katz, 2005; Riley & Riley, 1994). We know that in this century, the age of leaving the workforce to retire has been gradually going down, whereas the age for leaving schooling has been going up. Riley pointed out that, if we were to project these trends into the future, sometime in the 21st century, people would leave college at age 38 and immediately enter retirement. This scenario, of course, is not serious. But it does make a serious point. We must not take current trends and simply project them into the future.

Part of the problem is that we have less knowledge than we ought to have about the interaction between individual lives and the wider society. During the 20th century, nearly three decades were added to human life expectancy. Now more than a third of adult life is spent postwork. People ages 65 and older are healthier and better educated than ever before.

Yet opportunity structures are lacking to integrate this older population into major institutions of society such as education or the workplace. We have yet to design a blueprint for an aging society of the future. And there are important questions to be asking about what such a blueprint might look like. Today, we grow old and experience aging and later life differently than our grandparents did, and in a way differently than will our children, so it does little good to look backward as we move into the 21st century.

The challenge is to change our way of anticipating and planning for the future by thinking critically about our underlying assumptions. This task of critical thinking may be more difficult in gerontology than in other fields because of the familiarity and deeply personal nature of aging. Revolutionary changes took place in the 20th century, but most of us tend to assume that aging and the human life course have remained the same. Despite our commonsense perceptions, however, history and the human sciences tell us that the process of aging is not something fixed, but is both changeable and subject to interpretation.

Taking a more critical and thoughtful stance, we know that "stages of life" have been viewed differently by different societies, in different cultural contexts, and at different historical periods. Even in our own society, the experience of growing older is not uniform but means different things to individuals depending on their gender, ethnicity, and social class. From this perspective, a familiar practice such as retirement turns out to be less than a century old and now is in the process of being reexamined and redefined. Even in the biology of aging, scientists are engaged in serious debate about whether it is possible to extend the maximum human life span from what we have known in the past.

In short, wherever we look—biology, economics, the social and behavioral sciences, and public policy—we see that "aging," despite its supposed familiarity, cannot be taken as a fixed fact of human life. Both individual aging and population aging are socially and historically constructed, subject to interpretation, and therefore open to controversy, debate, and change.

It is astonishing to realize that more than half of all the human beings who have ever lived beyond age 65 are alive today. What aging will mean in the 21st century is not something we can predict merely by extrapolating from the present and the past. Still less can the study of aging consist of an accumulation of facts to be assimilated, as if knowing these facts could somehow prepare us for the future. The changes are too significant for such an approach.

What we need most of all is to consider facts about individual and population aging in a wider context: to understand that facts and theories are all partial, provisional, and, therefore, subject to interpretation and revision. That is the second major reason that the study of aging in this book is presented in the form of controversy and debate, offering all of us an opportunity to reflect on and construct an old age worthy of "our future selves."

About the Authors

Harry R. Moody, PhD, is a graduate of Yale University and received his doctorate in philosophy from Columbia University. He has taught philosophy at Columbia University, Hunter College, New York University, and the University of California at Santa Cruz. For 25 years he was at the Brookdale Center for Healthy Aging and Longevity at Hunter College of the City University of New York, where he served as cofounder and executive director. With the National Council on Aging in Washington, D.C., he served as codirector of its National Policy Center. He is the author of more than 100 scholarly articles and several books, including *Abundance of Life: Human Development Policies for an Aging Society* (1988); *Ethics in an Aging Society* (1992); and most recently, *The Five Stages of the Soul* (1997), a study of spiritual growth in the second half of life. He is known for his work in older adult education and served as chairman of the board of Elderhostel. Dr. Moody recently retired as the director of academic affairs for AARP in Washington, D.C. He is currently a visiting faculty member in the Creative Longevity and Wisdom Program at Fielding Graduate University in Santa Barbara, California.

Jennifer R. Sasser, PhD, is an educational gerontologist, transdisciplinary scholar, and community activist. Dr. Sasser has been working in the field of gerontology for more than half her life, beginning as a nursing assistant and senior citizen advocate before focusing on scholarly inquiry and education. As an undergraduate she attended Willamette University, in Salem, Oregon, graduating Cum Laude in Psychology and Music; her interdisciplinary graduate studies at University of Oregon and Oregon State University focused on the human sciences, with specialization areas in adult development and aging, women's studies, and critical social theory and alternative research methodologies. Dr. Sasser's dissertation became part of a book published by Routledge in 1996 and coauthored with Dr. Janet Lee—*Blood Stories: Menarche and the Politics of the Female Body in Contemporary US Society.*

For the past 20 years, she has focused her inquiry in the areas of creativity in later life, aging and embodiment, transdisciplinary curriculum design, critical gerontological theory, transformational adult learning practices, and cross-generational collaborative inquiry. Dr. Sasser served as chair of the Department of Human Sciences and founding director of Gerontology at Marylhurst University from 1999 to 2015. She joined the Marylhurst faculty as an adjunct member of the Master of Arts in Interdisciplinary Studies program in 1997 and during the subsequent 19 years was involved in designing many on-campus and web-based courses and programs for adult learners.

In addition to coauthoring *Aging: Concepts and Controversies* with Harry Moody, she is working with him on the forthcoming book *Gerontology: The Basics* (Routledge, U.K.). Her other ongoing commitments include convening the Gero-Punk Project (www.geropunkproject.org); serving as a conversation facilitator for Oregon Humanities (www.oregonhumanities.org); and offering consulting, workshops, and presentations throughout North America.

An award-winning educator, Dr. Sasser recently received the 2012 Association for Gerontology in Higher Education Distinguished Teacher award and a Willamette University Distinguished Alumni award in 2014. In 2016, she joined the part-time faculty in the Gerontology program at Portland Community College.

Basic Concepts I

A Life Course Perspective on Aging

Multigenerational families provide a vivid illustration of the life course perspective: Aging is a gradual, lifelong process we all experience, not something that happens only in later life.

Learning Objectives

After reading Basic Concepts I, "A Life Course Perspective on Aging," readers will:

1. Understand aging as a lifelong experience that is multifaceted and shaped by the contexts in which individuals live.
2. Be familiar with the central theories developed to understand and explain aging.
3. Be able to identify the main biological processes thought to regulate the aging process.
4. Appreciate the ways in which social construction and historical factors influence our understandings of age, aging, and later life.

When we think about "aging," we often call to mind the image of an old person. But the process of aging actually begins much earlier in life. We cannot fully understand what *old age* means unless we understand it as part of the entire course of human life, and this approach is called the **life course perspective** (Fuller-Iglesias, Smith, & Antonucci, 2009; Settersten, 2003).

Often our image of old age is misleading. For example, try to conjure a mental image of a college student. Now imagine a recent retiree, a grandmother, and a first-time father. Hold those images in mind and then consider the following facts:

- Each year, half a million people over age 60 are studying on college campuses.
- Retirees from the military are typically in their 40s or 50s.
- In some inner-city neighborhoods, it is not at all unusual to meet a 35-year-old grandmother whose daughter is a pregnant teenager.
- It is no longer surprising for men in second marriages to become fathers for the first time at age 40 or 50.

