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The question of whether gerontology is an emerging new discipline or a variation of older ones is being debated.

Tracing the historical growth of gerontology

**By David B. Oliver,
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and Richard S. Machalek**

This paper traces the development of gerontology as a field of study. Although increasing evidence of the convergence of writing and thought into a collective body of knowledge currently exists, the question of whether gerontology is an emerging new discipline or a variation of older ones is still being debated. However, the proliferation of research and training efforts under the banner of "gerontology," the formation of a number and variety of "Centers for Aging" and "Gerontology Institutes," the establishment of national, regional and state professional societies, and the publication of a significant number of journals related directly or indirectly to the field of aging

Oliver et al., Tracing the historical growth of gerontology. Researchers and service providers, regardless of their academic backgrounds and experience have special significant and mutual concerns which tend to suggest that gerontology may indeed qualify as a new branch of knowledge. Some of these underlying themes include an examination of variables which contribute to or hinder the quality of an individual's life in old age, a concern for the social environment and its impact on persons who are increasingly being separated from it, the psychological consequences of retirement as one of the last major rites of passage, the social world of widows and widowers who after a lifetime of sharing now face life as singles in a couple-oriented culture, changes in health (physical and mental) which may not diminish one's ability to function normally in old age, and so on. Yet as these developing interests and concerns parallel the demographic explosion of more and more older persons in our population, there are those who would argue that, in spite of the exponential growth of professional societies, research studies, gerontology centers, and publications, a new discipline is not destined to emerge. They suggest that each discipline—be it sociology, psychology, biology, social work, economics or political science—will continue to explore the dimensions of aging from its own perspective and approaches, and that a well defined field cutting across disciplines is theoretically and organizationally unlikely.

This debate over gerontology's current and future development provides the basis for this paper. By examining some of the historical events which have influenced the growth of gerontology within the framework of certain sociology of knowledge considerations, perhaps we can understand more clearly the circumstances under which gerontology's future will be decided.

Sociology of Knowledge Considerations

The sociology of knowledge may be useful in aiding our understanding of the growth of gerontology. The production, distribution, and consumption of knowledge about aging are processes that are influenced by the social and historical conditions under which they occur. Therefore, we would expect social factors, in general, and political and economic conditions, in particular, to shape the course of the development of gerontology. For example, changes in the demographic composition of a society will bring into play new political and economic interests. As the aged gain greater demographic representation they can be expected to gain political and economic significance. In part, this involves a demand for new knowledge about the place of the older person in contemporary society. Comparable demands by blacks and women in the last two decades have led to the growth of a considerable amount of new knowledge about race and sex role stratification. In all likelihood the political and economic enfranchisement of the aged will stimulate demands for greater knowledge about aging in all its aspects.

The demand for new gerontological knowledge having been established, social forces continue to condition the kinds of scientific and scholarly questions that are raised and the kinds of research that are sponsored. The representation of various disciplines within gerontology clearly illustrates this principle. Scientific labor in gerontology is divided among biologists, physicians, sociologists, psychologists, economists, and political scientists among others. As Karl Mannheim (1936) in-

FIG. 1
PIONEER EFFORTS

Pre-1940

EVENTS	CONTRIBUTORS	PUBLICATIONS
International Health Exhibition in London 1884	B. Franklin A. Quetelet	1645— <i>History of Life and Death</i> /Bacon 1835— <i>On the Nature of Man and the Development of His Faculties</i> /Quetelet
Nasher coins "geriatrics" 1909	Sir Francis Galton C. Minot	1869— <i>Hereditary Genius</i> /Galton 1908— <i>The Prolongation of Life</i> /Metchnikoff
Pavlov's Studies in classic conditioning 1920s	I.L. Nasher E.V. Cowdry	1908— <i>The Problems of Age, Growth and Death</i> /Minot 1922— <i>Senescence</i> /Hall 1922— <i>Biology of Death</i> /Pearl
Lillian Martin established first old age counseling center in San Francisco Late 20s		1929— <i>The Problem of the Psychology of Age</i> /Rybnikov 1933— <i>Arteriosclerosis: A Survey of the Problem</i> /Cowdry
Rybnikov coins "gerontology" 1929		1939— <i>Problems of Aging</i> /Cowdry
Townsend Movement 1930		
The Depression Early 30s		
Stanford/Later Maturity Research Project (Miles and Associates) Early 30s		
Social Security Act 1935		
Club for Research in Aging (Josiah Macy Jr. Foundation) 1939		

