Appendix B

A Differential Psychology of the Adult Potential*

A differential psychology of the adult years as a unique period in the life span of the individual has long been a period of relative neglect in the productions of the psychological enterprise. But within the last decade or more this situation has begun to improve. That improvement was underway by the late fifties and early sixties came to light in the writer's chapter on 'Psychology and Learning' in the June 1965 Review of Educational Research (14). Since then, additional and cumulative evidence is contained in the appearance of Birren's *Psychology of Aging* (2), Bromley's *Psychology of Human Aging* (5), Botwinick's *Cognitive Processes of Maturity and Old Age* (4), Hurlock's monumental *Developmental Psychology* (10), Neugarten's readings on *Middle Age and Aging* (17), and most recently Bischof's *Adult Psychology* (3).

Bischof is particularly impressive in submitting evidence for the momentum which the study of adult psychology is currently developing. Of the approximately 930 items contained in the 42½ pages of bibliography at the end of his book (pp. 255–298), five percent were dated before 1950, nine percent appeared between 1950 and 1960, 20 percent between 1960 and 1965, *while 66 percent were published between 1965 and 1968.*

*McClusky, Howard Y. Reprinted by permission from *Adult Learning and Instruction*, edited by Stanley M. Grabowski (Syracuse: ERIC Clearinghouse on Adult Education, 1970), pp. 80-95

But for all this promising development there are as yet few deliberate and systematic attempts to formulate a position from which to develop a differential psychology of the adult years. The following presentation is submitted as a modest effort to move in this direction with particular emphasis on its relevance for an understanding of the adult potential.

To start promptly with our assignment it is proposed that a differential psychology of adults may be derived from an intermingling of selected aspects of the topics of (a) interaction, (b) dynamics, (c) personality change through time, and (d) differentiation. This presentation will deal primarily with the first three. More specifically it will include a variation on the S-O-R formula in developing the theme of interaction, a relatively new concept of MARGIN as an approach to the realm of dynamics, and finally it will draw on developmental and life cycle theory in discussing changes in adult psychology through time.

Learning and the S-O-R Formula

To learn is to change and the scheme most commonly proposed for explaining how learning-change takes place is the S (stimulus), R (response) formula or some variation thereof.

Historically, the S-R formula is essentially a more recent version of antecedent association or connectionist theories of learning. According to this view, learning occurs if we can associate or connect a new stimulus to an earlier response, or a new response to a former stimulus. In either case some change occurs. This focus on relatively objective stimulus-response units of behavior has provided the conceptual framework for bringing the processes of learning out into the open where they could be measured and presumably predicted and controlled. The presumption of the original S-R model was that if we could account for and measure the stimulus, like the impact of a cue on a billiard ball, we could predict the magnitude and direction of the response. Or if we knew enough about the response, we could retroactively reconstruct the characteristics of the stimulus which was originally responsible for its arousal.

The S-R scheme works fairly well as long as learning is confined to simple kinds of learning. But it encounters severe difficulties when learning is more complex and the learner is more mature. Consequently, it is a much better explanation of the quasi-mechanical learning of early childhood than it is of the more complex learning of the adult years. The difficulty lies chiefly in the fact that the raw physical properties of the stimuli are not

sufficient to account for individual differences in response. Something more, called the 'intervening variable,' is required. In terms of our formula the intervening variable is the person—**O**—the one stimulated and the one responding.

At this juncture it is necessary to draw on what we know about perception, for it is the role of perception which constitutes the empirical and theoretical basis for elevating the importance of the **O** in our formula and thereby stressing the unique importance of the adult condition as a decisive factor in adult behavior.

We return to the point that it requires more than the raw physical properties of the stimulus to account for the individual's response—**R.** We begin with the reality that a person is immersed in an environment of incessant stimulation bombarding in varying degrees the sensory receptors (i.e., eyes, ears, nose, etc.). If unregulated, this all-pervasive bombardment could overwhelm and immobilize the individual. Fortunately, some of this stimulation is blocked out, while some filters through. Insight into the filtering process may be derived from an awareness of the facts and theory of perception.

