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Aging in the Twenty-First Century*

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It would be no news, of course, if I observed that aging in the twenty-first century will predictably be different from aging in the twentieth. In the midst of all the other cataclysmic changes in this country and throughout the world, I almost hesitate to address such a topic as changes in aging.

Yet the changes are daunting. I have no crystal ball to dust off as an aid in considering them, but I *do* have some important observations to make. Among other changes, the increase in human longevity and its enormous implications for the aging process have to rank high. For the first time in history people are aging in a society where *most* people live to be old. In addition, while nearly three decades have been added to individual lives during the twentieth century on the average, the entire world—and all our familiar social structures and institutions—are changing around these lives. These social changes affect people's lives in many dramatic ways, ways that are still hard for us to comprehend because we are part of them.

All this is well known. What *is* news is that social and behavioral scientists have begun to study these manifold changes and to anticipate and debate the consequences for the future of the aging process and for its potential. That is, scientific research is providing many clues not only to

* Abstracted by the Editors from: "Aging in the Twenty-First Century," the Boettner Lecture, Boettner Research Institute, Bryn Mawr, Pennsylvania, 1990, now Boettner Institute of Financial Gerontology, University of Pennsylvania. Reprinted by permission.

what aging *may* be like in the future, but also what aging *could* be like if the potential is fulfilled. These clues require a revision of traditional views as to what aging means.

Structural Lag

In this lecture I am going to talk mainly about potentials. First, however, I want to tell you about a new insight that points to these potentials. This insight, recently forged from research, defines one of the most perplexing problems of our time, the problem I call “structural lag.” This concerns the mismatch between the two central changes before us here: (1) changes in individual aging and (2) changes in the structure of society that influence the ways individuals age. While more and more people live longer than in the past and grow old in new ways, social structures have been slow to make room for them. These structures are still geared to the population of much younger people that characterized the nineteenth—certainly not the twenty-first century.

Health-care systems, for example, often fail to provide the supports necessary for the many older people who, even when frail, now want to function independently. Unlike roles for school children or for young entrants into the labor force, few roles have been developed to fit workers or students who have grown old. Nor does society accord esteem and prestige to the significant productivity of older people’s *unpaid* roles as homemakers or caretakers of the disabled. So I speak of the current mismatch as “structural lag” because the structure of social opportunities has not kept pace with the rapid changes in the ways that people are now growing old.

Clearly this mismatch is fraught with contemporary problems. Yet within it lie untold promising potentials for the future. My message here is one of optimism. I shall argue that many of these potentials can become realities—that the mismatch can be reduced by diverse kinds of intervention. Intervention can occur through both public and private policies, changes in professional practice, and individual choices in everyday life. After all, the future does not just happen; it is created by human beings.

This is my vision: if the twentieth century has been the era of increasing longevity, the twenty-first century will be the era of social opportunities for older people to age in new and better ways.

To explain this prediction I am going to explore various kinds of intervention (both deliberate and “naturally” occurring social changes). First I shall discuss the potentials for aging—that is, how to optimize the already

incredible strengths of people as they grow older. Second, and most critical for the twenty-first century, I shall consider the potentials for our outdated social structures—how to optimize the social opportunities for older people (and thereby to reduce the problem of structural lag). Third I shall offer a conceptual framework that social scientists use as an aid to the understanding of individual aging, social opportunities, and the mismatch between them. Of course such understanding is essential to a scientifically grounded vision of aging in the future and to the changes needed for bringing this vision into reality.

Optimizing Individual Aging

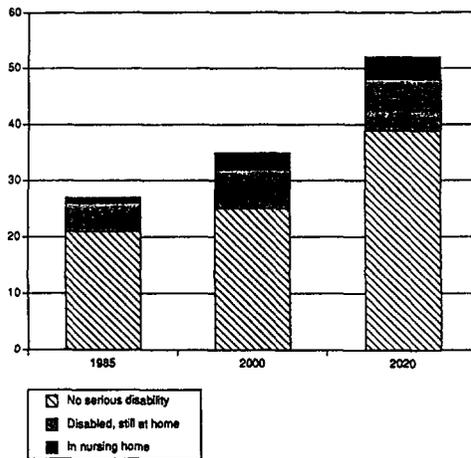
To begin with individual aging, let me call your attention to the unrecognized strengths and capacities of most older people. I shall destroy the myth that aging is exclusively a biological process. I shall ask you to think along with me that people do not grow up and grow old in laboratories, but rather in rapidly changing societies. And I shall report evidence for the proposition that the aging process is not fixed; it is mutable and subject to intervention and improvement.

