

## Chapter 2

# The Development of the Person: An Experiential Perspective on the Ontogenesis of Psychological Complexity

Mihaly Csikszentmihalyi and Kevin Rathunde

### What is a Person?

The obvious answer to the question “What is a person?” would probably focus on physical characteristics, for example, “An individual member of the human race.” Of the 14 major usages of the word listed in the *Oxford Dictionary of the English Language*, most refer to such natural, biological attributes. But it does not take much thought to realize that when we speak of a person, the biological attributes are not the only important ones. The term conveys connotations of dignity, respect, authority, and a great number of other similar nuances that are equally important to its meaning: for instance, “A man or woman of distinction,” or “A human being having rights and duties recognized by the law.”

What a person is cannot be defined by relying on objective physical characteristics alone. Or rather, one can do so, but not without trivializing the very concept that needs to be explained. For a person is not a material being, or a natural category, but a sociocultural construction. Each community develops an image of what a person is, what are its defining features, and what constitutes a “good” person. Thus, it is not possible to know what a person is without understanding the qualities that a social group ascribes to a human being that is also a person, and these qualities may change with time and circumstances.

For example, the traditional Hindu view is that a person is not an individual, but a position in a network of social relations (Marriott 1976); a physical specimen of the species *Homo sapiens* is not a person, unless he or she belongs to a group and

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fulfills the responsibilities thereof. The classical Chinese view and the understanding of the native tribes living along the Amazon River are not that different (Lévi-Strauss 1967). In most cultures the individual in its physicality is no better than any other animal. It takes the transforming power of culture and society to turn the animal into a person.

Stressing the fact that the concept of person is socially constructed seems to imply a relativistic position. It may suggest that the criteria of personhood are more or less arbitrary, the result of chance historical developments in different places and times. However, we do not believe this to be true. The definition of what a person is may vary a great deal across times and places, yet it seems that certain common core elements appear again and again. These common traits presumably are adaptive and have emerged during the sociocultural evolution of humankind because—relative to alternative definitions—they have been more useful in assisting the biological survival of those who held them and the survival of the culture of which they were a part.

A somewhat crude thought experiment may help illustrate how this evolutionary process might have worked. Suppose somewhere on the globe there existed two neighboring nations, each with its unique culture and language. One of the two, the Agazzi, had developed an image of the person as “someone who is exceptionally good at outsmarting his neighbors.” The other group, let’s call them the Bambani, defined the person as “someone who fulfills community expectations.” Assuming that everything else in the environment of the two groups is the same, and that cooperation is a better survival strategy under environmental pressure, it makes sense to assume that in the face of hardship the Bambani would fare better than the Agazzi and would be less likely to disintegrate.

Of course, real life is much more complex than this simplistic thought experiment suggests. Nevertheless, real societies often approach this level of simplicity in constructing their theoretical model of what a person is. The Yamomamo who live in the jungles of Venezuela assume that human beings are violent and constantly aggressive, and act accordingly (Chagnon 1979). The Dobuans of Melanesia believed that all people were deceitful sorcerers, and based their everyday life on constant mutual suspicion (Fortune 1963). In modern times, the images of Aryan or socialist person-hood developed by the Nazis and the Soviets, respectively, made possible the development of policies and institutions that have had profound effects on recent history and justified the murder of tens of millions of individuals who did not fit those images.

Cultures based on naked selfishness and aggression are unlikely to survive long. But even if they do, the point is that the model of personhood a given group adopts is not a neutral choice. It has implications for survival that are in principle no different from what kind of technology the group adopts. If the models adopted by different cultures at different times share important similarities, it is sensible to conclude that those common elements of personhood are important for the survival of any human group, anytime and anywhere.

This image of the person becomes a guiding principle for how the culture deals with human beings: the laws, the institutions, and the behaviors involving people

are informed by it. For instance, each culture looks at child rearing and education through the lens of its image of what a person is. If the person is viewed as aggressive and competitive, this belief will inform how children are treated—how adults interpret their behavior, which childhood actions are punished or rewarded. Parents will stress competition, and schools will make sure that each child treats peers as contenders. If the person is viewed as a node in the social network, then child-rearing institutions are more likely to emphasize cooperation and mutual responsibility. In any case, without a concept of personhood, it would be difficult, if not impossible, to sustain social life.

## ***Person and Personality***

The word *person* as used in most languages related by common European roots derives from the Latin *per sonare*, “to sound through.” This derivation is based on the fact that in ancient Greece and Rome, stage actors wore masks that represented their character (e.g., good or bad), and these masks also served as primitive loudspeakers, helping to amplify the actor’s voice. Our concept of personality is influenced by this image of an actor playing his role through a mask that defines and amplifies the script he is following. For this reason, philosophers and social scientists often view personality as something unauthentic, a disguise rather than the expression of the individual’s genuine essence.

For example, Jung (1954, 1959, 1960) borrowed the Latin term *persona* to refer to the social masks we learn to wear to hide, from ourselves and from others, the real desires and possibilities that would be too dangerous or difficult to express. By forming a *persona*, the individual conforms to a social definition of himself or herself; he or she internalizes the collective ideals of the community (Homans 1979). The sociologist Goffman (1959) developed an entire model of selfhood based on such a dramaturgical model. From his perspective, most of what we do in our lives is a stage presentation. People compete for the roles that provide the greatest advantage, and social interaction basically consists of rehearsing, accepting, or rejecting such roles. Both Jung and Goffman saw personality as an artificial, strategic product. A major difference between them is that whereas Jung believed that under the mask of the *persona* there were deeper and more genuine structures of the self, Goffman seemed to believe that the mask concealed a void.

*Personality* refers to the differences among individuals wearing different masks, for example, one individual’s being more outgoing, or more neurotic, or more introverted than the general norm. In contrast, the term *person* refers to what is common to all personalities, that is, to what makes all individuals in the same culture able to interact with each other on the same stage. Each person borrows a particular mask from the cultural repertoire so as to represent a given identity that will express and amplify his or her inborn talents. In this process of borrowing and adapting, the individual constructs a personality.

But what is common to all personalities, or, in other words, what is the person? It follows from what we have said so far that the most basic trait must involve the ability to take a role on the cultural stage. This implies the ability to recognize the roles others play, to respond appropriately to cultural cues, to accept one's role in the shared script. It is for this reason that most preliterate societies considered members of other tribes nonpersons, because their languages and habits were not understandable. The Greeks called everyone else "barbarians," because the language they spoke sounded like meaningless *bar-bar* to Greek ears. In many languages, like the Navajo, the term *people* is reserved exclusively for members of one's own tribe. The great world religions that flourished from India to Europe starting about 25 centuries ago began to break down these tribal distinctions and envisioned a common humanity regardless of specific customs and languages.

But personhood still depends on the ability to participate in *some* culture, even if it is not one's own. Thus "feral children" who survive as infants outside the boundaries of society, and grow up without learning a language or a set of norms, are often not considered to be "persons." Nor are generally recognized as persons those unfortunate individuals who, because of genetic defects or some early trauma, live a vegetative life and are unable to interact with anyone else. Crack babies and severely autistic persons are limit cases; whether one considers them persons or not depends on how broad a definition one holds. Some religious people may include them under the category of persons; others may not. The same applies to mass murderers and other psychopaths or sociopaths: they stretch the definition of the concept at the boundaries.