structured, each discipline represents a particular "perspective," a point of view on the problem at hand. Each discipline brings to gerontology its chosen assumptions, vocabularies, and methods—in short, its traditions. As physicians may ponder the vulnerabilities of the aged to certain diseases, sociologists may note the privileged exemptions that upper class aged enjoy from such diseases, while the psychologist focuses on problems of personal adjustment that these diseases may bring. In this case, the same issue (disease) is conceived very differently depending on where one stands in the division of scientific labor. In principle, gerontologists could take heart from this diversity, whatever communication and "territorial" problems it may introduce. Mannheim himself championed the epistemological advantages of converging on a phenomenon from a number of vantage points or perspectives. In fact, Mannheim argued that only by adducing evidence from several perspectives (in this case disciplines) can we hope to gain a more comprehensive view of any "object" (phenomenon). This is because the mental horizons of any one perspective are always delimited by social and historical boundaries. In a more recent statement Robert Wuthnow (1976) suggests that cultural and intellectual creativity are directly dependent on discourse among thinkers who represent different perspectives. If this is true, the very diversity of the disciplines that comprise gerontology should serve this new science of aging well.

If general societal conditions of a political and economic nature and disciplinary traditions shape the quest for gerontological knowledge, the biographical idiosyncrasies of any given researcher will also imprint themselves on his or her work. The experiences that accompany the responsibility of caring for an aging and dependent parent, the recollection of a rich childhood

with a vigorous grandparent, or the anticipation of one's own old age in a youth-oriented society often help inspire career commitments to the study of aging. Perhaps less poignantly but equally effective, one's mentor, one's graduate or professional institution, or even one's areas of early research may establish the path along which a career moves. Gerontologists, as any other scientists, are not immune to such biographical influences on their work. In summary, the growth and development of gerontological knowledge does not take place in a social vacuum. Rather, the questions gerontology faces, the methods and research strategies gerontologists employ, and the research conclusions gerontologists draw will always be constrained by the social context within which the research is conducted. The growth and nature of gerontological knowledge, like the rest of culture, stands in dialectical relation to the society from which it emerges. Thus, in order to obtain an understanding of the "state of the art" in gerontology, it is necessary to examine the various aspects of its growth to the present time.

Tracing the Growth

A number of gerontologists (Birren, 1959; Streib and Orbach, 1967; Birren and Clayton, 1975; Hendricks and Hendricks, 1977; Maddox and Wiley, 1976; Schwartz and Peterson, 1979; Reigel, 1977) have examined various facets of historical development in the field of aging. In this paper the contributions of these authors are combined into: 1) Pre-1940, Pioneer Efforts; 2) 1940-1954, Early Development; 3) 1955-1964, Research and Organization; 4) 1965-1974, Education; and 5) 1975 to the Present, an Emerging Discipline. From its inception as a field of study, gerontology has assumed a distinctly multidisciplinary nature. The disciplines of biology, psychology, and sociology have been, and remain, major sources of geron-

FIG. 2

EARLY DEVELOPMENT

1940-1954

EVENTS	CONTRIBUTORS	PUBLICATIONS
Unit on gerontology established in NIH (later became the NIA) 1940	E. Steiglitz	1945—"Size, Shape and Age"/Medawar
Conferences on Aging held by: American Osteopsychiatric Assoc. Medical Clinics of North America American Chemical Society NIH Early 40s	L.K. Frank L.S. Cottrel P.B. Medawar L. Simmons	1945— <i>The Role of the Aged in Primitive Societies</i> /Simmons 1948— <i>Social Adjustment in Old Age</i> /Pollack 1948— <i>Personal Adjustment in Old Age</i> /Cavan
Social Science Research Council established the "Committee on Social Adjustment in Old Age" 1943		1952—"General Physiology"/Lansing
Gerontological Society established 1945		1953— <i>Older People</i> /Havighurst
<i>Journal of Gerontology</i> published 1945		1954— <i>Geriatric Medicine</i> /Steiglitz
Establishment of the International Association of Gerontology in Liege, Belgium 1948		
Division of Psychological and Social Sciences established in the Gerontological Society 1952		