The Fallacy of Inevitable Aging Decline

Much research has demonstrated that the doctrine of “inevitable aging decline” is a fallacy—a fallacy initiated by faulty interpretation of cross-sectional data. Nevertheless, despite all the evidence to the contrary, this fallacious doctrine is still blindly accepted by many government policymakers, corporate executives, professional practitioners, and the public at large. The stereotype of inevitable decline remains stubborn; the very notion of aging seems to connote decrepitude, poverty, and misery (“afflicted with Alzheimer’s disease,” for example, or “imprisoned in a nursing home” or “dependent on medicine” as the only means of preventing either disease or institutionalization). Doctors are found to spend less time with older than younger patients. Old people themselves take their aches and pains for granted, and assume, falsely, that they cannot learn new skills or ways of thinking (such as use of computers or complicated technologies).

The “Real” Aging Process: Neither Fixed Nor Immutable

Yet those who listen to the evidence will realize that it is simply not true that, *because of age*, all older people are destined to be ill, impoverished, cut off from society, and sexually incapacitated, despondent, or unable to reason or to remember. Of course, everyone dies. And some older people—a minority—are seriously disadvantaged and in need of personal and societal support. But the vast majority function independently and effectively (see Figure 1). The total number of people 65 and over will predictably multiply in the twenty-first century, but the large number of the healthy will heavily outweigh the number of disabled or institutionalized people.



Adapted from Kenneth Manton, Duke University

FIGURE 1
Increasing Number of Older People

The research evidence demonstrates that the aging process is variable—so that still greater strengths are possible. Social scientists are showing how the aging process varies with social conditions: how individuals grow old in widely diverse ways depending on their family life, their socioeconomic status, and their work conditions. Social scientists are also showing how the aging process changes over time as society changes. My grandmother at 75 was very different from what I was at 75, and my granddaughters will be still different when they reach 75—because we were born at different times and grew older in different periods of history.

Perhaps the most notable of all the historical alterations in the aging process spring from the unprecedented increases in longevity—which allow recent cohorts of young people to stay in school many years longer than their predecessors did, prolong retirement, postpone many diseases of old age, accumulate the experiences essential for wisdom, and extend family relationships, so that husbands and wives now typically survive together for four or even five decades or more. (For my husband and me 1991 was our sixtieth year of marriage.) And it is these more recent cohorts who will be the old people of the twenty-first century.

Potentials for Intervention

In short, the aging process is mutable, and most older people are able to draw on widely diverse competencies—in health, intellect, and involvement in affairs. In addition, (to reemphasize the point) there is significant potential for enhancing these strengths still further. Just consider what this means for the twenty-first century. Death is inevitable, but the nature of the aging process is not inevitable—and after all, it is the quality of the later years that counts.

What kinds of intervention, then, might sustain or even enhance this quality in the future? Social and behavioral research has been producing some spectacular findings:

- Among older workers intellectual functioning improves with age if the work situation is challenging and calls for self-direction.
- Very old people whose performance on intelligence tests has deteriorated can be brought back to their performance levels of twenty years earlier if the social environment affords incentives and opportunities for practicing and learning new strategies.
- Memory can be enhanced if the impoverished context that often characterizes retirement is altered to include the stimulation of a rich and complex environment.
- Even slowed reaction time, long attributed to irreversible aging losses in central nervous system functioning, can be speeded up if the social situation provides training and consistent feedback.
- Changing the social environment in nursing homes to increase the sense of personal control and independence in aging patients can result in greater social activity, changed immune functioning, and perhaps even lowered mortality.

Moreover, even when alterations in behavior, life-styles, and social contacts are made late in life, such alterations can still reduce morbidity and mortality. To stop cigarette smoking at age 60, for example, can make a difference.