Including and excluding individuals from personhood may seem a cruel act, smacking of prejudice and akin to racism. Yet social groups tend to apply this seal of approval to their members to keep a certain standard, a minimum requirement for being recognized as belonging to the community. A linguistic mark of distinction between those who can and those who cannot take part in normative interaction might be a necessary requirement for maintaining social order. Therefore, the distinguishing traits of personhood depend to a large extent on the priorities that inform a particular culture.

### ***The Construction of Personhood Over the Life Span***

Because personhood hinges on the ability to interact and function in a sociocultural context, it follows that persons are not born, but are made. Different cultures use different techniques for making sure that children acquire the knowledge, behavior, and emotions that will enable them to function appropriately as adults. This process of socialization is often informal, enforced by the constant pressure of public opinion. But most cultures evolve formal mechanisms of socialization, often reinforced by complex rituals and ceremonies.

India provides some of the clearest examples of this process. The classical Hindu culture has taken great pains to make sure that from infancy to old age its

members conform to appropriate ideals of behavior. “The Hindu person is produced consciously and deliberately during a series of collective events. These events are *samskaras*, life cycle rituals that are fundamental and compulsory in the life of a Hindu” (Hart 1992, p. 1). *Samskaras* help to shape children and adolescents by giving them new “rules of conduct” for each successive step in life (Pandey 1969, p. 32).

As the Indian psychoanalyst Kakar (1978) wrote half-facetiously, *samskaras* mean “the right rite at the right time.... The conceptualization of the human life cycle unfolding in a series of stages, with each stage having its unique ‘tasks’ and the need for an orderly progression through the stages, is an established part of traditional Indian thought... one of the major thrusts of these rituals is the gradual integration of the child into society, with the *samskaras*, as it were, beating time to a measured movement that takes the child away from the original mother-infant symbiosis into the full-fledged membership of his community” (pp. 204–205).

Rites of passage certify that a child or young adult is ready to enter the next stage of personhood, until he or she grows old and has played every possible role that is available in the community. In some cultures, a man or woman is not considered a full-fledged person until the first grandchild is born. Being a grandparent means, among other things that (a) one is fertile, and therefore endowed with sacred power; (b) one is successful, because only reasonably wealthy parents can find spouses for their children; and (c) one is wise or at least experienced, having lived this long (Le Vine 1980). Only when these qualities are finally achieved is a person finally complete.

In Western societies, transitions to higher levels of personhood are no longer well marked, except in terms of educational progress, where various graduation ceremonies punctuate one’s academic career. Religious progress, marked by such ceremonies as the Jewish bar mitzvah and the Catholic sacrament of confirmation, are bare vestiges of the importance that the spiritual formation of personhood had in the Judeo-Christian tradition. But even though in our society we no longer have clearly marked transition points to higher levels of personhood, we do expect different qualities from people at different stages of life.

So, while we lack communal rites to celebrate a person’s passage from one stage to another, developmental psychologists recognize the importance of such transitions in their descriptions of the life cycle. For instance, Erikson (1950) focuses on the sequence of psychosocial tasks we must confront: forming an identity in adolescence, developing intimacy in young adulthood, achieving generativity in middle age, and finally bringing together one’s past life into a meaningful narrative at the stage of integrity in old age (see also Vaillant 1993). Robert Havighurst (1953) shifted the emphasis more on social-role demands, and developed a model of life transitions based on changing expectations related to age: for example, the student, the worker, the parent. Similar models were proposed more recently by Levinson (1980) and Bee (1992). Developmental theories usually do not make the claim that these tasks are always resolved, or even that the person is necessarily aware of them. But unless they are successfully resolved, the person’s psychological adaptation is likely to be impaired. Common to these models is the assumption that individuals

who deviate from normative developmental stages without good reason run the risk of compromising their chances for full personhood.

And while current social norms allow an astonishing amount of leeway in the kind of behavior and attitudes an individual might display, nevertheless we share a tacit consensus that some ways of being a person are preferable to others, in that they best serve both personal and social growth. We shall focus in particular on these “masks”—or optimal ways of being a person—to identify those adult outcomes that might be most important to recognize and nurture in childhood, when they are still in their embryonic form.

Thus, the purpose of this chapter is to review briefly the most valued traits of personhood recognized in our culture as well as in others. We shall claim that the trait of *psychological complexity* meets the specifications for the central dimension of personhood. Then we shall examine how complexity unfolds through the life cycle, beginning with its manifestations in old age. By starting at the end of the life span and working our way back to childhood, it will be easier to recognize the patterns that are more likely to result in a successful unfolding of the potentialities for personhood. Of course, there is still much disagreement about the nature of continuities throughout the life span, and even about whether any childhood conditions will lawfully relate to adult conditions. We shall not try to address such questions, which are amply dealt with in other sections of this Volume. Suffice it to say that we are in accord, for instance, with the “action-theoretical” perspective developed by Brandstätter in chapter “[Intrinsic Rewards in School Crime](#)”, this Volume, according to which individuals are both the active producers as well as the products of their ontogeny; and with the “modern holistic interactionism” explicated by Magnusson and Stattin (chapter “[The Ecology of Adolescent Activity and Experience](#)”, this Volume), according to which the person develops as an integrated, purposeful, and dynamic component of an individual-environment system. If these perspectives are correct, then knowing the desirable end-points of ontogeny will make it easier for active, intentional individuals to shape their actions early in life so as to make them most likely to achieve optimal developmental outcomes.

Despite differences in content across various cultural contexts, across domains of activity, and across points in the life course, and despite, then, the inevitable differences in what will be recognized as constituting “development” and “optimal functioning,” we believe it is possible to say something affirmative about optimal development. One fruitful direction is to look beyond outward appearances and focus on how—within any system—optimal functioning involves the meshing of the needs of the self with those of the other. In addition, from a phenomenological perspective, it is reasonable to believe that a person who succeeds in enjoying the synergy of individual and systemic needs will have achieved that measure of happiness that philosophers have long taught us to be the ultimate goal of existence.

There are compelling reasons to take a position on optimal patterns of development, despite the ambiguity and risk involved. Bruner (1986) has argued that developmental psychologists cannot just describe but must also prescribe optimal

ways of developing. If not, they abdicate their role in the construction of the public meanings that societies depend upon for self-regulation. When such metatheories about the “good person” and the “good society” are explicitly delineated, they not only add to the public dialogue, they also provide a selective principle for determining the nature and direction of developmental research. Rogers (1969) said much the same thing in defense of his conception of the optimal person; he challenged others: “If my concept of the fully functioning person is abhorrent to you... then give *your* definition of the person... and publish it for all to see. We need many such definitions so that there can be a really significant modern dialogue as to what constitutes our optimum, our ideal citizen” (p. 296). More recently, Wertsch (1991) has argued that the essential task of developmental psychology is to identify and point out the ways individuals learn to enact the roles available in their culture without losing their autonomy in the process.

To accomplish the goals set forth above, we have chosen a somewhat unconventional strategy: to begin at the end of the life cycle and work our way back to infancy. Starting with the fully developed person allows us to draw from a recent study of creativity in later life, in which we describe in detail the mature self-regulation and complexity that *potentially* characterizes later life. Because physical maturational changes culminate in adolescence, and the periods of middle and late adulthood often are marked by declines in some physical and cognitive skills, theorists have struggled to conceptualize whether adults are in fact “developing,” declining, or simply changing (Pearlin 1982). Our perspective on this debate is similar to Baltes and Smith’s (1990) “weak” developmental hypothesis about the possibility of adult development culminating in wisdom. This hypothesis states that increasing age does not necessarily result in wisdom, and that on average older adults may not demonstrate more wisdom than younger ones; but because wisdom is conceptualized as an “expertise” that requires cumulative practice, and because increasing age provides for more experience and time for such practice, notable outcomes of wisdom will be disproportionately seen in older adults.