Did some of those facts contradict the images you conjured, particularly images related to how old people are when they fill certain roles? What this exercise tells us is that roles such as "student," "retiree," "grandmother," and "first-time father" are no longer necessarily linked to chronological age. Today, what we are learning about aging is forcing us to reexamine traditional ideas about what it means to grow old. Both biomedical science and social behavior among older adults depart from stereotypical images of what is "right" or "appropriate" for a specific age.

Although we tend to think of old age as a stage at the end of life, we recognize that it is shaped by a lifetime of experience. Conditions of living, such as social class, formal education, and occupation, are determinants of the individual's experiences in old age. In other words, the last stage of life is the result of all the stages that come before it. The implication is that we no longer accept the quality of life in old age, or even the meaning of old age, as a matter of destiny. Rather, we view it as a matter of individual choice and social policy. Whether older people feel satisfaction and meaning may therefore depend on what they do and what social institutions do to give them new purpose in later life (Kohli, 2007).

Recent biological research demonstrates that indeed people do not suddenly become old at the time we have defined as *old age*. Aging is a gradual process, and many human capabilities survive long past the time when persons living in North America are considered of an age to retire. We are learning more every day about how and why people grow old, with the hope that we can make the last stage of life just as meaningful in its own way as earlier stages are.

FOCUS ON PRACTICE

What Should We Call Older Adults?

In a *New York Times* column "The New Old Age," author Judith Graham asked: "What language do you think we should use to describe people who have advanced beyond the middle of their lives, and why?" She conducted informal interviews with several experts in the field to see what they had to say, and what she found speaks to the complexity of this issue. *Senior citizen, elderly, older adult, older person,* and *elder* are the most common terms used to refer to such a person. And there are arguments for and against using each of these terms. But what do persons who are in the later years of the life course call themselves? What do they want to be called? What might your future older self want to be called? These are important questions to ask in the context of the study of aging, as the focus of our research and practice is "people who have advanced beyond the middle years of their lives."

Graham, Judith, "Elderly" No More, in "The New Old Age," *The New York Times* (April 19, 2012).

Age Identification

A central concept in any discussion of aging is the meaning of age itself. Age identification is partly an acknowledgment of chronological age or years since birth, but it is also a powerful social and psychological dimension of our lives.

From early childhood, we are socialized to think about what it means to "act your age," a process described as **age differentiation**. We learn that different roles or behaviors are considered appropriate depending on whether we are a toddler or a teenager, an adult or an older person. **Age grading** refers to the way people are assigned different roles in society depending on their age (Streib & Bourg, 1984). Theorists of **age stratification** emphasize that a person's position in the age structure affects behavior or attitudes.

People also come to define themselves, at least in part, in terms of their age. Consider when you started thinking of yourself as an adult instead of a child. Did you suddenly lose interest in some of the things that had once fascinated you because you considered them "childish" interests? Do you anticipate that when you become "middle aged" or "old" you will no longer be quite the same person you are now? Where do these ideas regarding what is "appropriate" at a particular age come from?

People within a culture have widely shared expectations about the "right time" for an event to happen. In Western society, for example, marriage at age 13 or retirement at age 30

would be considered "off time," but graduation from college at 22 or retirement at age 65 would be "on time." In other words, we all have a shared, socially constructed **social clock** concerning the appropriate age for life events (Helson, Mitchell, & Moane, 1984). However, the timetable for life events varies somewhat with social class and occupation; the career timetable of a medical student, for instance, is quite different from that of a migrant farmworker. In addition, age norms change over time. For example, Americans today tend to first marry in their mid- to late 20s, but a century ago, people that age (particularly women) would have been considered rather old for a first marriage.

Cultural understandings about what is "age appropriate" are part of a tradition going back to antiquity (Falkner & de Luce, 1992). In the comedy of ancient Rome, for example, older adults are often ridiculed for unseemly behavior, and hostility is expressed toward old men who take young lovers, a theme often repeated in medieval literature (Bertman, 1976).

What do we think is appropriate for "older people" in our culture today? For one answer, we can look to the images in our symbols, rituals, and myths. Storytellers and minstrels have expressed traditional societies' concepts of age, but today in advanced industrial societies, those concepts are frequently transmitted and reinforced by TV and other mass media. As a rule, people on TV are young and good looking; older people are not visible on TV in anything like their proportion of the actual population (Davis & Davis, 1985; Peterson & Sautter, 2003). When they are depicted, they tend to be one step removed from the action. Even when advertisers try to appeal to the "gray market" of older consumers, they present idealized images of good health and vigorous activity. It seems sometimes that we are trying to ignore the inevitability of old age.

Beyond stereotypes, electronic and social media have a latent effect that is both more subtle and more pervasive. Media occupy a perpetual present dominated by novelty and momentary images (Meyrowitz, 1985). The effect is to weaken any sense of continuity over the life course and to undercut any authority or meaning for old age. Traditional cultures tend to prize their older members as links in a historical chain reaching back to the ancestors. But the contemporary culture of communication technology and social media tends to put all age groups on an equal footing (Gilleard & Higgs, 2000). The result is the "disappearance of childhood" and perhaps of old age too (Postman, 1982).

Mythic images of aging are of course oversimplified and based on fantasy. But sometimes they provide insight into the deeper meaning of the last stage of life. The Western view of old age tends to be ambivalent. In the Hebrew Bible, for instance, old age is venerated as a reward for righteous living: The Fifth Commandment to honor one's parents contains a promise of long life. In contrast, there is a realistic dread of frailty and a fear that children may reject aged parents (Isenberg, 2000). The book of Job even questions the assumption that old age brings wisdom and recognizes that the wicked can live just as long as the righteous.

Greek and Roman views of late life also reflect profound ambivalence. In the first great work of Western literature, Homer's *Iliad,* we find worship of youth in the figure of the young, strong warrior Achilles, but the aged Nestor is revered for his wisdom. In the philosophical tradition, Plato and Aristotle took opposing views on aging. For Plato, later life offered a possibility of rising above the body to attain insight into the eternal nature of reality. In contrast, Aristotle saw middle age as the summit of life, a time when creative intellectual powers were at their peak, with later life as a time of decline (Minois, 1989).

In our culture today, we explore similar issues, especially in feature-length films. The myths of aging range from the quest for rejuvenation through the fountain of youth (*Cocoon*)

to the psychological self-fulfillment of the aged hero returning home (*Wild Strawberries* or *The Trip to Bountiful*). At its best, film can present images of the older person as a genuine hero triumphing over circumstance (*Driving Miss Daisy* or *The World's Fastest Indian*) or living later life with zest and openness to new adventures (*The Best Exotic Marigold Hotel*). The images of old age purveyed by mass media have a profound effect on attitudes toward aging in all industrialized societies (Featherstone & Wernick, 1995).