tological research, and knowledge. As will be seen, the disciplinary and educational interests and needs of gerontology have expanded to include other disciplines as well. An examination of historical events and contributions provide evidence for the emergence of gerontology as a respected and needed field of study. Figures 1 through 5 depict, within each growth period, major examples of contributors, publications and important social and historical events which converged into a growing body of knowledge.

Pioneer Efforts

Francis Bacon's "History of Life and Death," published in 1645, is often cited as one of the first scientific attempts to explore processes of aging (Streib and Orbach, 1967). Some scholars have cited evidence from Greek literature and epitaphs as indicative of the first systematic concerns with aging as a phenomenon (Hendricks and Hendricks, 1977), and given the early development of the major sciences it is not surprising that physics and biology were among the first disciplines to consider issues of aging. Biologists in particular contributed much of the early research in gerontology.

Early into the twentieth century, psychologists became active in aging research and writing. In 1922 the "Biology of Death" and "Senescence" became the basis for future work, and a Russian psychologist, Rybnikov, coined the term "gerontology" in his 1927 book "The Problem of the Psychology of Age" (Streib and Orbach, 1967). In 1928, Miles and Associates initiated psychological studies of aging in connection with the Stanford Later Maturity Research Project (Reigel, 1977).

The medical community, too, was instrumental in addressing gerontological issues in the early part of this

century. Ignatz L. Nascher coined the term "geriatrics" in 1909 and thus pioneered the development of this new field. Nascher was also interested in the social conditions of the aged and was one of the first physicians to become actively involved in social medicine. Cowdry's "Arteriosclerosis: A Survey of the Problem" (1933), and "Problems of Ageing" (1939) followed this tradition and became classics.

Although a number of important historical events are identified in Figure 1, The Townsend Movement and the Social Security Act of 1935 are perhaps the most notable. In partial response to the Great Depression, the Social Security legislation both acknowledged a major problem of aging individuals and community survival in America and later served to place older persons into a cohort of "retired" citizens who began to assume an identity which, for the first time, was not linked to occupation or "calling." Subsequently, this cohort and the many subgroups within it became the object of intense study from a number of disciplinary perspectives.

Early Development

While the pioneers influenced the early growth of gerontology as a field of study, extensions of their efforts and the emergence of new directions occurred in the 1940s with the establishment of a number of important committees, research groups and associations. Edward J. Steiglitz, a physician, became the head of the newly established "Unit in Gerontology" in the National Institute of Health in 1940. The year prior, the Club for Research in Ageing was formed which was supported by the Josiah Macy Jr. Foundation. Lawrence K. Frank provided leadership and direction to research programs emphasizing the

area of social medicine and which later encouraged the development of "social gerontology." Stieglitz used the term "social gerontology" in a 1948 paper which later became a major part of his 1954 book "Geriatric Medicine." By the 1950s "gerontology" was a term appearing with regularity and frequency in scientific and popular journals.

In 1943 the Social Science Research Council established the "Committee on Social Adjustment in Old Age" which in 1948 published a "Research and Planning Report" (Birren, 1959). In 1945, the Gerontological Society was established and the first issue of the "Journal of Gerontology," the official journal of the society, was published. A year later the Gerontological Unit of the National Institute of Health and the Nuffield Unit for Research into the Problems of Aging at the University of Cambridge each attracted a number of scientists who later influenced the field of aging (Birren and Clayton, 1975). In 1948 the International Association of Gerontology was founded in Liege, Belgium. And finally, in the early 1950s President Truman expressed great concern about the problems of older persons in America. His concerns led to a series of issue meetings which were precursors to the later 1961 and 1971 White House Conferences on Aging.