A second reason for starting at the end of the life cycle is that to do so facilitates our search for the beginnings of mature self-regulation and complexity in the periods of infancy and childhood. If one first articulates a clearer picture of desirable adult developmental outcomes, then it is easier to search the literature about earlier developmental periods and, it is hoped, find the connections that link certain patterns in childhood with desirable adult outcomes. We will explore in particular the link between the fully functioning adult and the neotenus development of children that provides opportunities for play and discovery (Gould 1977).

### ***Ideal Outcomes of Adult Development***

What kind of person best represents the goals of human development? At first it might seem that such a question cannot be answered in the abstract, because each culture requires such a different set of roles to be played by a successful adult as to

make any generalization impossible. Yet, it could be argued that there is a minimum sets of traits that are valued in every human community, and these could be held up as the ideal outcome that should inform developmental processes from early childhood throughout life. We shall focus here on six conditions for complex adulthood and old age that seem relatively invariant and thus can provide guidelines for optimal development in childhood as well as later in life.

In the first place, older persons who are *healthy* and *fit* can play their role on the cultural stage more effectively and without disrupting the lives of those around them. In earlier historical periods, individuals whose health was dubious rarely survived to old age. In communities that lived on the edge of subsistence, such as the Inuit, the aged who could no longer follow the movements of the tribe in search of game asked to be left behind in an “igloo without doors,” to be buried alive, as it were, so as not to jeopardize the survival of their kin by slowing down their progress. In technologically advanced societies, the health costs of the aged—Medicare, nursing homes, and so on—can become a severe financial burden on the younger generations and cause potentially acute social conflicts.

According to current medical opinion, we could live and be healthy much longer than most of us actually manage to do—provided we take adequate care of our physical well-being (Bortz 1996; Erikson et al. 1986; Williams 1995). But it is rarely possible to reverse in the second half of life unhealthy habits acquired in the early years. And while medical advances are constantly adding to our understanding of health and disease, the actual conditions of existence—including environmental factors such as pollution, poor diets, increasing dependence on drugs and on passive entertainment—seem to conspire against developing habits of fitness that will serve us well in later life. For example, the frequency of obesity in childhood and adolescence is increasing in the United States, even while research shows that obese adolescents have a shorter life span and more ailments if they manage to live into old age. An approach to child development that leaves out of reckoning physical criteria of well-being is therefore severely limited.

An emphasis on health should not be construed as implying that only the physically fit can reach a successful adulthood. In fact, many individuals disabled by accidents or congenital illness have lived extremely fulfilling lives and contributed greatly to society. Franklin Delano Roosevelt was not deterred by childhood polio, and Thomas Alva Edison accomplished his extraordinary feats despite a great variety of early health conditions. But it is usually the case that if disabled individuals are not to be a burden to themselves and the community, they have to develop even greater intellectual, affective, and motivational strengths to compensate for a lack of physical performance at levels ordinarily expected from members of the culture.

A second criterion of optimal aging that is unlikely to be contested in any human environment is the ability to *preserve an alert and vital mind*. This is not the place to review the very large literature on cognitive functioning in the later years. The only points relevant to this chapter are that superior intellectual functioning in old age is universally desirable, and that such superior performance is made more likely by the continued exercise of the mind. The tag “Use it or lose it”



applies to both physical and mental capacities. The implications of these facts for child development are rather clear, even if not very surprising.

Not so widely understood, however, is the nature of the “exercise” that preserves mental vitality. In our opinion, it is not so much working on the solution of problems that is crucial, as it is to preserve an abiding curiosity and interest in one’s surroundings. Adding columns of numbers or solving crossword puzzles is better than not using the mind at all, but the real vital intellect is one that keeps the fresh wonder of childhood into old age. At 76, Jonas Salk, who implemented the vaccine against polio, said “I still feel like a child, an adolescent, as if I still had lots to do,” and this perception is quite common among successful older people.<sup>1</sup> The implication for development is not that a child should accumulate facts or knowledge, but rather that he or she should develop habits of intellectual curiosity that lead to genuine lifelong learning.

A third criterion of developmental success is the *continuity of a vocation*. Whether the activity is one the person has pursued throughout the middle years of life, such as a profession or a family role, or whether it is a new activity that is taken up first in old age, what counts is that the person be committed and involved with a role—or mask—that is valued by the self and preferably by others as well. The role may be an active one or a passive, reflective role, such as that of the Brahmin elder who was expected to withdraw from the cares of the world and meditate after his first grandson came of age. The important issue is that the person continue to remain involved in a meaningful activity.

One of the peculiarities of contemporary cultures is that they have few roles available for older individuals. “In America we no longer value the wisdom of older people,” says the novelist Madaleine L’Engle, “whereas in so-called primitive tribes the older people are revered because they have the ‘story’ of the tribe. And I think as a country, we are in danger of losing our stories.... I think chronological isolation is awful and chronological segregation is one of the worst of segregations.” The implication of this situation for earlier development is that, for successful aging, a person cannot depend on the assurance that social roles will be available, but must learn to develop skills and interests autonomously. A person who has devoted most of his or her adult life to a business, whether as an assembly-line operator or as a top executive, cannot count on having meaningful opportunities for action after retirement. Unless one is prepared to play a complex role even in the absence of socially structured statuses, it is likely that old age will fail to provide rewarding experiences. It is for this reason, among others, that the cultivation of psychic autonomy all through the life course is such an important part of development (Deci and Flaste 1995; Deci and Ryan 1985).

These three prerequisites of successful aging—fitness of body, fitness of mind, and a continuation of active involvement with a meaningful role—are aspects of

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<sup>1</sup> Quotations not otherwise attributed are taken from interviews the authors and other members of the University of Chicago research team collected in the course of a project entitled *Creativity in Later Life*, sponsored by the Spencer Foundation (see Csikszentmihalyi 1996).

the continuing differentiation of the person, having to do with the cultivation of individual skills up to the end of life. The next three prerequisites deal with the continuing integration of the person with complex interpersonal systems. To achieve complexity, a person must not only be differentiated as a unique individual, but must be integrated into wider networks of social and cultural relationships.

Successful aging is often defined in terms of *keeping up relationships with family and friends* (Ryff 1989). In highly technological societies such as ours, geographical mobility tends to weaken social ties, with the result that older persons are often cut off from meaningful contact with other people. It is difficult to keep in touch with one's childhood friends, or even with one's siblings, children, and grandchildren. Yet, older people depend on friendships to maintain the quality of their lives almost as much as teenagers do (Larson, Mannell and Zuzanek 1986), so loneliness can become a severe blight in the later years. Conversely, the younger generations also miss the potential contribution of older individuals when society is segregated by age.

What are the implications of this state of affairs for child development? Perhaps the most basic suggestion is that our attitudes toward child rearing have been informed by an excessive emphasis on individuation: we encourage children to value their own freedom, initiative, and personal success at the expense of cultivating a sense of responsibility and belongingness. We should realize that such a one-sided preparation for life is not only destructive of societal cohesion (Bronfenbrenner 1979; Damon 1995), but is also a disservice to the individual, who is likely to be unprepared for the parts he or she will have to play in later life. Benjamin Spock, whose *Baby and Child Care* was first published in 1946 and influenced generations of U.S. parents, in a 1991 interview stressed the fact that we have overshot the mark in teaching independence at the expense of interdependence: "men as well as women should re-evaluate what is satisfying, and see that it comes down to human relations. It comes down to love, service, kindness. And it consists in putting the family in first place... and then community relations is second."