The Stages of Life

Since the dawn of civilization, human beings have recognized a progression through the life course, from infancy through old age. The overall progression appears universal, yet the time between birth and death has been organized in distinctive ways by different societies (Boyle & Morriss, 1987). The simplest division was into two stages: childhood and adulthood. But as societies become more complex and as longevity increases, they tend to develop a greater number of life stages.

Greek and Roman ideas were influential in shaping how we think today about aging and the life course. One of the greatest Greek tragedies is the three-part *Oedipus* cycle, the last play written when its author, Sophocles, was nearly 90 years old. In this story, Oedipus becomes king because he solves the famous riddle of the Sphinx: "What creature walks on four legs in the morning, two legs at noon, and three legs in the afternoon?" The answer is the human being at successive life stages: infancy (crawling on four legs), adulthood (walking on two), and old age (using a cane, a third leg, to support the other two). The Greek medical writer Hippocrates described four stages of life, or "ages," corresponding to the four seasons of the year. Similar ideas were put forward by the Roman physician Galen and by the astronomer Ptolemy. Ptolemy developed an idea of seven stages of life, which had great influence during the Middle Ages.

During the Middle Ages, Christian civilization balanced the image of multiple stages with the metaphor of life as a journey or spiritual pilgrimage. From that standpoint, no single stage of life would be viewed as superior to another. Just as the natural life cycle was oriented by the recurrent cycle of the seasons, so the individual soul would be oriented toward the hope of an afterlife (Burrows, 1986). The human life course as both cycle and journey was thereby endowed with transcendent meaning and wholeness (Cole, 1992).

With the coming of the Reformation and the Renaissance, ideas about the life course changed into forms we recognize as modern. Writing in this epoch, Shakespeare expressed the traditional idea of the "Seven Ages of Man":

> All the world's a stage
>
> And all the men and women merely players,
>
> They have their exits and entrances;
>
> And one man in his time plays many parts,
>
> His acts being seven ages.
>
> (*As You Like It,* Act II, Scene 7)

To Shakespeare, the periods of life were merely "roles" acted out on the stage of society, and the role losses of old age appeared as the final act of the play. Thus, a theatrical metaphor replaced the ideal of a cosmic cycle or a spiritual journey.

At the dawn of modern times, a generation after Shakespeare, drawings and engravings began to depict the stages of life in a new way. The traditional image of a completed circle became an image of a rising and falling staircase, where midlife occupied the peak of power. That image promoted the idea of life as a "career," in which individuals could exercise control over later life through, for example, extended education, good health care, and capital accumulated through savings during earlier stages.

During the 16th and 17th centuries, the stages of life began to be demarcated in ways we recognize today. Childhood became a period of life in its own right, separate from adulthood and old age (Aries, 1962). By the 20th century, as the practice of retirement became well established, old age became a distinct phase as well. Some sociologists argue that such stages reflect patterns of socialization tied to dominant institutions such as the school or workplace (Dannefer, 1984; Kohli, 2007); in other words, retirement exists as a separate phase of life partly because society needs to make way in the workplace for younger workers.

Today, a person will spend, on average, at least one fourth or even one third of adulthood in retirement (Kohli, 1987). Partly as a consequence, distinctions are made between the **young-old** (ages 65–74), the **old-old** (ages 75–84), and now the **oldest-old** (ages 85 and over). Demarcating a stage of life following the working years is more important to us than ever, yet we have simultaneously become less certain about what it means to grow older or to "act your age" at any point in life. Issues around the potential for new forms of self-expression and contributions to society in later life are discussed later in this book.

The Life Course and Aging

The study of aging as a historical phenomenon reveals a variety of views about the stages of life, about when old age begins, and about what it involves (Troyansky, 2015). When we read about aging in the Bible or in works by such writers as Shakespeare and Cicero, we might imagine that "old age" is a fixed stage of life, always part of the natural pattern of things, such as birth and death. But now, at the beginning of the 21st century, it has become clear that human aging is far more ambiguous than might have been imagined in earlier epochs. We can most fruitfully understand old age not as a separate period of life, but as part of the total human life course from birth to death.

Increasingly, aging is seen from this life course perspective (Markson & Hollis-Sawyer, 2000; Mortimer & Shanahan, 2003). In other words, we look at old age as one phase of the entire course of life and the result of influences that came from earlier periods than old age. We distinguish here between the span of a lifetime, which is the total number of years we live, and the course of life, which refers to the meaningful patterns seen in the passing of time. Gerontology is enriched and broadened by the life course perspective. Instead of merely describing the limited characteristics of old age, which are tied primarily to biophysical changes, we shift the framework to include all phases of life, from childhood, adolescence, and adulthood right up through the last period of old age. We also view the complex interaction of age, social status, cohort effects, and history; the contexts in which aging occurs; and the timing of events and transitions in individuals' lives (Elder & Johnson, 2003;

Riley & Riley, 1994). **Longitudinal research**, which follows individuals over long periods of time, is a key methodological design to reinforce the life course perspective because such an approach allows researchers to view developmental changes as they unfold over time within the same people.

The life course perspective insists that, to make sense of old age, we need to understand the entire life history. As people move through the life course, they are socialized to act in ways appropriate to successive social roles: student, parent, worker, retiree, and so on. But these structural factors only set boundaries; the meaning and experience of aging vary significantly by culture and are influenced by powerful factors such as gender, socioeconomic status (SES), and ethnicity. There is also room for individual variety and freedom of choice as human beings interpret age-related roles in distinctive ways.

Life Transitions

A life course perspective recognizes markers of the passage through life: important life events or transition points, such as graduation from school, first job, marriage, and retirement. In some respects, life transitions have become more predictable than was true earlier in history. For example, today people commonly die in old age, whereas in an earlier era, death was not unusual at any time of life. Thus, an event such as the death of a spouse or a parent is now a more predictable marker of later adulthood than it once was.

At the same time, however, certain transitions are less often tied to a particular age or stage of life than they might have been in earlier times. For example, during the 1950s and 1960s, college students were expected to graduate at the age of about 21. But today's college students graduate at any age from the early 20s to the 30s and beyond, and news photos of a gray-haired grandparent wearing a cap and gown are no longer uncommon. Graduation may occur either before marriage, sometime during childbearing age, or well after. Whatever the age or circumstance of the graduate, however, the transition still marks a major role change.

Special events that mark the transition from one role to another—such as a bar mitzvah, confirmation, graduation ceremony, or wedding—are known as **rites of passage** (Van Gennep, 1960). These rituals reinforce shared norms about the meaning of major life events. Some traditional rites of passage, such as the sequestration of adolescents prior to induction into adult society, are no longer commonly observed in our society. However, we continue to observe a great many, including markers of old-age transitions such as retirement parties, 50th wedding anniversaries, and funerals.