Adding to the work and interests in aging manifested in the fields of biology, physiology and medicine, psychologists, sociologists and anthropologists began to show a keen interest in aging studies as reflected by such classic works as "The Role of the Aged in Primitive Societies" (1945), "Personal Adjustment to Old Age" (1948), and "Older People" (1953).

Research and Organization

Research in the field of aging gained increasing momentum in the late 1950s and early 1960s. Efforts were made to consolidate the findings of researchers into single publications in order to achieve greater use and visibility. Additionally, a number of major universities and institutes initiated inter-university training programs in order to systematically address issues of aging, to increase the number of scientists in the field, to encourage course offerings in aging, to attract students to pursue careers in aging, and to publish systematic summaries of existing studies on various dimensions of aging.

The Michigan Inter-University Training Institute in Social Gerontology, the Langely Porter Neuropsychiatric Institute, the University of California Medical School, the University of Chicago, Duke University, University of Southern California, the Institute for Community Studies (Midwest Council for Social Research in Aging), Cornell University, and Penn State University were among the institutions developing early research projects and training programs in gerontology. These institutions, with a growing number of additional ones, continue to influence the growth of gerontological studies in the United States.

Five major edited works emerged around 1960 which became baseline books in the field: "Handbook of Aging and the Individual" (1959), "Handbook of Social Gerontology" (1960), "Aging in Western Society" (1960), and "Processes of Aging" (two volumes, 1963). These volumes consolidated research papers and findings into single collections which identified the state of the art, became fundamental training resources and served as catalysts for future research in the field. In 1961 "The Geron-

FIG. 3
RESEARCH AND ORGANIZATION
1955-1964

EVENTS	CONTRIBUTORS	PUBLICATIONS
Kansas City Study of Adult Life ... 1956	Z. Blau	1956— <i>The Biology of Senescence/Comfort</i>
Midwest Council for Social Research In Aging/Institute for Community Studies	A. Comfort	1956— <i>Psychological Aspects of Aging/Anderson</i>
University of Chicago	J.E. Anderson	1956— <i>500 Over Sixty/Kutner</i>
University of California Medical ...	B. Kutner	1959—"The Sociology of Aging"/Cain
Langley Porter Neuropsychiatric Institute.	L. Cain	1959— <i>Handbook of Aging and the Individual/Birren</i>
Duke University	C. Tibbits	1960— <i>Handbook of Social Gerontology/Tibbits</i>
University of Michigan	J. Birren	1960— <i>Aging in Western Society/Burgess</i>
Cornell	E. Burgess	1961— <i>Growing Old/Cumming and Henry</i>
Penn State	E. Cumming	1962— <i>Aging Around the World/Proceeding of the Fifth Congress of the International Association of Gerontology/Tibbits and Donahue</i>
The Gerontologist published	W. Henry	1963— <i>Gerontology/Vedders</i>
White House Conference on Aging	A. Rose	1963— <i>Processes of Aging/Williams, Tibbits, and Donahue</i>
..... 1961	W. Peterson	
..... 1961		
Early 60s****Late 50s		

FIG. 4

EDUCATION

1965-1974

EVENTS

Older Americans Act	1965
Medicare/Medicaid Legislation	1966
Proliferation of M.A. and B.A. programs	Late 60s
Maggie Kuhn organizes the Gray Panthers	1969
White House Conference on Aging	1971
National Institute on Aging formed	1974

CONTRIBUTORS

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G. Youmans
M. Kuhn

PUBLICATIONS

1965— <i>Older People and Their Social World</i> /Rose and Peterson
1967— <i>Culture and Aging</i> /Clark
1967— <i>Social Integration of the Aged</i> /Rosow
1967— <i>Older Rural Americans</i> /Youmans
1968— <i>Aging and Society</i> /Riley
1968— <i>Older People in Three Industrial Societies</i> /Shanas, et. al.
1969— <i>Aging and the Professions</i> /Riley
1970— <i>A Sociology of Age Stratification</i> /Riley
1970— <i>Normal Aging</i> /Palmore
1972— <i>The Social Forces in Later Life</i> /Atchley
1972— <i>Aging and Society Vol. 3</i> /Riley
1972— <i>Aging and Modernization</i> /Cowgill and Holmes
1973— <i>Aging and Behavior</i> /Botwinick
1974— <i>Normal Aging III</i> /Palmore

tologist" became the second journal to be published by the Gerontological Society providing an additional training and research resource for social and behavioral scientists.