Optimizing Social Opportunities

So much for the incredible strengths and potential capacities of older people. Please note, however, that all these and many similar instances of intervention in the ways people age are characterized by one common theme: the older person's functioning is contingent upon the social conditions. Bereft of social opportunities, resources, or incentives, older people cannot utilize or sustain their mental or physical strengths and capacities, and the "doctrine of inevitable aging decline" becomes a self-fulfilling prophecy. Thus the root of the mismatch lies not in people's capacities or in the aging process itself, but in the lack of suitable social roles through which individuals can move as they grow older. Consequently, aging in the twenty-first century, will depend upon changes in society: on reduction of the twentieth-century lag in social structures.

The Current Lag

Today's social structures and norms are the vestigial remains of the nineteenth-century, when most people died before their work was finished or their last child had left home. Age 65 was established as the criterion for insurance eligibility in Germany back in the late 1870s—yet age 65 is still used in many countries under today's utterly changed conditions of longevity. The older population is, of course, widely heterogeneous, but here are some examples of typical misfits between aging and social structures:

- For many decades now opportunities for older workers have been declining. Today less than half of men aged 55 and over are in the labor force, a fraction that could drop to only one-third by the start of the twenty-first century. For women, whose recent entry into the paid labor force will have untold consequences, the lag is even more pronounced. Yet survey after survey has indicated that large numbers of older workers wish to continue some kind of work if the hours are flexible and the pay acceptable.
- In the family many older people are widows who live entirely alone. Those who are frail often lack social supports to maintain independent

living in their own homes. Health care facilities are inadequate and costly, and people who are disabled often lack caretakers; many live in fear of destitution.

- Older people's place in society generally has aptly been called a "roleless role."

In sum, modifications in the role structure of society have indeed lagged behind the rapid changes in the process of aging—changes in the strengths, as well as in the numbers, of older people themselves. So far these structures have largely failed to aid older people in developing or expressing their remarkable potentials.

Potentials for Intervention in the Twenty-First Century

Nevertheless, research on social structures is beginning to show that, like the aging process, they too are mutable. Here again intervention to correct structural lag is found to be possible, and the possibilities in the twenty-first century are predictably far-flung. Consider a few scattered attempts at optimizing role structures for older people that are already under way and that give clear evidence of what is possible in the future.

In *education* opportunities are being made for older people either to teach (teaching adults who cannot read, for example, or immigrants who can't speak English) or to go back to school. Nearly one thousand colleges in the United States now accept students over age 65.

In *leisure* opportunities are being made both for recreation and for more serious cultural pursuits. The Elderhostel movement is thriving worldwide, and retirement communities are increasingly located close to university facilities.

In the *household* opportunities for frail older people to remain independent are being improved through supportive community services, injury-proof housing design, and elder-friendly tools older people can use.

Throughout the *health-care system* there are increasing demands for older people in the role of care *giver* (rather than care *receiver*).

At *work* there is increasing provision of part-time work, job sharing, and flexible hours. Some companies have model programs for "unretirement," that is, for rehiring retired employees. There are untold opportunities for moonlighting in work that is not officially identified in official employment statistics. And there are increasingly varied and significant opportunities for many kinds of volunteer jobs.

All such structural interventions are producing new and more flexible roles, and wider options, for older people. Whether or not particular older

individuals wish to remain in the economic mainstream of society or to be productive in the many unpaid and volunteer roles, one thing is clear: older people do not wish now, nor will they wish in the next century, to be disregarded, denigrated, or dependent.

Implications for All Ages

There is also another noteworthy point here. As such structural intervention develops in the next century, it will have implications for people of all ages: young and middle-aged—not *just* the old. Making room in a college classroom for older adults also affects the lives of traditional students who are younger. Any structural intervention, even though aimed at the old, will predictably have ramifications affecting how everyone grows older.

Indeed, I believe we can anticipate in practice in the twenty-first century what we once regarded as a purely visionary potential, the breakdown of the rigid age barriers that have traditionally divided societal roles into three parts: education in youth, work in middle age, and leisure in old age. Those “age-segregated” social structures may be giving way to more “age-integrated” structures—providing options for people over their lifetimes to intersperse periods of work with periods of education and leisure.