In the first place, perception is highly selective. That part of stimulation which finally becomes a part of experience is NOT a random sample of what is totally available. There is (a) selective exposure and within the exposure field, (b) selective awareness. That is we do not see, hear, etc. everything and we are not equally aware of everything we see, hear, etc.

In the second place, perception tends to be organized. A person perceives things in patterns that are meaningful to him. For example, note the influence of context (e.g., the Müller-Lyer illusion), figure and ground, grouping and closure. Gestalt psychology has been especially influential in calling attention to the crucial role of perceptual organization.

In the third place, both selection and organization, as well as the interpretation of what is perceived, are clearly influenced by the needs, disposition and set which a person brings to the perceptual experience. Experiments indicate that people are more likely to see an ambiguous picture as containing food objects when they are hungry than when they are satiated. Other research reveals that college students interpret a picture anxiously when hypnotized in an anxious mood, critical in a critical mood, and positively in a positive mood. And in a classic experiment Bruner and Postman demonstrated that in the case of ten-year-old boys the perception of the size of coins was directly related not to the size but the *value* (to the boys) of the coin.

Thus, not the raw physical property of the stimulus but the individual's PERCEPTION of the stimulus is the key factor in determining the response. We cannot then predict—**R**— the response exclusively from our knowledge of the—**S**—stimulus. HENCE, I KNOW WHAT I SAY BUT

I DO NOT KNOW WHAT YOU HEAR; I MAY KNOW WHAT I SHOW BUT I DO NOT KNOW WHAT YOU SEE.

The mistake of the original **S-R** formula has been its reductionist oversimplification of the highly complex nature of the learning process. By overemphasizing both stimulus and response as well as their external character, it has reduced if not ignored the unique importance of the person (the intervening variable, **O**) as the agent receiving and often originating the stimulus as well as the one giving the response. A more valid version requires the insertion of an **O** between the **S** and the **R**, thus reinstating the learner as an indispensible factor in understanding and influencing the learning process. The neglect of the person—**O**—as learner explains why telling—**S**—is not necessarily teaching and why listening—**R**—is not necessarily learning. Both Input—**S**—and Outcome—**R**—must be anchored in the person who is supposed to do the learning. This point is especially relevant in the adult years when experience becomes more and more cumulative and behavior increasingly differentiated.

Learning involves not only elaborate exchanges between stimuli, responses and the learner, but it must be equally dynamic if it is to be effective. As one approach to understanding the dynamics of adult learning, let us turn to an examination of the concept of Margin.

Margin is a function of the relationship of Load to Power. In simplest terms Margin is surplus Power. It is the Power available to a person over and beyond that required to handle his Load.

> By Load we mean the demands made on a person by self and society. By Power we mean the resources, i.e. abilities, possessions, position, allies, etc., which a person can command in coping with Load. Margin may be increased by reducing Load or increasing Power, or it may be decreased by increasing Load and/or reducing Power. We can control both by modifying either Power or Load. When Load continually matches or exceeds Power and if both are fixed and/or out of control, or irreversible, the situation becomes highly vulnerable and susceptible to breakdown. If, however, Load and Power can be controlled, and better yet, if a person is able to lay hold of a reserve (Margin) of Power, he is better equipped to meet unforeseen emergencies, is better positioned to take risks, can engage in exploratory, creative activities, is more likely to learn, etc., i.e. do those things that enable him to live above a plateau of mere self subsistence.
>
> There is a rough similarity between the ideas of Load and Power and other concepts. For example, Stress may from one viewpoint be considered or regarded as a kind of Load. Load is also quite similar to the idea of Input in communications theory. That is Input is a Load delivered to a system of transmission. If Input is too ambiguous or if its volume and rate become ex-

cessive, a condition of 'overload' arises, resistance sets in, and breakdown may occur.

The idea of Power also has its analogues. For example, Resilience may be regarded as a kind of latent Power. It is the capacity for recovery after expenditure, depletion or exhaustion. Again, Margin is related to the notion of capital in economics. Here, net profit may be considered as a surplus for distribution or reinvestment for expansion, or increased productivity. Also in engineering the factor of safety is a direct application of the idea of Margin. In this case, after estimating the greatest stress to which a building, bridge, airplane, machine, etc. may be subjected, additional units of strength are built into the construction as an assurance that liberal Margins of safety will be available to the client.