How are we to understand the significance of life transitions? As the human life course became an object for scientific study, the stages of life were no longer seen as part of a cosmic order of meaning (Cole & Gadow, 1986; Katz, 1996). Instead, psychology tried to explain change over the course of life as a natural process unfolding in individuals as they travel through time. The result was the rise of a new field: life span development psychology. Erik Erikson, an influential developmental psychologist, depicted the life course as a series of psychological tasks, each requiring the person to resolve conflicting tendencies (Erikson, 1963). For middle age, Erikson posited a conflict between stagnation and generativity: roughly, being trapped by old habits versus going beyond self-absorption to nurture the next generation (Kotre, 1984). For old age, Erikson saw a conflict between ego integrity and despair—that is, accepting one's life versus feeling hopeless and depressed about the limited time remaining.

Related to Erikson's basic ideas has been the attention on psychological changes during midlife transition, a time when people in middle age confront facts about mortality and the limits of youthful dreams (Jacques, 1965). Psychologist Daniel Levinson (1978) has described life transitions characteristically associated with ages such as 30, 40, and 50. These are times when people at midlife reassess themselves and ask, "Where have I come from, and where am I going?" Many of these psychological "passages" or changes of adult life have been popularized by journalists. However, doubts have been raised about just how universal such "passages" and age-related transitions actually are (Braun & Sweet, 1984). Midlife, just like old age, turns out to be a time of life that is different for different people (Brim, Ryff, & Kessler, 2004).

In contrast, many theorists today see personality in terms of continuity or flexible adaptation over the life course. These theories are more optimistic than those that see old age as a time of loss resulting in either passive adjustment or dependency and depression. Today, most gerontologists believe that people bring positive resources to aging, including a personal sense of meaning, which in turn can promote resilience or adaptation to losses in later life. Empirical studies show that people generally cope well with life transitions such as retirement, widowhood, and the health problems of age. When problems come, styles of coping tend to remain intact, and people adapt. Because of this capacity for adaptation, old age is not usually an unhappy time.

Nevertheless, many behavioral or psychological problems come about because of the difficulties of preparing for transitions without the help of widely observed rituals for rites of passage and institutional structures. For example, the transition from adolescence to adulthood is typically marked by events such as marriage, parenthood, and employment (Hogan & Astone, 1986). Although schools, job orientation, and marriage counseling help people make transitions to adulthood, the situation is different in later life. Few social institutions exist to help people with the transitions in the second half of life.

In addition, we currently have no consensus about how people are supposed to act when in later life they confront events traditionally linked to younger ages (Chudakoff, 1989). For example, how are older widows supposed to go about dating? How much help should older parents expect from their children who are themselves at the point of retirement? When confronted with a 70-year-old newlywed or a 60-year-old "child," we recognize that norms are unsettled when it comes to transitions in later adulthood (Featherstone & Hepworth, 1993).

Traditional Theories of Aging

Modernization Theory

How do we make sense of the contradictory images of aging found in modern culture? One influential account that tries to do so is the **modernization theory of aging** (Cockerham, 1997). According to this theory, the status of older adults declines as societies become more modern. The status of old age was low in hunting-and-gathering societies, but it rose dramatically in stable agricultural societies, where older people controlled the land. With the coming of industrialization, it is said, modern societies have tended to devalue older people. The modernization theory of aging suggests that the role and status of older adults are inversely related to technological progress. Factors such as

urbanization and social mobility tend to disperse families, whereas technological change tends to devalue the wisdom or life experience of elders, leading to a loss of status and power (Cowgill, 1986). Modernization may thus be related to the declining status of older people in different societies (Clark, 1992–1993).

This account strikes a responsive chord because it echoes the "golden age" picture of later life, which depicts the old as honored in preindustrial societies (Stearns, 1982), a version of the "world-we-have-lost" syndrome (Laslett, 1965/1971). But imagining that elders were all well treated in "the good old days" is a big mistake, and modernization theory has been widely criticized (Haber, 1983; Quadagno, 1982). As we have seen already, in primitive, ancient, and medieval societies, older adults were depicted and treated in contradictory ways: sometimes abandoned, sometimes granted power. The history of old age includes variations according to race, gender, social class, and culture. Modernization has clearly reshaped the meaning of old age, yet the image and reality of old age have never entirely coincided, as the cross-cultural study of aging confirms (Holmes & Holmes, 1995).

At the core of the history of old age, there has always been ambivalence: both resentment and guilt, both honor and oppression. The psychological basis for ambivalence is understandable. Why shouldn't adults feel guilt and dread at the sight of vulnerable old age stretching before them? Why shouldn't we harbor ambivalent feelings toward those who accumulate power and wealth over a long lifetime? We see the same ambivalence today. Older people as a group receive many benefits from the government based on their age, yet they are sometimes depicted, perhaps unfairly, as selfish or unconcerned with other generations. The truth is different from and more complex than what popular images convey.

A decisive change with industrialization was growing rationalization and bureaucratization of the life course—a greater rigidity among the "three boxes of life" of childhood, adulthood, and old age (Bolles, 1981). At the same time, as we have seen, mass media and rapid flux in cultural values have begun to erode any special qualities linked to distinctive life stages. With rising longevity, more people are living to old age, and older adults as a group are becoming a larger proportion of the total population. The power of older people has grown by sheer numbers. Meanwhile, the achievement of old age has been devalued simply by becoming more familiar. Perhaps most important, old age has been stripped of any clear or agreed-on meaning because the entire life course has changed in ways that will have unpredictable effects on what aging may be in the 21st century.

There is a big problem with constructing an overall theory of aging for social gerontology. The problem can be compared with a parallel challenge in the biology of aging: Is aging truly something inevitable (Olshansky & Carnes, 2002)? Evolutionary biology begins with a paradox: Why should aging appear at all? From the standpoint of survival of the fittest, there seems to be no reason for organisms to live past the age of reproduction. Old age, in short, should not exist. Yet human beings do live long past the period of fertility; indeed, human beings are among the longest-living mammals on earth.

Thus, the meaning of old age is a problem even for biology, and biologists have put forward a whole variety of theories to explain it: somatic mutation theory, error catastrophe theory, autoimmune theory, and so on. No single theory has proved decisive, but all have stimulated research enabling us to better understand the biology of aging. Similarly, the changing conditions and meanings of old age have provoked a variety of theories in social gerontology. Just as with the biology of aging, there is no clear agreement that a single theory is best. But some early theories of aging are still worth closer examination

because they demonstrate just how deeply held values affect all theories of aging and how these theories are related to enduring questions about the meaning of old age: disengagement theory, activity theory, and continuity theory.

URBAN LEGENDS OF AGING

"Respect for elders was higher in the past."

This is a common myth, debunked by historian Peter Laslett 40 years ago in his classic *The World We Have Lost* (1965/1971). Maybe there's a reason why the Bible contains the Fifth Commandment, "Honor thy father and thy mother." It's the only Commandment that carries a reward for following it.