In 1962, the proceedings of the 5th Congress of the International Association of Gerontology (held in San Francisco in 1960) were published in a series entitled "Aging Around the World." These four edited volumes demonstrated the growing diversity of the field and the collective interest of scientists from a range of disciplines around the world. The diverse disciplinary contributions are reflected in the titles: "Social and Psychological Aspects of Aging," "Social Welfare of the Aging," "Biological Aspects of Aging," and "Medical and Clinical Aspects of Aging." These volumes also became training materials for the students and faculty participating in the growing number of gerontological training programs around the country.

The public sector formally and politically expressed increasing concern around issues of aging through the 1961 White House Conference on Aging. This conference produced a number of recommendations to Congress which ultimately influenced the passing of the Older Americans Act of 1965. With the formation of the Administration of Aging within the Department of Health, Education and Welfare, the mandating of state units on aging and the subsequent (1973) establishment of a network of regional Area Agencies on Aging in every state, the need for applied training in aging as well as academic concerns grew to be a major issue of the '70s. Most importantly, the provision of training funds became available in large and fairly dependable amounts.

Education

In the late 1960s most training funds from the Administration on Aging, the National Institute of Health, National Institute of Mental Health, and others, were awarded primarily to university and to inter-university training programs in aging. A few early professional master's degree programs with an emphasis in aging surfaced during this time (University of South Florida, North Texas State University, etc.), but training was primarily oriented to Ph.D. programs with an emphasis upon multidisciplinary training. Sociologists, psychologists, biologists, social workers, anthropologists, public administrators, political scientists, economists, and others sought the available funds which would allow them to specialize their studies and areas of interest in aging.

With the establishment of Area Agencies on Aging (AAA) in the early '70s, and a large number of other agencies oriented to service delivery, problems in funding and training became manifest. Available training in gerontology was largely oriented to academic and research interests in aging and not yet developed in terms of focus and programs to supply the growing demand for the new occupational niches created by the AAA and similar aging networks. Consequently, positions were filled by persons with limited experience in working with or understanding older persons. To meet this problem the Administration on Aging divided training dollars between short and long-term training (primarily for Ph.D. programs training professional gerontologists). However, during this time a number of undergraduate and master's degree programs emerged and the number of course offerings in aging grew rapidly across the country.

As the short-term training courses of the 1960s, Agencies on Aging and other service delivery agencies turned to local universities and colleges for training resources in gerontology—often with disappointing results. Unfortunately, the demand was too great. Many local educational institutions which tried to assist agencies were themselves lacking the knowledge required. The image of educational institutions suffered and a reluctance to employ academics for training purposes became prevalent. Some of this hostility toward academic gerontologists still exists. The gap is slowly being bridged as trainers and recipients of training experience successes, but some agencies remain apprehensive about hiring university-trained persons in aging—especially if key positions are already filled by persons who acquired their training through experience rather than through traditional academic channels.

Resource materials for research and training in aging continued to emphasize multidisciplinary approaches. "Old People in Three Industrial Societies" and "Older Rural Americans" focused gerontological interest at the international and rural levels respectively while cross-cultural perspectives were revitalized in "Culture and Aging." Results from the Duke Longitudinal Studies began to be published, and the Russell Sage Foundation funded four major edited volumes in 1968, 1969, 1970, and 1972 which provided an inventory of research findings on aging and society, age stratification and aging and the professions. All of these works served to further organize a set of training materials for students in aging.

Closing out this ten-year period of growth was the establishment of the National Institute of Aging with Robert Butler, a physician, as its first director. The funding activities of the institute have clearly reflected the multi-dimensional aspects of the aging process with medi-

cal schools, universities and public institutions receiving funds to further unravel the questions created by the large numbers of older persons in our population.