In fact, the fifth prerequisite of successful aging is *continued involvement in the community*. This includes not just one-on-one relationships, but taking an active part in the social, political, religious, and cultural affairs of one's environment—whether at the level of the neighborhood or of the nation. Again, the problem is that in our culture there are no ready-made roles for older people to step into. Most meaningful opportunities are reserved for the young. Yet, it is perfectly possible for a person in later life to play a significant role on the social stage, provided he or she prepared for it earlier.

It is important to realize that here, too, what the sociologist Robert Merton has called the "Matthew Principle" applies. The principle refers to a verse in the Gospel of St. Matthew (13.12): "For whosoever hath, to him shall be given... but whosoever hath not, from him shall be taken away even what he hath." In other words, a person who has achieved material success can continue in old age to

contribute to the community through philanthropy or political influence, and a person who has achieved renown in science or the arts can continue to be active in later life by sitting on boards and commissions or through writings and lectures. Nevertheless, even the average person without much material or cultural capital can find innumerable opportunities for helping the community through volunteer work or more intense forms of personal involvement.

But it is unlikely that a child who has been reared with an exclusive emphasis on personal advancement will be motivated to turn to community action in later life. As Dr. Spock remarks: “I think that our children should be brought up not primarily to get ahead, not primarily to look for prestigious jobs and high income, but with the idea of serving the community and serving the world—even if they get into business.” Benjamin Spock’s own career serves as a good model of what he preaches: after retirement from teaching medicine at Western Reserve, he worked hard for the National Committee for a Sane Nuclear Policy out of his concern for the effects of nuclear fallout on children; then he ran for the presidency of the United States in an effort to implement the kind of policies he believed would lead to a healthier environment; and in his 80 s he is still involved in a variety of activities aimed at improving the quality of life for children and families. Like most persons who show concern for the welfare of the community in later life, Spock absorbed his values in early childhood. “I was brought up by a very moralistic mother,” he remembers, “fiercely moralistic, you might say.” And although as a young man he rebelled against those strict parental values and was motivated to achieve material success above all else, eventually the seeds planted in the early family environment came to fruition.

The sixth and final part that it is appropriate to play on the cultural stage in the later years of life is that of a *wise person*. Wisdom is a concept with many layers of meaning; here we shall define only some of its more salient attributes. In the first place, wisdom refers to the ability to get at the essence of problems; second, it involves holistic thinking rather than specialized knowledge; third, it refers to virtue or to behavior in line with the common good; and finally, it involves a serene acceptance of one’s lot, the joyful performance of the practice of everyday life (Csikszentmihalyi and Rathunde 1990; Sternberg 1990). Throughout most of history, and especially during the hundreds of thousands of years before writing was invented and knowledge had to be passed down from the memory of elders to the memory of youth, what we now would call wisdom was a highly prized trait of the old.

This is no longer the case, however. While the production of new information has escalated geometrically in the past few centuries, the knowledge of the older cohorts has become increasingly obsolete. As a result, the younger generation is less likely to take seriously anything their elders say. Teenagers watch with incredulous disdain as their parents fumble with the VCR, cannot find their way through the Internet, and listen with bewildered incomprehension to the latest popular songs—how could these inept oldies have anything worthwhile to say?

The sociologist Elijah Anderson (1990) describes how, for instance, the link between the generations has been snapped in most African American neighborhoods in the United States. Young people tended to congregate on street corners around some of the wise elders—or “old heads”—who used to engage them in witty repartee dealing with moral tales of hard work and decency interspersed with practical information about jobs, good manners, and other “tricks of the trade.” Nowadays, this essential step in socialization is getting increasingly rare, to the detriment of individual lives and the viability of the community as a whole.

Yet, wisdom does not become obsolete as rapidly as knowledge. We would not take very seriously the scientific ideas or factual information possessed by the ancient Greeks or Romans, whereas the reflections of Socrates or Seneca on the meaning of life are still state-of-the-art. In fact, as knowledge seems to be fragmenting itself in a fair imitation of the biblical Tower of Babel, the need for the qualities of wisdom are becoming more urgent than ever.

It is obvious, however, that wisdom is not simply a matter of age. A scatter-brained youngster will not turn automatically into a wise old person simply because he or she lives many years. What kind of early experiences predispose a person to be wise in old age? There is no systematic information that would answer such a question. But one might expect that a child who is brought up to value decontextualized thinking, specialization, expediency, self-centeredness, immediate gratification, and an exclusive reliance on extrinsic rewards will not be interested in wearing the mask of a wise person in old age. By contrast, if the early environment encourages empathy and a holistic way of thinking, integrity, responsibility, and sensitivity to intrinsic rewards and long-range goals, then interest in wisdom is more likely to develop. And the scant evidence suggests that these attitudes conducive to wisdom are usually learned in the immediate family from one's parents, or, perhaps more typically, from one of the parents.

In addition to these six ways of being a successful older person, it is important to repeat that *how* an individual experiences his or her life is as important as the particular masks he or she wears. A person whose behavior conforms to the highest expectations of the culture but who fails to enjoy the parts he or she plays cannot be considered to have attained an optimal old age. Therefore, one of the essential developmental tasks is to provide young people with the metaskill of turning neutral or adverse everyday situations into enjoyable experiences. In summary, one might say that the ideal of an older person is: *Someone fit of body and mind, who is curious and interested in life, and pursues a vocation with vigor; someone who is close to family and friends, is helpful and involved in the community, and concerned with making sense of the world; and who, in all of these endeavors, finds meaning and enjoyment.*

Given these assumptions about what constitutes optimal aging, it is now time to turn our attention to examining in greater detail what makes it possible to achieve these positive outcomes. We argue that a complex personality supports the ability to play these desirable roles, and then we turn to the childhood antecedents involved in the formation of psychological complexity.

## Complexity and Development

We have said that a person is a human being who can speak and be understood, who can relate to other members of a community, and is able to fulfill the roles expected of an individual of a certain age and social position. The concept of the mask was introduced to emphasize that personhood involves playing appropriate roles on a cultural stage.

We have also seen that not all masks are valued equally in society. Therefore, we add here the notion of a *complex mask*, which distinguishes the kind of optimal developmental outcomes that human groups in general tend to consider the most desirable. The complexity of a mask, and thus the complexity of the person, depends upon the quality of the intrapsychic and interpersonal relationships a person is capable of enacting. Starting from a Bakhtinian perspective, Wertsch (1991) came to a similar conclusion when he said that the real, unique object of developmental psychology was to study “the processes whereby individuals master voices and patterns of privileging,” because only then can we understand how persons can control and shape the forces impinging on them, and achieve a measure of emancipation from the determinism of biology and culture (p. 29). In the terms developed in this chapter, complexity is a measure of how well a person can take on *integrating and differentiating complex relationships*, including, but not exclusively, relationships with other persons. Thus, the concept of complexity makes it possible to construct a unified model of optimal development.

To grasp the function of relationships in the life course, it is helpful to draw upon Levinson’s (1986) notion of the life structure. A life structure is the underlying pattern or design of a person’s life; to understand development, one needs to understand the evolution of this pattern. In a manner similar to the distinction made earlier between persona and person, Levinson distinguished between personality structure and life structure with two questions: “What kind of person am I?” and “What is my life like now?” The latter question reveals the life structure because it discloses the relationships one has with others, broadly defined as actual persons, imagined figures, social groups or institutions, places, objects, and so on. He comments: “These relationships are the stuff [of which] our lives are made.... They are the vehicle by which we... participate, for better or worse, in the world around us” (p. 7).