Disengagement Theory

One of the earliest comprehensive attempts to explain the position of old age in modern society is the **disengagement theory of aging** (Cumming & Henry, 1961). The disengagement theory looks at old age as a time when both the older person and society engage in

Becoming a grandparent can be an important life course transition.

mutual separation, as in the case of retirement from work. From the perspective of this theory, this process of disengagement is understood to be a natural and normal tendency reflecting a basic biological rhythm of life. In other words, the process of disengagement is assumed to be "functional," serving both society and the individual. The disengagement theory is related to modernization theory, which posited that the status of older adults must decline as society became more modern and efficient, so it was natural for older adults to disengage.

Disengagement theory grew out of an extensive body of research known as the Kansas City Study of Adult Life, which was a 10-year longitudinal study of the transition from middle age to old age (Williams & Wirths, 1965). The idea of disengagement presented itself not only as an empirical account based on those findings but also as a theory to explain why the facts turned out the way they have: For example, why has the practice of retirement spread in modern societies? But gerontologists have criticized the theory of disengagement (Hochschild, 1975); some have pointed out that the theory evolved during the 1950s and reflected social conditions quite different from those of today.

Although the original disengagement theory is no longer often accepted, the pattern of disengagement does describe some behavior of *some* older people—for example, the popularity of early retirement. But there are growing numbers of older people whose behavior cannot be well described as withdrawal or disengagement from society. Disengagement as a global pattern of behavior can hardly be called natural or inevitable.

Another problem arises when we describe disengagement as "functional," which is a synonym for "useful." The same process that might be functional or useful for an organization—for instance, compulsory retirement at a predictable age—may not be at all useful for individuals, who might prefer flexible retirement or who may need to continue working because of economic necessity. In fact, it was widespread resentment at being forced to retire at a fixed age that led Congress to end mandatory retirement for most jobs in 1986.

There is also a lack of clarity about what behavior is actually being described by the concept of disengagement. For example, individuals might partially withdraw from one set of activities, such as those in the workplace, to spend more time on other activities, such as family and leisure pursuits; total withdrawal is quite uncommon. Although advancing age at some point is usually accompanied by losses in health, physical ability, and social networks, those who age most "successfully" adjust to and compensate for these losses by putting the changes of later life into a wider perspective, an attitude sometimes described as "wisdom." Later life today, at least for those who remain healthy, is often filled with a rich range of activities. The Kansas City Study investigators also found that with advancing age, there is, in fact, a trend toward greater *interiority,* meaning increased attention to the inner psychological world (Neugarten, 1964). Individuals appear to reach a peak of interest in activity and achievement in their middle years. As they anticipate later life, they may become more detached, more inclined to "ego transcendence," as if in anticipation of predictable role losses in later life (Tornstam, 2005).

Understood in this way, "disengagement" need not necessarily describe the outward behavior of individuals, but may refer to an inner attitude toward life. Furthermore, there is no reason to assume that all older people are inclined toward even a psychological stance of disengagement; some may have ambivalence about their own activities and attachments. Perhaps the greatest example in literature of that ambivalence is the tragic fate of Shakespeare's King Lear, who tries to give up his role as king but is not quite able to withdraw from power and prestige. As a result, he brings disaster on his family and himself.

King Lear's example suggests that disengagement depends on having some sense of personal meaning that is distinct from the office one holds. The ability to achieve some degree of detachment, at any age, is a matter of wide individual difference. In later life, disengagement is the preferred style for some, whereas continued activity remains attractive for others.

Activity and Continuity Theories of Aging

At the opposite pole from the disengagement theory is the **activity theory of aging**, which argues that the more active people are, the more likely they are to be satisfied with life. Activity theory assumes that how we think of ourselves is based on the roles or activities in which we engage: We are what we do, it might be said. The activity theory recognizes that most people in later life continue with the roles and life activities established earlier because they continue to have the same needs and values.

The **continuity theory of aging** makes a similar point, noting that as people grow older they are inclined to maintain as much as they can the same habits, personality, and style of life they developed in earlier years (McCrae & Costa, 1990). According to both the activity theory and the continuity theory, any decreases in social interaction are explained better by poor health or disability than by some functional need of society to "disengage" older people from their previous roles (Havighurst, Neugarten, & Tobin, 1968).

A large body of research seems to support some aspects of activity theory. Continued exercise, social engagement, and productive roles all seem to contribute to mental health and life satisfaction. But other studies indicate that informal activity or even merely perceived social integration may be more important in promoting subjective well-being. In other words, our attitudes and expectations about activity or detachment may be more important than our formal participation patterns (Longino & Kart, 1982). In fact, what counts as "activity" depends partly on how we look at the meaning of things, not on external behavior alone. This point is emphasized by those who adopt a phenomenological approach to the interpretation of aging.

If retirement or age limitations make actual participation impossible, the activity theory suggests that people will find substitutes for roles or activities they have to give up (Atchley, 1985). A great many social activities encouraged by senior centers or long-term-care facilities are inspired by an assumption that if older people are active and involved, then all will be well (Katz, 2000). This "busy ethic" and its hostility to retirement are expressed in similar terms, and the sentiment seems widely shared (Ekerdt, 1986). For instance, former *Cosmopolitan* magazine editor Helen Gurley Brown (1993), in a self-help book for older women (*The Late Show*), wrote that work is "our chloroform . . . our life . . . our freedom from pain . . . supplier of esteem." Along the same lines, essayist Malcolm Cowley (1980), in his book *The View From 80,* also expressed the ideal of the activity theory of aging when he wrote: "Perhaps in the future our active lives may be lengthened almost to the end of our days on earth; that is the most we can hope for."

But such active involvement may be more feasible for the young-old than for the old-old, and certainly there are differences between individuals as well. Biological limitations cannot easily be overcome by voluntary effort. The ideal of active aging seems more like a prolongation of the values of middle age than something special or positive about the last stage of life. Finally, despite progress in recent years, society still places many obstacles to social engagement in old age. For example, remarriage is more difficult for older women

than for older men because the proportion of older women is larger than the proportion of older men in the population at every age after 65, and in the labor market, age discrimination is a real barrier preventing middle-aged and older people from taking up a second career. According to the U.S. Department of Labor, anyone over age 40 is officially an "older worker." A more realistic recognition of these facts might allow adults to live out their years with greater dignity instead of trying to stay forever young.

Influences on the Life Course

Every theory of aging has its limits: None of them fully explains the variety of ways in which individuals experience old age, and many theories seem to reflect the social values during particular historical times in uncritical ways—for example, by holding up either activity or disengagement as the ideal goal or social norm for later life. The advantage of thinking in terms of age transitions throughout the life course is that we can see adult development as more open ended than people have tended to see it in the past. As a result, the meaning of old age is less fixed, and the choices are more varied. We can contrast this wider social freedom with stereotypes that still persist about human development in the second half of life.

The most widely pervasive view of adulthood is not based on positive development at all, but assumes continuous deterioration and decline. Consider the message on birthday cards: Aging is a disaster; after youth, it's all downhill (Demos & Jache, 1981). This pessimistic, age-as-decline model gives priority to biological factors and is the basis for the widely shared prejudice called **ageism** (Applewhite, 2016; Nelson, 2004). We are better off appreciating how social class, life history, and social institutions and policies create variation in the experience of aging. Although aging is a negative experience for some people, for others, it opens the door to meaningful new roles and activities.