Furthermore, we can even begin to see signs of deliberate structural intervention to support this interspersing—to make it possible for people to move from school to work and later to go from work back again to school; to change careers; and to spread leisure more evenly over the life course, rather than concentrating nearly all of it in retirement. For example, some organizations are providing educational leaves from work, more portable pensions, or retraining for older adults and preparation for new occupations; others are allowing employees over their work lives to take several years of leave, to be spent—according to choice—in family care, for travel, or in continuing education.

Unintended Consequences

All these are heady portents of aging in the twenty-first century. However, one critical question remains: how can we ensure that changes and intervention undertaken today will optimize (rather than diminish) older people’s opportunities for the future? This question requires far-reaching vision and the knowledge base essential for intervention, because

intervention can sometimes have unintended and undesired consequences. For example, encouraging everyone to engage in physical exercise, though intended for lifelong strengthening of joints and muscles, may injure them instead; tender loving care in nursing homes, though intended as emotional support for older patients, may instead reduce independence and effective functioning; and encouraging older people to work may result in abuse of older workers.

Even elaboratively designed kinds of intervention can turn out to have very little effect. For example, legislation to abolish age as a basis for mandatory retirement has failed to slow the trend toward retiring early.

On the other hand, *failure* to intervene can exacerbate rather than reduce structural lag. For example, suppose the traditional trends are simply allowed to persist. A German scholar, Martin Kohli, has recently calculated the absurd outcome: sometime in the second half of the twenty-first century society could arrive at a point when people, at the age of about 38, will move from the university directly into retirement! An absurd idea, to be sure (but I am not being absurd when I predict the end of nearly universal early retirement as we know it today).

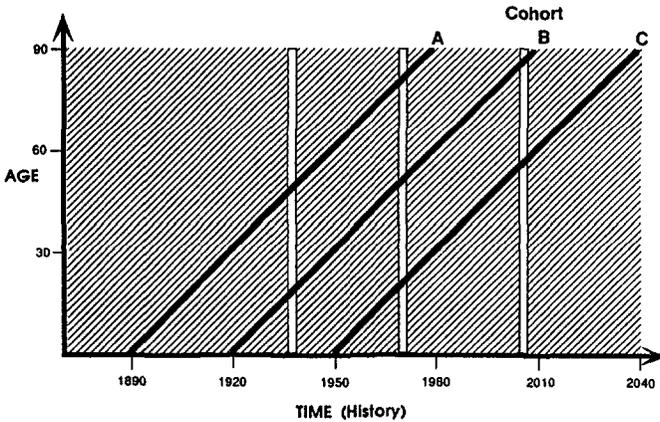
The mission for social scientists, then, is to help guide intervention by providing not only a broad vision, but also a firm scientific grounding for this vision.

A Conceptual View of Intervention

Toward this end a conceptual framework from the sociology of age is widely used for getting a handle on the future (as shown in Figure 2). It represents social space bounded by ages on the vertical axis and by dates on the horizontal axis. These dates indicate the course of history—past and future. Within this space two sets of lines crisscross each other. These refer to changes in aging and in social structures.

Aging

Consider first the diagonal lines, which refer to aging. They represent successive cohorts of people who were born in particular time periods and who are aging. As people age they move along the diagonal (see, for example, Cohort A), across time and upward through the social structure; they pass through the successive roles in family life, school grades and work



Source: M. W. Riley, A. Foner, and J. Waring, "Sociology of Age," in Neil J. Smelser (ed.), *Handbook of Sociology*. Newbury Park, Calif: Sage, 1988

FIGURE 2
Conceptual Framework: Aging and Social Change

careers, and retirement, and ultimately death. As they age they change biologically, psychologically, and socially, and they develop their individual strengths and capacities.

Moreover, because successive cohorts (the series of diagonals) are born at different dates and live through different segments of historical time, people in different cohorts age in different ways. Thus, a man born in 1890 (Cohort A) could scarcely have looked ahead to retirement at all, but a man born in 1950 (Cohort C, now 40 years old) can expect to spend one-quarter of his adult lifetime in retirement.