An Emerging Field of Study

The academic and public sectors concerned with aging individuals in modern society were equally impressed with Robert Butler's (1975) award winning publication "Why Survive?" Indeed, as we began to understand the problems and dilemmas of the aging person and the issues of aging as portrayed in this book, advocacy for the aged gained great momentum. Within the academic community, the Association for Gerontology in Higher Education was formed (1975) to provide leadership and direction for training programs in aging as well as a sounding board for funding priorities in Washington. Within the public community the Gray Panthers, the NRTA-AARP (National Retired Teachers Association/American Association of Retired Persons), the National Senior Citizens Organization, the National Council on Aging, the Black Caucus on Aging and other groups have served as strong, effective, and frequently vocal advocates on behalf of the older population. The formation and activities of a variety of other groups of older persons began to appear in the form of groups organized in a variety of congregate settings such as senior centers, churches, nutrition sites, and living groups. Terms such as "aging," "gerontology," "elderly," "senior citizens," "old age," "the later years," etc., became part of the vocabulary of researchers and the public alike.

As increasing numbers of courses in gerontology were offered by colleges and universities, so also were landmark collections of research studies and articles published in major journals and edited volumes. A series of three works are particularly noteworthy: "Handbook of

FIG. 5
AN EMERGING FIELD OF STUDY
1975 to present

EVENTS	CONTRIBUTORS	PUBLICATIONS
Association for Gerontology in Education established 1975	V. Clayton	1975—"History of Gerontology"/Birren and Clayton
Older Americans Act Revisions 1978	D. Woodruff	1975— <i>Aging: Scientific Perspectives and Social Issues</i> /Woodruff and Birren
	C. Finch	1975— <i>Why Survive?</i> /Butler
	L. Hayflick	1976— <i>Handbook of Aging and the Social Sciences</i> /Binstock and Shanas
	K.W. Schaie	1977— <i>Handbook of the Psychology of Aging</i> /Birren and Schaie
		1977— <i>Handbook of the Biology of Aging</i> /Finch and Hayflick
		1977— <i>Aging in Mass Society</i> /Hendricks and Hendricks
		1979— <i>Introduction to Gerontology</i> /Schwartz and Peterson

Aging and the Social Sciences" (1970), "Handbook of the Psychology of Aging" (1977), and "Handbook of the Biology of Aging" (1977). Perhaps more than any other single development, these three volumes again reaffirmed that the aging phenomenon must be addressed from several perspectives—biological, psychological and social. Moreover, as the interaction effects of variables across disciplines are examined, the need to understand theories and methodologies in a variety of fields becomes apparent.

Introductory textbooks published in the 1970s clearly reflected the need for a multidisciplinary approach to aging. Exemplary of such works were: "The Social Forces in Later Life" (1972), "Aging in Mass Society" (1977), and "Introduction to Gerontology" (1979). These contributions, given their multidisciplinary approach, assure that students are exposed to the concepts and procedures of several perspectives. Through these works teachers and researchers were encouraged at least to consider, if not incorporate into their approach to aging, variables from fields outside their chosen discipline.

Conclusion

What has happened during the past twenty years has been the gradual integration of a variety of perspectives into a common core of training for persons in the aging field, particularly at the undergraduate and master's degree levels and to a lesser degree at the Ph.D. level. The undergraduate and master's training typically involves a generalist approach, while the doctoral level focuses upon specialized disciplinary training with research emphases. Ordinarily the Ph.D. candidate is selective in the kinds of aging courses which are incorporated into his or her course of study. Increasingly, however, students at more advanced levels find that a broader base of knowledge is necessary to seriously examine the processes of aging. Treating aging as a dependent variable inevitably requires the consideration of a number and variety of independent variables—many of which may typically be found outside one's chosen discipline. Currently, gerontology students, whether majoring or specializing in the field, must be aware that oldness, to be fully understood, should incorporate several perspectives, especially those taken by biology, sociology, and psychology. Anything less than a comprehensive approach is coming to be seen as inadequate in terms of the formulation of research designs and the interpretation of findings as well as in program planning and development.