But the key to the meaning of Margin lies not only in the subconcepts of Load and Power but even more in the relationship between them. For example, the amount of Power a person possesses will obviously have a strong bearing on the level and range of his performance. But the strategic factor for a person's selfhood is the surplus revealed by the Load Power ratio which he can apply to the achievement of a preferential development (15).[1]

In the light of our theory, therefore, a necessary condition for learning is access to and/or the activation of a Margin of Power that may be available for application to the processes which the learning situation requires.

In the preceding discussion of the **S-R** formula and the theory of Margin, it will be noted that except for a few instances the reader has been left largely on his own to relate these concepts explicitly to the psychology of adults as a special field of inquiry. That they are relatable is quite clear. In the processes of behavioral development the elements of **S, O** and **R** become woven together in complex patterns of acquisitions and as the years advance, as indicated above, the **O** becomes increasingly a uniquely dominant factor in the transactions involved. Likewise in the realm of Margin, the adjustments of Load to Power become matters of overreaching concern as a person accumulates and later relinquishes adult responsibilities and modifies the varying roles which the successive stages of the life cycle require. But a full recital of the relevance of **S-O-R** and Margin requires more attention than this occasion permits.

If we are looking for a subject matter especially germane for adult psychology, we will find it more specifically revealed in the characteristics of changes in the adult years.

[1]The above quotation is taken with permission from the writer's article listed as item 15 in the bibliography.

Change in the Adult Years

Critical Periods

One way to view change in adulthood is to conceive of the 50 plus years following childhood and youth as a procession of critical periods. These may originate in or be terminated by some significant event, but the time prior to, following, or in between events calls for the word 'period' as a more functional designation of the idea we wish to convey. These periods are characteristically productive of experiences decisively important to the persons involved during which marked changes in social role and meaningful relationships may occur. Entry into, advance in, transfer from, or loss of employment would represent one category of such events. Marriage, the birth of a child, or the loss of marriage partner, children, parents, relatives, and other significant associates illustrates another category. The sensitive periods of readjustment leading up to and following these and similiar events often give rise to strategic 'choice points' in life direction and often compel adults to make an 'agonizing reappraisal' of their circumstances and the prospect confronting them in the years ahead. It is in such periods that some of the most meaningful learning may occur, when an older dog may learn some tricks better than younger dogs who have yet to be confronted with some of the critical events of life.

Commitment

In the idea of *commitment* we have another useful way of looking at the changes confronting a person with the passage of the adult years. Our definition of commitment consists of two components: one is an 'intentional attachment' and the other a responsibility unique to adulthood as its object. In general, change would be viewed as incremental and cumulative as well as having varying degrees of intensity and range of involvement.

To illustrate in the family domain, commitment in courtship would be regarded as tentative. Marriage itself would be regarded as the beginning of a major continuing commitment in turn leading to an accumulation of obligations with the coming of children and the widening of the kinship circle. In the occupational field, it would presumably be attached first to the job itself, then to co-workers, the employing institution, and the consumers of the job's services. Similarly, as the years unfold, commitments could be extended to the church, political party, civic associations, special interest groups, the community, and the like, in varying combinations and degrees of priority.

In such a progression commitment could be evaluated typically as follows: in childhood it would be nonexistent or embryonic; in youth, diffuse and provisional; in early adult life, with the arrival of basic job and family obligations, it would become more authentic and binding but still limited in scope; while in the middle and late middle years it would embrace the largest number and variety of concerns including attachments to work, property, civic affairs, and especially the extended family when an obligation to one's aging parents on the one hand begins to compete with one's obligation to one's growing, but still partially dependent children on the other. In later years a shift and reduction in commitments would appear with a selective disengagement in some areas and a deepening of attachment in others.