The diagonals in the figure are not purely abstract. They are used to aid understanding of "growing old in the twenty-first century"—because facts about the past lives of people now alive are already established. By tracing their lives into the future, we can use these facts to forecast how they will grow old.

Many facts are now available as guideposts to the future. In some ways future cohorts of older people will predictably be better off than their predecessors. For example, with improved nutrition, exercise, and reduced cigarette smoking in early life, they may well be less subject to heart disease

when they reach later life. In other ways, however, the future cohorts of older people may be *less* advantaged than their predecessors: their lives will reflect the deteriorating economic conditions of today and the increasing proportion of young people who are failing to meet acceptable standard of academic achievement.

Two trends among women are especially provocative: an increasing proportion of young women in each successive cohort has participated in the labor force, and an increasing proportion has also experienced a divorce. We sometimes think of these as negative indications for the future. But do they perhaps mean instead that, as these young women become the older women of the future, they will have acquired more skills than their predecessors for living independently? Will their early work experience have increased the future economic security of the many who will predictably live alone in the next century?

Given this wide variety of early life experiences, one point about the older people of the future seems certain: they will be widely heterogeneous. Their needs for structural opportunities will be increasingly varied, and different types of people will call for different types of intervention.

Structural Change

In short, precisely what these older people will be like, how they will grow old, and what their needs will be will depend in part on their past lives. But in large part, they will also depend on the changing structure of our society. The perpendicular line in the figure schematize this structure and its changes. Consider a past year, such as 1980. Here the vertical line is a cross-section slice through all the diagonal lines. This slice denotes the age structure at a single moment in history. It indicates how both the people and their social roles are organized roughly in age groupings, from the youngest at the bottom to the oldest at the top. Along this slice, one can imagine how people of all ages coexist and interact in the same society. In a family, for example, members of four different generations interrelate, either by forming close ties or by engaging in conflict. Or, in another example, a nation's wealth can be distributed equitably between old and young, or—as some contend is already happening—so inequitably as to favor old people at the expense of children.

Over time, as society moves through past and future historical events and changes, one can imagine this vertical line moving—across the space from one date to the next. Over time, the age-related structures of opportu-

nities are subject to social and cultural changes. And over time, the people in particular age strata are no longer the same people; inevitably they are continually being replaced by younger entrants from more recent cohorts with more recent life experiences.

It is from these changes that the phenomenon of structural lag has been emerging. Today older people have become more numerous, better educated, and more vigorous than their predecessors back in 1940 or 1970; but so far few structural changes in society have been made for them. They are still generally treated as a disadvantaged minority; that is, they are handicapped by the lag. It is here that intervention will be especially crucial for the twenty-first century.

Asynchrony

One last—and I think intriguing—feature of Figure 2 is the inherent paradox of timing. Aging individuals are moving along the axis of the life course, the diagonal lines. But change in the structures of society (the moving vertical line) moves along its own axis of historical time. These two sets of lines are continually crisscrossing each other. Hence, they can never be perfectly synchronized. And it is this asynchrony that accounts for the recurring mismatch between them—a mismatch that creates continuing pressures for intervention.

To return now to the critical question with which I began: How can the current lag be adjusted? How will structures change (or be changed) to foster the growing numbers, strengths, and heterogeneity of older people in the twenty-first century? The details are still dim; but our conceptual diagram opens up glimpses into the future.

My view of the future can now be quickly summarized. We can discern a vision of a future society in which older people's lives are more varied, more open to choice, more rewarding. We can glimpse aging in a possible future society where lifelong learning will replace the lockstep of traditional education; a society where ageist discrimination will no longer be a dominate force; a society where entirely new arrangements for financial security will characterize the life course; a society where retirement as we know it today will disappear and will be replaced by periods of leisure interspersed throughout life with periods of education and work; a society where the values of kinship and intimacy are matters of choice, not duty.

At this point, the vision fades, to be replaced by reality that these kinds of intervention have yet to be invented. I can, however, conclude with one

sure prediction, theoretically grounded and empirically demonstrable: capable older people and empty role structures cannot long coexist. Aging in the twenty-first century, in which the tension between the two must be continuously adjusted, will bear little resemblance to aging as we have known it in the twentieth century.