Social Class and Life History

Americans often don't like to talk about social class, but it is impossible to understand the heterogeneity of later life experience without recognizing the importance of class and inequality. The 21st century so far has seen an extensive increase in inequality, as economists on all sides have recognized (Stiglitz, 2015). The "end game" of our final years is shaped by the years that came before (Abramson, 2015). Increasing inequality among older people, especially those generations now approaching old age, suggests that we will see greater financial stress for poor older adults in years to come (Crystal, Shea, & Reyes, 2016).

We know that health challenges arise in later life. But the causes come much earlier. Social class has a lifelong influence on health status later in life, as demonstrated by the important Whitehall study in the United Kingdom (Hemingway et al., 1997). Early life events have long-lasting effects. The basic rule of accumulated advantage or disadvantage is that "the rich get richer and the poor get poorer." For example, early completion of college and entry into a favorable occupation is converted during middle age into increased wealth in the form of home ownership and pension vesting (Henretta & Campbell, 1976). Women who enter the labor force at the beginning of childbearing usually have to accept career interruptions and tend to have diminished income later in life; thus, gender differences in old-age poverty are explainable partly as the result of life course choices made decades earlier.

History also plays a profound role in shaping lives. For example, a large historical event like the Great Depression can cause a dramatic and unexpected drop in income and status for many people (Elder, 1974). The cohort who were in their prime working years at the time were typically worse off financially in old age than their children, the current generation of retirees. This recognition of the influence of historical events has stimulated new interest in using interviews and oral history to understand how social forces affect people's lives (Cole & Knowles, 2001).

Unpredictable or non-normative life events, such as getting divorced or losing a job, also have a significant effect on the life course. Longitudinal studies show that a significant number of people will experience an unexpected but significant drop in income due to such non-normative life events, such as illness or a financial reversal (Duncan, 1988). Research has also shown that negative life events such as widowhood or job loss can cause a dramatic downturn in personal health and can profoundly affect an individual's financial status during retirement. Such events induce a psychosomatic response to stress, and negative life events therefore become risk factors that predict the onset of illness (Holmes & Rahe, 1967). Yet the impact of life events is not a simple process. The same stressful life event—for example, becoming a widow—may have different effects on different people. The impact depends on whether the event was expected or anticipated and also on what kind of personal or family resources are available. Support from family and friends can help older people cope with stress and maintain self-esteem.

Social Institutions and Policies

The structure of the life course in modern times has been shaped by the power of the educational system and the workplace. In the 19th century, the rise of public schools began to lengthen the period of formal education and introduce credential requirements for most types of work. The United States, a self-consciously "modern" nation, took a lead in these progressive developments (Achenbaum, 1978; Fischer, 1977). Early in the 20th century, adolescence was recognized as a distinct phase of life and became more prolonged, whereas middle age became an important period of the life course (Neugarten, 1968).

The industrial revolution brought far-reaching demographic and economic changes, as well as new cultural ideas about age-appropriate behavior (Hareven & Adams, 1982). Bureaucratic institutions, from local school systems to the Social Security Administration, always favor rule-governed, predictable procedures, so it is not surprising that with the rise of bureaucracy came an emphasis on defining life stages by chronological age. With falling birthrates in the 20th century, the modernized life course became established.

Today, social institutions and policies still define transitions throughout the life course. The educational system defines the transition from youth to adulthood, just as retirement defines the transition from middle age to old age.

Like progression through the school system, the movement into retirement seems more orderly than midlife transitions because employment policies and pension coverage closely regulate retirement. But the timing of retirement today is becoming less predictable than in the past because of turbulence in the U.S. labor market and because of the disappearance of mandatory retirement. Economic pressures force some to retire early, whereas others are encouraged to go back to school or take on part-time employment. The result is that previously clear boundaries—"student," "retiree," and so on—are becoming blurred.

If societal forces shape the life course, then it is reasonable to think that some of the negative features of old age may be due, at least in part, to institutional patterns that could be changed. A good example is the pattern known as **learned helplessness**, or dependency and depression reinforced by the external environment (Peterson, Maier, & Seligman, 1993). It has been suggested that some of the disengagement often seen in old age is not inevitable, but comes from social policies and from practices in institutions that care for dependent older adults (Baltes & Baltes, 1986). For instance, nursing home residents often suffer a diminished **locus of control**, in which they lose the ability to control such basic matters as bedtime and meal choices. When residents feel manipulated by forces beyond their personal control, they may become more withdrawn, fail to comply with medical treatment, and become fatalistic and depressed. They may also experience "excess disability," or more disability than necessary because the environment in which they live is either too challenging or not challenging enough in response to their needs and abilities (Drossel & Fisher, 2006).

Without interventions to reduce dependency, older adults in ill health all too commonly lose hope and self-esteem as they experience declining control (Rodin, Timko, & Harris, 1985). But this downward spiral is not inevitable. The institutional structures responsible for such dependency can be changed. In a now-classic experiment with nursing home residents, psychologists offered small opportunities to increase locus of control—for example, allowing residents to choose activities or giving them responsibility for taking care of plants. The result was a dramatic improvement in morale and a decline in mortality rates (Rodin & Langer, 1980).

Aging in the 21st Century

Today, in the early 21st century, we no longer have a shared map for the course of life. The timing of major life events has become less and less predictable at all levels of society. In upper socioeconomic groups, for example, a woman with a graduate degree and career responsibilities may delay having a first child until age 35 or later; in other parts of society, where teenage pregnancy rates have soared, a 35-year-old woman may well be a grandmother. We are no longer so surprised when a 60-year-old retires from one career and takes up a new one, perhaps in consulting if the retiree has been an executive or a professional, or in small-electronics repair if the retiree has been a technician. In many other ways as well, the life course is becoming more "deinstitutionalized," more fragmented, disorderly, and unpredictable (Held, 1986; Hockey & James, 2003). Major events of life are no longer parts of what are often considered to be predictable or natural patterns.

Although the rigidity of the linear life plan has failed to keep up with new demographic realities, it did offer a degree of security. In the new, "postindustrial" life course, we are increasingly each on our own. Familiar social institutions such as marriage and employment can no longer be counted on for security throughout adulthood, and therefore the last stage of life also becomes less predictable.

Society has not yet come to terms with the meaning of "aging" in such unpredictable times. Optimists believe that medical science could permit us to delay aging-related decline until later and later in life. Yet economic forces seem to move in the opposite direction. In science and engineering, knowledge becomes obsolete within 5 or 10 years, so life experience counts for less than exposure to the latest technological advances. On the one hand,

biology promises to postpone aging, but on the other hand, social forces such as age discrimination make the impact of aging on individuals more important than ever.