The preceding sketch constitutes only the bare bones of an approach for mapping the progression of life commitments, but it suggests that in this concept we are not considering a vague, intangible entity, but one which, with appropriate methodological ingenuity, could be counted, scaled, and charted with a degree of operational reliability and validity. But even without measurement we have here an idea with much utility for understanding some of the stubborn aspects of adult learning. For example, it helps explain the binding and 'locked in' character of so much of adult life which may add to the problem of resistance to learning. More specifically it suggests that resistance to learning may not necessarily reflect a reluctance on the part of the adult to learn but simply his unwillingness to dislocate some of the basic commitments around which much of his life is organized. Such an adult would be much more likely to learn if his basic commitments could be eased (e.g., via leaves of absence with pay and allowance for family expenses) so he could be more free to learn.

Time Perception

In the perception of time, we have another fruitful way of looking at the progression of the adult years. It makes a great deal of difference in one's orientation to learning whether life lies ahead as it does at age 21, is about midway as at 40, and is largely in the past in memory or ahead in one's children as at 70. To be behind, on, or ahead of schedule with respect to life expectations, or more important to be aware that one is behind, on, or ahead of schedule, may have a profound effect on life adjustment and consequently one's willingness to undergo a program of systematic instruction.

There is much evidence to show that at about 30 the young adult begins to realize that time is not unlimited and that as time passes his range of options

with respect to job, family and other areas of living are becoming correspondingly reduced. A little later he begins to stop measuring his life from the date of birth but instead from the years remaining before death. His thoughts become relatively less concerned with the world of outer activity, and somewhat more absorbed in the inner world of contemplation.

A related feature of time perception is the common experience that time seems to pass more rapidly as one grows older. There may be a partial explanation in the following 'arithmetic of time:' at 16, one year is one 16th of the time a person has lived, at 40 one year is a 40th, and at 70 a 70th of the time lived. Thus with advancing years, a unit of time, e.g., one year, becomes a decreasing fraction of the time experienced and is so perceived. This fact added to the decrease in perception of life expectancy undoubtedly has a profound and pervasive impact on the attitudes of adults as the years unfold—an impact which in turn also affects an adult's perception of his potential as a learner. An unpublished study of the writer's indicates that up to about age 50, middle class adults do not seriously question their ability to take part in activities requiring new learning, but with other factors constant, after 50, doubts about the capacity to learn begin to appear. In the light of our argument, one explanation may be that as one passes beyond age 50 the perception that time is running out may make a great difference in an adult's attitude toward the appropriateness if not legitimacy of resuming a life of systematic inquiry (16).[2]

'Critical Periods,' 'Commitment,' and 'Time Perception' are relatively new topics in the literature of adult psychology. More familiar, however, are the formulations which have come from the field of developmental psychology. In continuing our discussion of 'Change in the Adult Years,' six of these have been brought together in the following Table: 'Comparative Designations of Developmental Stages.'

The items in Table B-1 may be roughly grouped into two categories. One appears under the heading: Biological, Kuhlen and Buhler; the other under the rubrics of: Eriksen, Peck and HYMC. The items in the first category are similar in suggesting an initial stage of consolidation (Stability of Growth, Maintenance, and Culmination) and a final stage of decline (Regressive Growth, Defense Against Loss, and Decline).

In comparison, the second category embodies a somewhat different and more optimistic stance. For example, Peck moves from the issue of Valu-

[2]The above quotation is taken with permission from the writer's article listed as item 16 in the bibliography.

Table B-1
Comparative Designations of Development Stages—Mostly Post Adolescent Through the Life Span

Biological	Kuhlen (12)	Buhler (3)	Eriksen (9)	Peck (20)	HYMC (15)
Progressive Growth (0-25)	Expansion	Preparatory (0-25)	Intimacy vs Isolation		Development of Margin
Stability of Growth (25-45)	Maintenance	Culmination Largest No. Dimensions (25-50)	Generativity vs Stagnation	Valuing Wisdom vs Physical Powers	Expansion of Margin
				Socializing vs Sexualizing	
				Cathectic Flexibility vs Impoverishment	
Regressive Growth (45 plus)	Defense Against Loss	Decline (50 plus)	Ego Integrity vs Despair	Mental Flexibility vs Rigidity	Transvaluation of Margin
				Ego Differentiation vs Work Role Pre-Occupation	
				Body Transcendence vs Body Preoccupation	
				Ego Transcendence vs Ego Preoccupation	

ing Wisdom vs Valuing Physical Powers in early adulthood to Ego Transcendence in the later years and similarly Eriksen moves from the achievement of a Sense of Intimacy to the achievement of a Sense of Ego Integrity, with no suggestion in either case that the direction of change which they imply represents a decline in the adult condition. At the same time this writer (McClusky) holds that by realigning and transvaluing the relationships of Load to Power, the later years may in fact be a period of progressive growth.