The relationships that constitute the life structure are part of the two systems they connect (i.e., self and environment) and can only be understood as that which creates a link *between* them. The pattern of a life is not only revealed by these relationships, it *is* these relationships. Thus, if we equate the mask with a culturally prescribed role, and the person with the particular voice issuing through the mask, we might say that the essence of personhood is relationship, or more succinctly: persons are relationships. Consequently, as Lerner (1991) has argued, the basic process of development consists in changes in relationships between individuals and their multiple contexts.

What makes one relationship more complex than another? If the goal of personhood is participation in culture while developing unique potentialities, then a complex relationship is one that fosters the integration and differentiation of self and environment and thus allows the fullest and most intense levels of participation. This concept is similar to that of the optimal environment discussed by Magnusson and Stattin (chapter “[The Ecology of Adolescent Activity and Experience](#)”, this Volume), which provides the effective stimulation that allows the individual to differentiate in unique ways (see Gottlieb, chapter “[The Costs and Benefits of Consuming](#)”, this Volume). But to locate such an answer squarely within classical developmental theory, we shall explore the notion of complexity in terms made familiar by the early developmental literature. We might begin to look at it from a Piagetian perspective.

### ***Piagetian Theory and Complex Relationships***

A number of familiar concepts from Piaget’s theory are helpful for understanding complexity. For instance, *equilibration* expresses a fundamental insight of Piaget: that development is an evolutionary process that exists “between” subject and object. While some theorists before him explained development from the side of the subject (e.g., through a priori structures, rationalism, or other nativist ideas), and others explained it from the side of the environment (e.g., association, positivism, or other nurture perspectives), Piaget tried to solve the riddle of development with an interactionist, open-systems model. Some may find this statement at odds with the too common interpretation of Piaget as a static stage theorist; this misunderstanding, however, arises from his multiple uses of the term *equilibrium*. For instance, it was sometimes used to refer to moment-to-moment adjustments of assimilation and accommodation, sometimes to the temporary accomplishments of the stages, and sometimes to the ideal endpoint of formal operations. It is at the first level of moment-to-moment interactions that Piaget is most clear that development is an ongoing relationship between self and environment: assimilation and accommodation are in constant search for equilibrium or balance, and acting in the world continually introduces disequilibrium that must be corrected with a dynamic equilibrium.

Despite the fact that maturationists and environmentalists both claim a part of his vision, the theory is more accurately understood as derived from an open-systems model of evolutionary biology: “It [Piaget’s theory] does not place an energy system within us so much as it places us in a single energy system of all living things. Its primary attention, then, is not to shifts and changes in an internal equilibrium, but to an equilibrium in the world, between the progressively individuated self and the bigger life field, an interaction sculpted by both and constitutive of reality itself” (Kegan 1982, p. 43). Thus, equilibrium describes the state of the open system such that the self and environment are related in a way that is differentiated and integrated; in other words, it describes a state of

complexity. Assimilation and accommodation are two facets of a unitary and dynamic evolutionary process and must be understood together: as an organism differentiates, it moves, so to speak, through assimilation toward accommodation (i.e., from structure toward change); this movement calls for a reverse movement through accommodation toward assimilation (i.e., from change to structure) that integrates the organism with the environment in a new way.

By describing development in such general systems terms that focus on the relationship between self and environment, some thorny conceptual dichotomies become less troublesome (e.g., nature/nurture), and the person can be seen less as the *result* of the relational process (i.e., the more traditional interpretation), and more as the *process* of organizing information and creating meaning itself. A new burden, however, is then placed on the theorist, namely, to describe and measure the transitory state of equilibrium. There are at least two basic ways to address this problem: from the “inside,” emphasizing how the self experiences the relational process; and from the “outside,” looking at practical consequences. Likewise, Levinson (1986) suggested that the relationships of the life structure had an internal and an external reference. To evaluate the satisfactoriness of the life structure one could look at it internally in terms of *suitability*, or how the self can be lived out, passionately invested in, and expressed through the structure; or it could be evaluated in terms of *viability*, or what advantages versus disadvantages for adaptation resulted from the particular life structure.

Kegan (1982) noted that Piaget took the latter course, viewing the process descriptively from the outside, and focused on the successes in problem solving associated with different stages of cognitive development. Consequently, the approach ignored the assimilation/accommodation process from the participatory angle of the self. Presumably, this is one reason why the theory is often faulted for failing to provide a sufficient look at the role of emotion and motivation in development (Sternberg 1984). In fairness to Piaget, however, there were larger historical reasons that led many psychologists to ignore the internal reference. Aside from a few existential and phenomenological approaches, these participatory questions have seldom been raised in the field of developmental psychology; when they have, they have often lacked theoretical and methodological rigor to allow intersubjective verification.

In summary, then, Piagetian theory is helpful for linking the notion of complexity to foundational ideas in the developmental literature; but for several reasons it does not suffice for the purposes of this chapter. The theory tells us little about how the relational process between self and environment is *experienced by the self*, thus it tells us little about what—in human terms—motivates development. The notions of assimilation, accommodation, and equilibration, while important for locating the action of development in the relation between self and environment, are notoriously vague as concepts that can be measured and studied; they therefore have limited utility. If, however, a framework of internal reference is adopted, new research opportunities arise. For instance, if equilibrium indicates a complex relationship that is fully involving, then it becomes possible to look at development from a perspective that emphasizes full involvement as a measurable



criterion of the self-environment negotiation process. Much can be learned about this process, we believe, by adopting a phenomenological perspective that focuses on the experience of self-environment relations. For instance, what does a complex relationship feel like? How can relationships that are too one-sided—too integrated or too differentiated—be recognized phenomenologically?

Answers to the above questions were alluded to by Piaget in concepts such as *functional pleasure* and in brief references to intrinsic motivation. Unfortunately, he never developed these ideas in much detail. For instance, Piaget observed that infants laughed at their own power, tried to make interesting sights last, and manifested enjoyment (i.e., functional pleasure) when acting competently. Such observations were short-lived and limited to the early sensorimotor stages, however, as he turned his attention to the external manifestations of successful problem solving associated with higher stages of cognitive development. In so doing, a fruitful course of investigation was abandoned, one that might have added significant insights about the search for equilibration, and the enjoyment and intrinsic motivation associated with it.

To say the same thing more directly, the claim here is that complex relationships are experienced by the self as optimally rewarding; to the extent that Piaget was correct in asserting that the search for equilibration energized human development, it is accurate to say that development is also motivated by the search for optimal experience. It is through monitoring such experiences that we can learn to recognize when relationships are complex and when they are too differentiated or too integrated (having overemphasized either assimilation or accommodation). And to the extent that the person is defined less as a static entity and more as a relational process, then a theory of optimal experience becomes an important link to a fuller understanding of the development of the person.

### ***Optimal Experience and Development: Some Previous Perspectives***

Before discussing contemporary theories, it is worth mentioning a few of the early proponents of the view that optimal experiences are closely linked with the full development of the person. Although many thinkers could be mentioned here, going as far back as MacIntyre (1984), we have selected three more recent authors whose insights are relevant: Friedrich Nietzsche, Abraham Maslow, and Carl Rogers. Their views are linked through an idea they shared: *love of fate*. All three believed that love of fate was *the* mark of distinction for the fully developed person, whether that person was called “overman” by Nietzsche, “self-actualizing” by Maslow, or “fully functioning” by Rogers (1969); and all of them depicted the love of fate as a deeply rewarding synchrony between self and environment.