One of the most important outcomes of an interdisciplinary approach has been the exciting research conducted in the field. Particularly noteworthy has been the study of various interaction effects between variables which, until recently, have been analyzed within the parameters of a single discipline. That loss of hearing may be related to paranoid tendencies, or psychological stress related to cancer, or sudden changes in environment to a number and variety of brain syndromes, illustrates the value of looking at the aging process across disciplines. Ideally, this approach will give rise to more solid theoretical constructs and research foundations which will provide a more viable base for training and education in gerontology.

It is unreasonable to assume that a student of aging could incorporate all the theoretical assumptions and paradigms characterizing the many disciplines which have

contributed to the growth of gerontology. If one restricted the analysis to age-related frameworks only, he or she would discover the task to be much simpler. A more difficult bridge to cross, however, is that from the natural sciences to the social sciences and vice versa. Increasingly, collegial interchange and team approaches to research problems of community development plans are showing the value of cross-fertilization in attacking issues of aging.

Bureaucratic structures, physical plant limitations, and traditional beliefs about academic organization and work continue to hinder more fruitful collaborations between disciplines. Nevertheless, government funding of cooperative programs, centers, and departments has played a major role and will continue to influence the growth of gerontology. As more colleges and universities adopt curricula in aging and commit their own funds toward the establishment of gerontological studies, continued growth and progress will be realized. The debate of whether gerontology is in fact a separate, well-defined discipline or rather a number of perspectives, approaches, and points of view, drawn from a variety of disciplines will ultimately be decided by students—the recipients of current gerontological training and education—and by all the historical, societal and biographical factors involved in the development of any field of study.

REFERENCES

- Anderson, (ed.). **Psychological Aspects of Aging**. Washington, D.C.: American Psychological Association, 1956.
- Atchley, Robert. **The Social Forces in Later Life: An Introduction to Social Gerontology**. California: Wadsworth Publishing Co., Inc., 1972.
- Binstock, Robert and Shanas, Ethel (eds.). **Handbook of Aging and the Social Sciences**. New York: D. Van Nostrand Reinhold Co., 1976.
- Birren, James (ed.). **Handbook of Aging and the Individual**. Chicago: University of Chicago Press, 1959.
- Birren, James and Clayton, Vivian. "History of Gerontology" in Woodruff, Diana and Birren, James (eds.), **Aging: Scientific Perspectives and Social Issues**. New York: D. Van Nostrand Reinhold Co., 1975.
- Birren, J.E. and Schaie, K.W. **Handbook of the Psychology of Aging**. New York: Van Nostrand, 1977.
- Blumenthal, H. (ed.). **Medical and Clinical Aspects of Aging**. New York: Columbia University Press, 1962.
- Botwinick, J. **Aging and Behavior: A Comprehensive Integration of Research Findings**. New York: Springer Publishing, 1973.
- Burgess, E.W. (ed.). **Aging in Western Societies**. Chicago: University of Chicago Press, 1960.
- Butler, R. **Why Survive?** New York: Harper and Row, 1975.
- Cain, L.D. "The Sociology of Aging: A Trend Report and Bibliography." **Current Sociology**, 1959.
- Clark, M. and Anderson, B.G. **Culture and Aging: An Anthropological Study of Older Americans**. Springfield, Illinois: Charles C. Thomas, 1967.
- Cowgill, D. and Holmes, L. (eds.). **Aging and Modernization**. New York: Appleton-Century-Crofts, 1972.
- Cowdry, E.V. (ed.). **Problems of Aging**. Baltimore. Williams and Wilkins, 1939.
- Cumming, E. and Henry, W. **Growing Old: The Process of Disengagement**. New York: Basic Books, 1961.
- Finch, C. and Hayflick, L. (eds.). **Handbook of the Biology of Aging**. New York: D. Van Nostrand Reinhold Co., 1977.
- Hall, G.S. **Senescence, The Second Half of Life**. New York: Appleton, 1922.