The emphasis of the second category of items suggests that there may be a potential for the prolongation of adult development not acknowledged by the conventional view of change in the adult years. We will return to this point in the following section.

Changes in Intelligence (The Ability to Learn) with Age

In general, there have been two kinds of data employed to deal with this issue, one is cross sectional and the other longitudinal in character. The cross sectional kind studies a random number of persons in different groups at successive age levels, while the other studies the same persons over various intervals of time. The first of the cross sectional type was reported by Thorndike in his classic volume on *Adult Learning* (22).

He studied the rate of learning over time, and for his data derived his famous age curve of learning ability with a peak at 22 and a decline of about one percent a year to age 50. A somewhat later investigation by Jones and Conrad of about 1,200 persons ranging from 10 to 60 years of age in several New England villages yielded similar results. They showed a steady rise in intelligence from 10 to 21 followed by a decline in each of the subsequent age groups (11).

Yet again and later, Wechsler in his standardization of the Bellevue Intelligence scale in 1935 showed a high point in performance for his subjects at 22, followed by a gradual decline. Wechsler's data are particularly pertinent since they were derived from the use of an instrument especially designed to measure adult intelligence. Thus, from the cross sectional studies we get a picture of intelligence peaking in the early twenties with performance gradually diminishing thereafter.

But the longitudinal studies, most of which have been conducted since those cited above, have revealed a somewhat different and more optimistic situation. Beginning with studies at mid-adulthood of change in learning ability with age, it is interesting to note the outcome of a follow-up of the famous investigation of gifted children conducted by Terman and Oden—and on another, Oden and Bayley (1) were able to locate and retest a number of the original sample who by the time of the later inquiry were in the middle years of adulthood. In general, the results of both investigations revealed a gain in each of four age groups on tests constituting measures of conceptual thinking (21).

Turning to a study embracing an even wider interval of time, Owens has reported data particularly relevant for our problem. In 1950 when his subjects were about 50, he retested a group of college graduates who had originally taken the same test (Army Alpha) as freshmen at Iowa State College. About 11 years later, when his subjects were 61, he administered the same test a second time. Thus, there were two follow-up administrations of the same test to the same persons—the first after an interval of about 32 years and the second after an additional interval of about 11 years. At 50, the subjects showed a slight gain over their performance as freshmen and at 61, they maintained the level they had attained in general at 50 with a decline only in tests of numerical ability (18, 19).

Support for the Owens picture of the mental ability of adults over 50 is reported by Eisdorfer, who after a three-year interval found little change in

the performance of 165 adults on the full scale WAIS (8), and by Duncan and Barrett whose research yielded similar outcomes with 28 men after a ten-year interval (7).

What is the meaning of this apparent discrepancy in the results of cross sectional and longitudinal types of studies?

In attempting to answer this question, Lorge—a student of Thorndike—made a distinction between speed or rate of response on the one hand and power of response on the other. He noted that as persons move through the adult years there is a decline in the speed of their reaction. But he also pointed out that this did not necessarily signify a parallel decline in the power to react. By using tests of power under timed and untimed conditions, he conducted a series of investigations that tended to confirm his theory (13).

Others have objected to the results of the cross sectional studies on the ground that tests of intelligence and learning are biased in favor of youth. Young people have usually had more experience in taking tests than older persons and their contact with the material in the test items is more recent and hence more available.

Finally, perhaps the most serious objection relates to the criterion problem. What is a good criterion with which to correlate measures of adult intelligence? Is it academic achievement, a dimension often used in the validation of intelligence tests? Probably not, but if effective performance in coping with the stress and requirements of the adult years is a criterion and if this could be measured, we might come out with a different view of the structure and growth of adult intelligence. The criterion problem is one of the most difficult to resolve in the entire arena of psychological inquiry. It permits no easy answer, but it raises issues so fundamental that when related to the measurement of adult intelligence, the problem of either its decline or increase must be viewed in a different perspective.