What does it mean to love one's fate? For Nietzsche it meant the affirmation of life through a full acceptance of its circumstances. Despite hardship or obstacle, or perhaps more accurately, because of them, one would not wish for one's life to unfold in any other way. This is so because the process of overcoming obstacles provides the opportunities through which the person is created. *Amor fati*, or love of fate, is a central concept in Nietzsche's philosophy: "My formula for greatness in a human being is *amor fati*: that one wants nothing to be different, not forward, not backward, not in all eternity.... Not merely bear what is necessary... but love it" (1968, p. 714). The fully alive person (i.e., the *over* man) is not content with just surviving and adapting, but is intent upon transcending himself or herself. Such experiences of transcendence provided his deepest motivation: "I want to learn more and more to see as beautiful what is necessary in things; then I shall be one of those who make things beautiful" (1974, p. 223).

Maslow's (1971) studies of self-actualization and peak experiences led him to a similar conclusion. The healthy person is not motivated just by deficits, simple endurance in life, or by the survival of self or offspring, but also by growth. Based on his observations and interviews with individuals he considered to be self-actualizing, including creative artists and scientists, he concluded that the processes of growth were often rewarded with fulfilling peak experiences. These experiences coincided with a synchronous relationship between self and environment; he referred to this synchrony as a balance of "inner requiredness" with "outer requiredness," or "I want" with "I must." Especially true of self-actualizing persons, during such experiences "one freely, happily, and wholeheartedly embraces one's determinants. One chooses and wills one's fate" (p. 325).

Rogers (1969) endorsed a very similar perspective. He comments about the fully functioning person: "He wills or chooses to follow the course of action which is the most economical vector in relation to all the internal and external stimuli because it is that behavior which will be the most deeply satisfying" (p. 294). As a result, he continues, "The fully functioning person... not only experiences, but utilizes, the most absolute freedom when he spontaneously, freely, and voluntarily chooses and wills that which is absolutely determined" (p. 295). Thus, as with Nietzsche and Maslow, a love of fate corresponds to an inner-outer synchrony that evokes a deeply rewarding experience. And like both of the other thinkers, Rogers (1959) believed that the person was not satisfied with mere survival, but was instead motivated to expand and grow: "The inherent tendency of the organism is to develop all its capacities in ways which serve to maintain or enhance the organism. It involves not only what Maslow terms 'deficiency needs'... [but also] expansions in terms of growth.... Life processes do not merely tend to preserve life, but transcend the momentary status quo of the organism, expanding itself continually and imposing its autonomous determination upon an ever-increasing realm of events" (p. 196).

Love of fate, then, reveals a complex relationship: a relational synchrony of self with environment; as such, it is the mark of distinction of the developing person. It is deeply rewarding because it coincides with the most "economical vector"

between inner and outer stimuli.<sup>2</sup> Most importantly, it is an experience that confirms, manifests, and accompanies what the organism wants most: to develop and to grow. Such complex relationships maximize being through the differentiation and integration of the person which allows the fullest expression of life and energy. In Piagetian terms, to grow means that a new equilibrium has been attained, one that is “higher” in the sense of being more synchronous with reality (i.e., as formal operations are more attuned to reality than concrete operations). What is added here to that perspective is the internal reference, the interior psychological correlate to moments of growth, or their intrinsically motivating character.

### ***Flow Theory and Complex Relationships***

Contemporary theories of intrinsic motivation continue in this tradition of thought. For instance, flow theory (Csikszentmihalyi 1975, 1990, 1993) describes a prototypical experience of intrinsic motivation referred to as a *flow experience*. Flow is a deeply involving and enjoyable experience that has been described by a variety of different respondents, in a variety of cultures, in strikingly similar ways (Csikszentmihalyi and Csikszentmihalyi 1988). Athletes refer to it as being “in the zone,” poets as being visited by the muse.

In flow, a person is fully concentrated on the task at hand. There is a feeling that action and awareness merge in a single beam of focused consciousness. In flow, it is very clear what needs to be done from one moment to the next; goals are clearly ordered and sequenced. One also knows immediately how well one is doing: feedback is unambiguous. The tennis player knows whether the ball was hit well, the violinist hears whether the note just played was right or wrong. In flow, a person loses self-consciousness; the vulnerable ego disappears. In George Herbert Mead’s terms, there is only “I” without a “me” to worry about. The sense of time becomes distorted to fit the experience; hours seem to pass by in minutes. When these dimensions of experience are present, one is willing to do what makes these feelings possible for their own sake, without expecting extrinsic rewards. The poet enjoys the experience of writing, the bond trader enjoys beating the market, and both will continue doing these things because they are enjoyable— even in the absence of the rewards of fame and wealth.

Finally, and most importantly, flow begins to be experienced when there is a fit between the *skills* of the self and the *challenges* afforded by the environment. For example, we cannot enjoy a tennis game if our opponent is either much better or

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<sup>2</sup> It is worth pointing out again that when the person is defined relationally, as in this chapter, it can be misleading to fall into the familiar use in the terms *subject* versus *object*, inner versus *outer*, and so on. This terminology tends to isolate the person from the world, which is not our intention. On the contrary, it is more consistent with our perspective to say that the “location” of the person is neither inner nor outer, or, perhaps better, is both at once.

much worse than we are; only a game with a well-matched opponent is likely to be enjoyable. We don't enjoy reading a novel in which plot and characters are too difficult to visualize, nor one that is too obvious and predictable; we enjoy instead the text that fits our imaginative powers. It is this aspect of enjoyment that is most relevant to the relational synchrony that lies at the heart of optimal personhood.

The experience of flow marks an achieved balance of arousal-increasing and arousal-decreasing processes. The flow model describes this balance in terms of the fit between perceived challenges and skills: an activity wherein challenges predominate increases arousal; an activity wherein skills predominate reduces arousal. Thus, a synchrony of challenges and skills permits a state of deep involvement, while the pitfalls of either over- or underarousal (i.e., anxiety or boredom) are avoided. In this sense, flow seems to represent the subjective dimension of that "goodness of fit" between temperament and environment that underlies several developmental perspectives (e.g., Lerner and Lerner 1987; Thomas and Chess 1977).

In fact, it could be argued that flow is likely to be experienced when an individual is fully functioning relative to the developmental opportunities that a given stage provides. For instance, in terms of the Eriksonian stages, an infant at the first stage whose only opportunity for action is feeding itself and whose only skill is to suck milk will be in flow when at the nipple. As the opportunities for action in the physical and social environment grow, so must the child's abilities to act increase if the child is to continue to experience enjoyment.

Anxiety and boredom are aversive phenomenological states that result from a disequilibrium in the momentary fit between skills and challenges or self and environment. When challenges are too high relative to skills, the asynchronous relationship leads to anxiety because one feels overwhelmed, out of control, threatened by a loss of integrity and order. In contrast, when skills are too high for the given challenges, the fit between self and environment is too easy and comfortable, resulting in the loss of spontaneity and novelty and therefore a decrease in the sense of focus, urgency, curiosity, adventure, and so on.