Time and the Life Course

Expectations about time remain a major element in how we think about aging and the life course today (Hendricks & Peters, 1986). Just as industrialization imposed time schedules on workers to improve efficiency in the workplace, so the life course became "scheduled" by differentiated life stages. The factory and the assembly line had their parallel in the linear life plan. But that mode of organization has become outdated. In a postindustrial "information economy," the pace of life is speeding up, and flexible modes of production require a more flexible life course. The volatile economy demands multiple job changes and thereby makes every career unpredictable. Individuals at any age may be called on again and again to rewrite their biographies, although reinventing oneself gets more difficult as the résumé gets longer.

Another example of our contemporary time orientation is the prolonged period of life devoted to education. The knowledge explosion and pressure for specialization put a premium on added years of schooling, and the job market has fewer places for those without advanced skills. Our postindustrial economy is increasingly based on "knowledge industries," where emerging fields, such as computer software and biotechnology, favor cognitive flexibility.

The trend toward cognitive flexibility also poses a distinct challenge for an aging society. Middle-aged and older workers, who are perceived to be less creative than younger workers, may be at a disadvantage in the fast-moving labor market. For instance, in some branches of media or advertising, employees are viewed as "old" if they are over the age of 40. But if retirement, the defining institutional feature of old age, is to remain economically feasible, then we will have to develop ways to keep people working as long as they can remain productive. Retraining for displaced workers of whatever age is likely to become an imperative in the future. These trends underscore the importance of adaptability and lifelong learning.

Parenthood offers still another example of our changing time orientation. Demographers estimate that, in the 1930s, 90% of a woman's years after marriage were spent raising dependent children (Gee, 1987). By the 1950s, that proportion had dropped to 40%, giving rise to what some observers have dubbed the "empty nest syndrome"—an extended postparental period of life that occurs after children have grown up and left home (Lowenthal & Chiriboga, 1972). Because of women's roles and responsibilities in the family, their later lives typically have greater variability than do men's (Rindfuss, Swicegood, & Rosenfeld, 1987). Gender roles are increasingly shaped by the power of culture (Gullette, 2004).

Another change has been the postponement of childbearing. People often spend more of their lives in their roles as adult children of aging parents than as parents themselves (Brubaker, 1990). But what does it mean, in psychological and social terms, when a "child" is 50 or 60 years old or even older? Even to ask these questions shows that the human life course has changed in ways that are still not fully recognized.

The Moral Economy of the Life Course

The changing structure of the life course has profound implications for obligations and expectations across the life course. We can speak about these expectations in terms of the

"moral economy" of the life course (Minkler & Estes, 1998). The moral economy embodies expectations of what is fair or right: Stay in school and you'll get a good job, become a senior citizen and you'll have a right to retirement income, and so on. In other words, the assumption is that moving through the life course means following the rules and getting what you deserve. But the old moral economy, with its characteristic distribution of work and leisure according to chronological age, is losing its power, and we do not have anything as well defined to replace it.

To overcome limitations of the old map of life, we may need to develop bolder ideas about the positive social contributions that can be made by the old; we also need to think more deeply about the meaning of life's final stage. Cicero (106–43 BC), author of the classic essay "On Old Age," offered a realistic account of both the gains and the losses of aging. Cicero was inspired by the hope that the mind can prevail over the body. Thus, he viewed old age not exclusively as a time of decline or loss but also as an opportunity for cultivating compensatory wisdom. Cicero, in fact, was one of the first and most eloquent proponents of the ideal of "successful aging" (Baltes & Baltes, 1990).

Despite Cicero's wise words about later life, we should not sentimentalize the status of old age in the past. But at least in the past, those who had lived a full life span could take for granted shared values and shared experience across the generations simply because the pace of change was slower. With the rapid social changes of the 21st century, we can too easily stereotype those who are older as people who are "behind the times" or lacking in creativity and wisdom.

One role well suited to older people in such an environment might be mentoring, or guiding the next generation in the capacity of teacher, coach, or counselor (Neikrug, 2000). This idea is attractive for several reasons: It encourages intergenerational relationships, and it takes advantage of generativity and wisdom, the virtues to be cultivated in the second half of life, according to Erikson. Older adults who are serving as mentors, however, still have to develop up-to-date skills and attitudes if their advice is to be respected by younger workers.

There appears to be a mismatch between the flexibility of the individual aging experience and the rigidity of outdated social attitudes, such as age discrimination and retirement practices (Riley & Riley, 1994). Instead of treating the life course as fixed, in the future we may come to see later life as a period more susceptible to intervention and improvement. Instead of viewing aging only as decline, it is possible to create a new model of aging as a shared lifelong process and of later life as a period of new opportunities. The goal would be to move from an age-differentiated society to an age-integrated society, where opportunities in education, work, and leisure are open to people of every age and across the entire life course.

The Biology of Aging

The life course perspective on aging offers an optimistic view of possibilities open to older people. That view is sensible, given the prolongation of vigor among older people in our times. But will changes in aging go even further in the future? For instance, the film *Cocoon* (1985) tells the story of older adults who gain access to a drug that can reverse the process of aging and make them young again. In the movie, the audience has the experience of seeing famous older actors Don Ameche and Hume Cronyn grow young before their eyes. The film, of course, is science fiction. But it's only the latest version of a recurrent hope as

old as humanity: the search for the fountain of youth (Olshansky & Carnes, 2002). Sometimes the dream takes the shape of the "hyperborean theme": a conviction that people in a remote part of the earth—for example, the Caucasus or the mountains of Peru—live extremely long lives. James Hilton's novel *Lost Horizon* (1933) popularized the idea of an imaginary place called "Shangri-La," which harbored the secret of longevity, and a movie based on the book had wide appeal.

But researchers have never found groups of people who live beyond the maximum life span. Scientists who have diligently examined the facts have failed to find any place on earth where people live beyond a human life span of around 120 years. Death remains a biological inevitability, and so far, we have not learned how to overcome the physiological limits that we know as aging. Could it be different? Perhaps, but it hasn't happened yet.

The biology of aging remains one of the great unsolved mysteries of science. Scientists ask how the same process that leads to decline and death can be intrinsic to life. From an evolutionary point of view, aging poses a puzzle: How can a process of physiological decline—detrimental to the survival of organisms—actually be preserved by natural selection (Hayflick, 1996)? Biologists who study how aging takes place have accumulated a large body of knowledge, and experiments with lower organisms have proved that genetic and environmental manipulations can change life expectancy and maximum life span. Thus, scientists are now beginning to confront the question of whether it is possible to postpone, or even reverse, the process of biological aging (Scientific American Editors, 2013).

The New Science of Longevity

Normal aging is not a disease but instead denotes a series of progressive changes associated with increasing risk of mortality. But not all age-related changes involve mortality. For example, hair often turns gray with advancing age, but hair color does not diminish survival prospects. By contrast, other progressive changes lead to losses in functional capacity or the ability of biological structures to perform their proper jobs. For example, as blood vessels age, they tend to lose elasticity, a tendency known as arteriosclerosis or hardening of the arteries. Over time, arteriosclerosis can increase the likelihood of blockage and therefore the risk of damage that we describe as stroke or heart attack.