- Havighurst, R.J. and Albrecht, R. *Older People Considered*. New York: Longmans, Green, 1953.
- Hendricks, H. and Hendricks, C. *Aging in Mass Society: Myths and Realities*. Massachusetts: Winthrop Publishers, 1977.
- Kaplan, J. and Aldridge, G.J. (eds.). *Social Welfare of the Aging*. New York: Columbia University Press, 1962.
- Kutner, B., Fanshel, D., Togo, A.M., and Langner, T.S. *Five Hundred Over Sixty*. New York: Russell Sage Foundation, 1956.
- Lansing, A.I. "General Physiology." in Lansing, A.I. (ed.). *Cowdry's Problems of Ageing/3rd Edition*. Baltimore: Williams and Wilkins, 1952.
- Mannheim, Karl. *Ideology and Utopia*. New York: Harcourt, Brace, Jovanovich, 1936.
- Medawar, P.B. "Size, Shape and Age." in Clark, W.E. and Medawar, P.B. (eds.). *Essays on Growth and Form*. Oxford: Clarendon Press, 1945.
- Metchnikoff, E. *The Prolongation of Life*. New York: Putnam and Sons, 1908.
- Minot, C. *The Problems of Age, Growth and Death*. New York: Putnam and Sons, 1908.
- Palmore, E.B. (ed.). *Normal Aging: Reports from the Duke Longitudinal Studies, 1955-1969*. Durham, North Carolina: Duke University Press, 1970.
- Palmore, E.B. (ed.). *Normal Aging II: Reports from the Duke Longitudinal Studies, 1970-1973*. Durham, North Carolina: Duke University Press, 1974.
- Pearl, R. *The Biology of Death*. Philadelphia: Lippincott, 1922.
- Riegel, K. "History of Psychological Gerontology." in Birren, J. and Schaie, K.W. (eds.). *Handbook of the Psychology of Aging*. New York: Van Nostrand, 1977.
- Riley, M.W. and Foner, A. (eds.). *Aging and Society: An Inventory of Research Findings*. New York: Russell Sage Foundation, 1968.
- Riley, M.W. and Foner, A. (eds.). *A Sociology of Age Stratification*. New York: Russell Sage Foundation, 1972.
- Riley, M.W., Johnson, M. and Foner, A. *Aging and Society: Vol. 3, Education Considerations*. New York: Russell Sage Foundation, 1972.
- Riley, M.W., Riley, J., and Johnson, M. (eds.). *Aging and the Professions*. New York: Russell Sage Foundation, 1969.
- Rose, A. "A Subculture of Aging." *The Gerontologist*, 1962, 2, 123, 27.
- Rose, A. and Peterson, W. (eds.). *Older People and Their Social World*. Philadelphia: F.A. David, 1965.
- Rosow, I. *Social Integration of the Aged*. New York: The Free Press, 1967.
- Schwartz, A. and Peterson, J. *Introduction to Gerontology*. San Francisco: Holt, Rinehart and Winston, 1979.
- Shanas, E., Townsend, P., Wedderburn, D., Fris, H., Milhoj, P., and Stenhouwer, J. *Old People in Three Industrial Societies*. New York: Atherton, 1968.
- Shock, N. (ed.). *Biological Aspects of Aging*. New York: Columbia University Press, 1962.
- Simmons, L.W. *The Role of the Aged in Primitive Societies*. New Haven: Yale University Press, 1945.
- Streib, G. and Orbach, H. "Aging." in P. Lazarsfeld, Sewell, W., and Wilensky, H., *The Uses of Sociology*. New York: Basic Books, 1967.
- Tibbits, C. and Donahue, W. (eds.). *Social and Psychological Aspects of Aging*. New York: Columbia University Press, 1962.
- Tibbits, C. (ed.). *Handbook of Social Gerontology: Societal Aspects of Aging*. Chicago: University of Chicago Press, 1960.
- Vedder, C.B. (ed.). *Gerontology: A Book of Readings*. Springfield, Illinois: Charles C. Thomas, 1963.
- Williams, R.H., Tibbits, C. and Donahue, W. (eds.). *Processes of Aging: Volumes I and II*. New York: Atherton, 1963.
- Wuthnow, Robert. *The Consciousness Reformation*. Berkeley: University of California Press, 1976.
- Youmans, E.G. *Older Rural Americans*. Lexington: University of Kentucky Press, 1967.

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