But to this writer the most significant point to be derived from cross sectional investigations stems from two kinds of related data. One is the diminishing scores of successively older groups of adults and the other is that in the 1955 standardization of his scale of adult intelligence, Wechsler reports a five-year advance in peak ability (23).

To elaborate: in the case of the first point, it is well known that older persons have had lesser amounts of formal education than younger persons and that amounts of formal education gradually decline as the age of the study population increases. It appears, therefore, that the peaking of ability in the early twenties revealed by cross sectional investigations and gradual decline thereafter is just as likely to reflect a decline in amounts of formal education achieved by adults as it does a decline in adult ability to learn.

The five-year increase in peak ability reported by Wechsler would tend to support the same point. Because in the 16-year period between 1939 and 1955, the educational level of the general population increased substantially and at the same time advances in availability and usage of the mass media, i.e., radio, TV, and the printed page were equally substantial. Thus, the general environment became more stimulating and educative. This interpretation of the outcomes of cross sectional investigations combined with the results of longitudinal studies showing no decline, give further support to the viewpoint expressed at the conclusion of the preceding section: (1) that the conventional view that changes in the adult years inevitably bring about a decline in intelligence (or the ability to learn) can now be challenged by a growing body of respectable empirical data; and (2) the three-phase model of growth, consolidation, and decline as descriptive of the adult potential must be thoroughly overhauled and restated with a more optimistic stance.

But there are other grounds for believing that the adult potential has been underestimated.

Role and Self Concept Theory

In the prevailing view of society, it is the major task of children and youth to go to school, study, and learn the major task of the adult to get a job and work. In brief, childhood and youth are time for learning and adulthood a time for working. This is beginning to change, but the dominant thrust of society's expectation and equally of his self expectations is that for an adult the learning role is not a major element in his repertoire of living. Thus, both society and the adult view himself as a non-learner. Our theory is that this failure to internalize the learner role as a central feature of the self is a substantial restraint in the adult's realization of his learning potential. Or more positively stated, if and when an adult thinks that studying, learning, and the intellectual adventure is as much a part of life as his occupation and obligation to his family, he will be much more likely to achieve a higher level of intellectual performance. Briefly, it is proposed that the potential is there but it needs self and societal support to bring the potential to fruition.

Sense of Discovery

Similarly it may be argued that another disposition, namely a sense of discovery, tends to be lost in the adult years and if recovered, retained, and cultivated would contribute greatly to intellectual performance.

A brief examination of what happens with the passing years will lend plausibility to this hypothesis.

We are on safe grounds for holding that about 15 months of age, when a child's ego is beginning to take shape, most of an individual's waking hours are devoted to discovering the exciting world about him. Everything is new and everything literally from the ground up must be learned. There are unending mysteries to unravel, new tasks to be mastered, and new frontiers to be explored. But as the strange becomes more familiar, and as skills become habitual, the sense of discovery begins to recede.

This becomes increasingly true as one approaches adulthood and as the skills and activities required for the major responsibilities of living are mastered. Here discovery gradually gives way to repetition, and acquisitions to maintenance. There is nothing essentially reprehensible about this. In fact, a certain amount of habituation is necessary, and in most enterprises effective maintenance is as essential as the original process of building.

It certainly would not be efficient, for example, if we as adults had to devote as much time and attention to learning to tie our shoes, learning to read and write, or even drive a car as children and youth must learn to do. The world of dressing up, of becoming literate, etc. must become as efficient and habitual as possible in order that these skills may be instruments for better things. So a naive belief in the wonders of discovery could easily lead us into a primitive kind of romanticism utterly unrealistic for the exigencies of adult living.