At the biological level, aging seems to result from changes taking place at the level of molecules, cells, tissues, and the whole organism. How do we recognize such changes? The simplest way to study the effects of aging at these levels is to compare younger and older organisms and note the differences. Such studies employ a **cross-sectional methodology**; that is, they look at physical function of people at different chronological ages, but at a single point in time. The general conclusion from such studies of human beings suggests that most physiological functions decline after age 30, with some individual variations.

A purely cross-sectional design is not necessarily the best way, however, to measure the changes presumably brought about by aging. For one thing, it is difficult to be sure we have taken into account all of the possible variables that might contribute to changes with age in the organism. Thus, a contrasting methodological approach, a *longitudinal design,* is sometimes used. The same individuals are followed over a long period to measure changes in physical function, or other abilities, at different ages. This approach also has problems. For instance, with human beings, we need to consider the influences of a changing external environment.

Furthermore, carrying out longitudinal studies is expensive and not easy when the subject is a long-lived organism like a human being. But the results can be of great importance.

One of the most important studies of this kind has been the Baltimore Longitudinal Study of Aging, sponsored by the National Institute on Aging (Shock et al., 1984). In the Baltimore study, scientists looked at 24 distinct physiological functions (Sprott & Roth, 1992). These functions are called **biomarkers**, or biological indicators that can identify features of the basic process of aging (Shock, 1962). Some of the most commonly measured biomarkers are diastolic and systolic blood pressure and auditory or visual acuity. Others include the ability of the kidney to excrete urine and the behavior of the immune system. All of these biomarkers tend to decline with chronological age (Warner, 2004), but the rate and amount of decline differ between individuals. The search for biomarkers continues, but biologists have failed to find a "magic clock" that would give us definitive measurement of the rate of aging in individuals (Carnes, 2016).

Many age-related changes in physical function have already been documented, some of them familiar. For instance, with increased age, height tends to diminish while weight increases; hair becomes thinner, and skin tends to wrinkle. Another change is the loss in vital capacity, or the maximum breathing capacity of the lungs. With aging, both respiratory and kidney function decrease. But this decline chiefly results in a loss of **reserve capacity**, or the ability of the body to recover from assaults and withstand peak-load demands, as during physical exertion. Diminished reserve capacity may not have any discernible impact on the normal activities of daily living. For instance, not having reserves to run a marathon race is probably irrelevant to most activities of daily life.

A key finding from studies of biological aging is that chronological age alone is not a good predictor of functional capacity or "biological age." In other words, people of the same chronological age may differ dramatically in their **functional age**, which can be measured by biomarkers (Anstey, Lord, & Smith, 1996).

Scientists have not yet identified a single overall mechanism that gradually reduces functional capacity. Increasingly, however, they have come to believe that the process of aging is controlled at the most basic level of organic life. The key to reversing the process of aging may lie in the strands of the molecule called DNA (deoxyribonucleic acid), the basis for heredity in living cells. At the same time, we can recognize aging at the levels of cells, tissues, and organ systems, such as the nervous system or circulatory system.

For each species, there appears to be a maximum time, or **life span**, for how long a member of that species can survive. By contrast, **life expectancy** from birth is the average number of years an individual may be expected to live. Maximum life span, in other words, is always higher than average life expectancy. Maximum human life span, or longevity, may be determined by biological processes separate and distinct from those that bring about the time-related declines we see as aging. In fact, it might turn out that maximum life span is determined by factors much simpler than whatever degrades functional capacity. At this point, it seems likely that longevity is genetically determined. Some scientists have argued that natural selection may have promoted longevity-assurance genes (Olshansky & Carnes, 2002; Sacher, 1978). In other words, evolution may have arranged for us to live as long as we do, but not necessarily for us to have the signs and symptoms of aging that we do.

Medawar (1952) was one of the first to advance the idea that a species might carry harmful genes whose time of onset was delayed until after the period of reproduction. If those same genes had the positive virtue of promoting reproduction, then such genes would be

transmitted to future generations. This idea of a trait being beneficial in early life but harmful in later life is known as **antagonistic pleiotropy**. For example, the disease known as sickle-cell anemia, prevalent in Africa, is genetically linked to resistance to malaria. Those people born with the sickle-cell trait are more likely to survive malaria and pass the gene on to their children. This idea helps explain how diseases and senescence could actually be the product of natural selection through evolution (Williams, 1957).

Much remains to be discovered about genetic links between evolution and longevity. Genes with a favorable influence early in life, perhaps by maintaining reproductive capacity for a longer time, could have a harmful influence later on by allowing individuals to pass on linked genes with a negative impact, such as a shorter life span. In contrast, the genes that determine maximum life span could turn out to be linked to genetic factors that forestall the degenerative diseases of late life. Thus, under the most favorable scenario, if we were to discover and intervene in the genetic causes of longevity, we might also find the key to reducing the disabilities and dysfunctions of old age.

Scientists studying genetic influences on aging and longevity have moved in a number of suggestive research directions. From an evolutionary point of view, for example, there seems to be no obvious reason that human beings should live beyond 30 or 40 years, which gives them enough time to reproduce. There seems to be a trade-off between the biological investment made in survival for reproduction and maintaining organs and tissues beyond the end of the reproductive period.

In fact, we see from population studies of animals in the wild that aging rarely exists. The sea anemone, for example, seems to exhibit no physiological losses with chronological age at all. Animals in the wild exhibit survival curves similar to those of human populations; that is, most individuals die during a certain age range, but others die when very young or when very old. What follows from this evolutionary argument is that there is no intrinsic biological necessity for aging, and thus no reason why raising the maximum life span would be impossible.

According to one optimistic view, most of the decremental changes associated with aging—including potentially preventable diseases, such as Alzheimer's—are not the result of any preprogrammed, built-in requirement for decline, but are the result of environmental causes (Cutler, 1983). However, maximum life span seems to be largely shaped by specific genetic endowment, rather than environmental factors. Perhaps, then, aging is a passive or indirect result of biological processes, whereas maximum life span is a positive or direct result of evolution. From this perspective, it follows that both the rate of aging and the maximum life span of a species could change—and change relatively quickly.

Some provocative questions follow: Would it be possible by direct intervention to alter the genetic code and thus delay the onset of age-dependent illnesses and perhaps to retard the rate of aging itself (Austad, 2015)? With deeper biological knowledge, could the maximum life span be extended to 150 or 200 years or beyond? Even to ask these questions shows just how far we have come from a traditional view of the human life course, in which birth, aging, and death were facts simply taken for granted as part of the unalterable nature of things (Aaron & Schwartz, 2004; Pew Research Center, 2013).

Mechanisms of Physical Aging

We sometimes think of aging as a process applying uniformly to the whole organism, yet physiological studies show that different parts of the body age at different rates. For example,