The balance of skills and challenges can also be described in Piagetian terms. An assimilative mode of processing indicates the existence of an organized, pre-existing structure of information. That structure makes the processing of new information more automatic because it can be organized by the existing structure. The notion of "skills" suggests an analogous process; a skill is a practiced response, one that is habitual and automatic. A skilled pianist, therefore, primarily relies on an assimilative mode when reading an easy piece of music. On the other hand, if the challenge of reading the score is just beyond the skills of the pianist, an accommodative mode predominates. Accommodation is a more effortful response to novelty (Block 1982). In attentional terms, it uses more controlled, linear processes, rather than automatic and global processes, as does assimilation (Schneider and Shiffrin 1977). To say, then, that a flow experience is more likely when skills and challenges are in balance, is to say that flow is more likely when assimilation and accommodation are in equilibrium. Other ways to describe the

experience are as undivided attention, the combination of controlled and automatic processes, or the joining of effort and habit (Rathunde 1993).

Piaget (1962, see pp. 147–150) recognized that when assimilation dominates accommodation the fit between self and environment is too rigid and one-sided. In an *over-assimilative* mode, the self habitually perceives the environment subject to its own preconceptions, and consequently objectivity is diminished (Kegan 1982). Overassimilation is equivalent to an imbalance of skills over challenges, and it feels like boredom. When bored, one is too “subjective,” too habitual, and closed to new opportunities for action. Conversely, when accommodation dominates assimilation, or when novelty overwhelms the processing capacity of a preexisting structure, the self is placed in a position that is the opposite of embeddedness. In such circumstances, the self is unhinged and oriented outside of itself; it is so decentered toward the uncertainty in the environment that the possibility for feelings of relatedness, connection, and meaning are diminished. *Overaccommodation*, then, is equivalent to the imbalance of challenges over skills, and it is experienced as anxiety. When anxious, one feels at the mercy of environmental circumstances that are beyond one’s control, and thus blinded by the excessive stimulation to ways of making sense of the situation.

When skills and challenges are in equilibrium, action is fully centered on the relationship between self and environment. The skilled pianist who performs a challenging score is drawn into a more complex and involving relationship. The automaticity of existing skills provides confidence, structure, integrity, and a foundation from which the new material can be reached; yet the reach is not easy, and the novelty of the score demands careful attention. It is just such a combination that requires full attention—resources brought to bear through habits of “chunking” the information, and resources mustered through effort and step-by-step attention to detail. And this full attention is experienced as a feeling of flow, of being caught up in a single energy system that unites self and environment. Motivation to continue the activity becomes intrinsic—not in the mistaken sense of “in” the self, but rather “in” the self-environment relationship.

Yet another way to look at the full involvement of flow is in terms of the combination of positive affect and heightened concentration. Some activities may evoke positive affect, but will soon be experienced as frivolous if they lack focus and the need for concentration. On the other hand, some activities begin with intense concentration, but are soon experienced as oppressive and alienating because they are devoid of pleasant feelings. Dewey (1913) has called the former experiences “fooling” and the latter “drudgery.” In contrast, he described optimal experiences as affectively and cognitively engaging, providing both a sense of playfulness and spontaneity, as well as a corresponding seriousness and focus on goals. For some individuals, work is drudgery because serious concentration is not accompanied by positive emotion, and leisure is fooling because good moods cannot be sustained due to a lack of focus. For other, more fortunate people, work and leisure are both thoroughly enjoyed, and in fact indistinguishable. By splitting positive affect and heightened concentration, the former individuals experience what may be thought of as “divided” interest; the latter ones, through the

synchrony of affect and cognition, experience the fullness of “undivided” interest or *serious play* (see also Rathunde 1993, 1995).

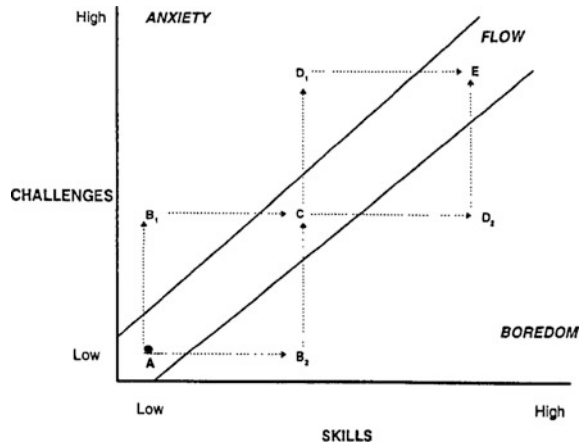
The implications of an affective-cognitive synchrony for the quality of experience can also be described using the psychoanalytic constructs of *primary* and *secondary process* thinking. These two processes are often dichotomized in an either/or fashion: primary process is identified with the pleasure principle and with dreams, myth, emotional thinking, fantasy, poetic feeling, and so on; secondary process, in contrast, is identified with the reality principle and thus with reason, logic, science, intellect, abstract thought, and so on. A severe split between these two processes is tantamount to pathology. In Freudian terms, relatively uninhibited primary process thought suggests the dominance of the id over and against the ego and superego, whereas the dominance of secondary thought processes is suggestive of the repressive control of the superego over and above the ego and id. A healthy ego, at least to a greater extent than an unhealthy one, is able to synchronize id and superego, primary with secondary process thought, therefore achieving greater self-regulation, freedom, and health. Several psychoanalytic thinkers have also associated such a synchrony with creativity (Jung 1946; Kris 1952). The implication here is that healthy ego development is presumably related to negotiating complex relationships and is therefore associated more with optimal experience.

Finally, that optimal experiences synchronize affective and cognitive modes is supported by the descriptions of flow, peak experiences, and the emergent experiences of fully functioning persons. Respondents describe flow as an enjoyable merging of action and awareness in that actions follow each other spontaneously and unselfconsciously, yet there remains an intense and careful monitoring of feedback in relation to one's goals. Maslow (1971) has commented about peak experiences: “We have found that peak experience contains two components—an emotional one of ecstasy and an intellectual one of illumination. Both need to be present simultaneously” (p. 184). Finally, and in a similar vein, Rogers (1969) described the fully functioning person as both a *participant* and an *observer* of an emergent experience: “The sensation is that of floating with a complex stream of experience, with the fascinating possibility of trying to comprehend its ever-changing complexity” (p. 285). Thus, in all of these descriptions there is a component of automatic and controlled attention, a component of primary process thinking that is immediate, and an aspect of secondary process thinking that is monitoring the environment. Such complexity, we believe, like the contrasts of dark and light in a painting, are what makes such experiences interesting and vital.

## ***Flow and Development***

Just as we cannot step in the same river twice, we cannot enjoy the same activity with the same intensity more than once. To continue providing optimal experiences, flow activities must constantly be *re-created*. It is this fact that makes the

**Fig. 2.1** The dynamics of flow. **a**, **c**, and **e** are enjoyable states of equilibrium of increasing complexity.  $B_1$  and  $D_1$  are states of anxiety that require learning new skills for a person to return to flow.  $B_2$  and  $D_2$  are states of boredom that require new challenges for a return to flow



flow model a developmental model. As Piaget also observed, disequilibrium between the processes of assimilation and accommodation is inevitable and needs to be continually addressed. In our phenomenological perspective, disequilibrium is signaled by boredom and anxiety—two inevitable life experiences. In the simplest terms, one escapes boredom by raising challenges and overcomes anxiety by raising skills. It is through this perpetual dialectical process that development proceeds; and it proceeds in the direction of greater complexity because optimal experiences cannot be recaptured through a regression of skills and challenges, but only through their progression (Csikszentmihalyi 1990; Csikszentmihalyi and Rathunde 1993).<sup>3</sup> Figure 2.1 shows how the raising of skills and challenges has been depicted in previous discussions of the flow model. To reenter the “flow channel” from states of boredom or anxiety, challenges and skills must be raised appropriately. In other words, flow can proceed from boredom or from anxiety. Once “inside” the experience, there are common features to flow, but seen in the broader context of before and after, the experiences are quite different. For instance, relief from boredom is a process of *finding* something exciting. Boredom initiates a process of searching for something to do; as interest and curiosity draw the self out of its shell, boredom wanes, and experience becomes more intrinsically rewarding. In contrast, relief from anxiety is more like *solving* a problem. Anxiety initiates a process that tries to resolve a dilemma; with increasing success and a growing sense of resolution, order, or closure, anxiety dissipates, attention becomes more focused, and the quality of experience improves.