But typically, for most adults the efficient performance of maintenance activities does not release a person to continue the adventure of discovery. Instead, following the Law of Least Effort, he tends to take the convenient road of repetition, gets into a rut and appears gradually to reduce his ability to cope with the intellectual demands of his world. But there is nothing inevitable in the order of things that this should occur. It is the intent of our theory that the loss of the sense of discovery is a reflection of a condition in which an adult allows the requirements for maintenance to override his needs for the pursuit of inquiry, and not a reflection of an absolute decline in ability. More positively, it is also the intent of our theory that a sense of frontiersmanship can be cultivated and restored, that the adventure and wonder of life can be renewed, if not increased. If to his self expectation as a continuing learner, an adult could add a picture of himself as one continuing to discover, he could heighten his ability to learn and inquire, for here the Law of Use would overcome the Law of Disuse, and the thrust of his inquiry would be reinforced by the cumulative satisfactions resulting from his constant probe of the edge of the unknown. What better validation of the preceding hypothesis could there be than the common experience that as one advances in years, and learns more and more about the world about him, the more he realizes how little he really knows and that a vast terrain of the yet-to-be-discovered remains to be explored?

In conclusion, we have attempted to build a case for a differential psychology of the adult years, and in so doing have also proposed a post hoc interpretive hypothesis that the trend of both empirical and theoretical evidence is supportive of the view that adults have a potential for continuing learning and inquiry which historic conventional wisdom has failed to recognize. Ours then is a stance of unrealized potential and not one of *de facto* limitation. It will be interesting to note in years ahead which of these two views the thinking and research of the future will tend to confirm.

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   This volume comprehensively reviews the research on the psychology of the middle-aged (ages 40-65). Topics include the concept of maturity and maturation models; the measurement and influences of adult self image; marriage and sexual patterns; intergenerational relationships between parents and children; vocations and avocations (work, retirement, play, and the factors influencing them); friendship and religious attitudes and patterns; medical and psychological research on the cases of aging and aging's impact on learning and behavioral patterns, the societal role of the aged in America and other nations, and adult attitudes toward death. A 931-item bibliography is appended.

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In many cases, satisfaction of needs or goals results in lack of motivation to seek something similar but more challenging, and the realization that a goal or desire is unattainable results in giving up a desire for it. Status of age, pressures of time and money, physical change and decline, skill deficits, and "locked in" feelings influence motivation by causing one to adapt his goals to those more within his reach. Needs of growth-expansion are less important in later life as feeling of anxiety and threat increase. Later ages have a reduction in ego-involvement with life; an increase in disengagement, in anxiety, and in negative self concepts; and a decrease in happiness. Economic and social class

attitudes play roles in determining perception of aging. There is some evidence that old age adjustment depends largely on a person's own self assessment of whether or not he reached fulfillment in his own life.

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Most of the selections (58) in this anthology discuss the problem of what social and psychological adaptations are required as individuals pass through later life. Major attention is paid to the importance of age status and age-sex roles; psychological changes in the life cycle; social psychological theories of aging; attitudes toward health; changing family roles; work, retirement, and leisure; dimensions of the immediate social environment as friendships, neighboring patterns, and living arrangements; difference in cultural settings; and perspectives of time and death. Empirical studies, and those in which research methods are clearly described, are presented wherever possible, together with theoretical and summary papers and a few investigations that present innovative methods and concepts. Various research methods are illustrated: questionnaires, surveys, interviews, projective tests, participant observation. The four appendixes in particular pose methodological problems in studying longitudinal change. Tables, figures, and an extensive bibliography also appear.

18. Owens, William A. Jr. "Age and Mental Abilities: A Longitudinal Study." *Genetic Psychology Monographs.* 48 (1953) p3-54.

19. Owens, William A. Jr. *Life History Correlates of Age Change in Mental Abilities.* Lafayette, Indiana. Purdue University. 1963.

20. Peck, R.C. "Psychological Development in the Second Half of Life" in *Psychological Aspects of Aging.* Anderson, John E., Ed. Washington, D.C. American Psychological Association. 1956.

21. Terman, L.M. and Oden, M.H. *The Gifted Group at Mid Life.* Stanford, California. Stanford University Press. 1959.

22. Thorndike, E.L., et al. *Adult Learning.* New York. Macmillan Company, 1928.

23. Wechsler, D. *The Measurement and Appraisal of Adult Intelligence.* Fourth Edition. Baltimore, Maryland. William and Wilkins Co. 1958.