<sup>3</sup> Our focus here remains on immediate subjective experience, but it is possible to adopt other time frames and perceive the same dialectical tension. In other words, one may overcome the anxiety of an entire week, month, or year by finding a way to build new skills. As mentioned earlier, the same is true of the notion of equilibrium; that is, it can refer to immediate experience or stages that characterize larger periods of time.

Similar to the movement away from boredom, the movement from assimilation toward accommodation involves problem finding in the sense of pushing the limits of an existing information structure. When assimilation is joined by an emergent sense of accommodation, but not overwhelmed by it, experience is optimal. For instance, an individual who has just learned to ski discovers new challenges by testing the limits of his or her skills on new hills; these challenges, if not overwhelming, intensify the skier's experience because they evoke greater concentration and require quicker adjustment. When, however, it becomes clear that a particular challenge is beyond reach, the skier feels out of control and anxiety sets in. In this instance, accommodation that moves toward assimilation is a problem-solving process that rebuilds a new structure. Perhaps the skier needed to learn a more effective way to turn to control the speed of descent; as the first clumsy actions become more practiced and second nature, anxiety lessens, attention is withdrawn from the self-consciousness of "forced" turns, and, at least until the new turns become too automatic, the experience of skiing is again exhilarating.

Apter (1989) has called such changes in the direction of arousal *reversals*. In his reversal theory, he calls the former problem-finding mode *paratelic* and describes it as an arousal-increasing mode wherein attention is focused on the here and now, and more on means as opposed to ends. In contrast, the latter problem-solving mode is referred to as *telic*. In this mode, attention is more focused on the goals of an activity, there is a future-time orientation, and the activity moves toward reducing arousal. In everyday language, the paratelic mode is more spontaneous, fun, and playful; the telic mode is more serious and worklike. The rewards of a paratelic mode are those resulting from the movement from boredom to optimal arousal; in contrast, a telic mode finds optimal rewards by moving from anxiety back to optimal arousal. Consistent with the perspective here, optimal experience is simultaneously paratelic and telic.

### ***Complex Relationships and the Complex Person***

What qualities facilitate the kinds of complex relationships, optimal experiences, and trajectories of growth that have been outlined above? Such a question is not intended to change the relational focus in favor of more traditional psychological conceptions of personality traits or characteristics. However, to discuss the person often requires a way of speaking about qualities or characteristics "as if" they were contained in the person. Despite the pitfalls of such language, the qualities discussed can still be thought of in relational terms; and to the extent that they are depicted as relatively stable "traits" of persons, they can also be conceived as stable ways of relating to the environment.

Bronfenbrenner (1992), chapter "The Relationship Between Identity and Intimacy: A Longitudinal Study with Artists", this Volume) has recently discussed such personal attributes in terms of their relational potentials and collectively refers to them as *develop-mentally instigative characteristics*. Such characteristics



have two features. The first refers to qualities that encourage or discourage certain reactions from the environment; for instance, a baby acts as a stimulus to others by being either fussy or happy, and calls forth certain corresponding reactions. A more important developmental influence and, according to Bronfenbrenner, one that is much ignored and in need of study by developmentalists is *developmentally structuring characteristics* that involve an active, selective orientation toward the environment. About such instigative attributes he comments: “When they are manifested over time in particular settings, [they] tend to evoke complementary patterns of continuing developmental feedback, creating more complex developmental trajectories that exhibit continuity through time. The result is a person-specific repertoire of evolving... dispositions that continues to be distinguishable over the life course, and hence constitutes what we recognize over the years as the person’s individual personality” (1992, pp. 219–220).

There are several examples of developmentally instigative qualities explored in the literature that are relevant to optimal experience. For instance, Block (1982) has discussed how ego resiliency is related to the ability to move through the dialectic of assimilation and accommodation. When novelty overwhelms a particular schema, accommodation is needed to restore psychic equilibrium. However, the movement through assimilation to accommodation may, at first, prolong and intensify an anxious state until progress is made toward reorganizing the structure. If a person is unable to muster the effort needed to push through anxiety, he or she may persist with failed assimilative efforts (i.e., perseveration, fixation, and so on), or might selectively ignore the challenge. An ego-resilient person is better able to keep the two modes in equilibrium and therefore avoid the particular dangers of Overassimilation and overaccommodation by being flexible in life-changing conditions. Such a person is capable of spontaneity under conditions of overassimilation, and capable of self-direction and organization under conditions of overaccommodation (Block 1982; Block and Block 1980).

Bandura’s (1977) notion of *self-efficacy* also suggests a relational quality that is relevant for the dialectic of optimal experience. For instance, persons with high self-efficacy *slightly overestimate* their ability to master challenges. This “distortion” has the effect of inducing persons to select challenges that are slightly beyond their current capacities. In other words, it induces the confidence to take a risk. Because the selected challenge is not unrealistic, however, the person is able to master it, thus reinforcing and strengthening the feeling of self-efficacy. The same could be said about the positive feedback loop that coincides with high self-esteem. After experiencing flow, self-esteem increases, and people who experience flow more often (that is, who spend more time in high-challenge, high-skill situations) report higher levels of self-esteem (Adlai-Gail 1994; Wells 1988).

Ford and Lerner’s (1992) description of the competent person as possessing *flexible* self-regulation is also relevant here: “A competent person can modify effectively his or her own behavior and/or the features of the social situation in which he or she is engaged.... People can, for instance, change their topic of conversation if they find they are boring or upsetting others; or if they are bored or upset by what is being said, they can turn the topic of conversation round to more



pleasant topics, or terminate it.... Such competency—such efficient self-regulation—is an instance of how one may act as a producer of their own development” (p. 85).

Such a competent or flexible person is, of course, not free from the biological and environmental constraints that bind everyone else. We are all limited by particular inherited and learned characteristics, and most settings impose social and physical demands that cannot be ignored. Nevertheless, it is possible to negotiate a *goodness of fit* with the setting. According to Ford and Lerner (1992), flexible persons are better able to (a) evaluate the challenges facing them and their abilities or skills to respond; (b) select and gain access to those contexts where there is a high probability of a good fit, and avoid those contexts where there is not; and, as in the earlier example of a conversation; (c) either change themselves to find a better fit (e.g., change their own pattern of response in a conversation—or accommodate) or try to change the context itself (e.g., try to alter others’ topics of conversation—or assimilate). A competency in self-regulation thus allows us to be more active shapers of our development.

Far from reducing an ecological and interactionist perspective to the side of personality, the above remarks reinforce the notion that the self-environment relationship is the primary factor in development. Instigative or structuring qualities, though, set in motion *interaction styles* that are sustained by the accumulation of their own consequences. In other words, results from certain actions instigated by the individual produce a stream of feedback that sustains the trajectory of growth. It is not that the person remains the same in every environment; rather, it is that there is *consistency in the way that a person varies behavior as a function of the environment*. In other words, developmentally instigative characteristics produce a continuity in the way behavior is changed. In this chapter we are especially interested in the continuity of response that directs the person toward self-environment equilibrium and optimal experience.

An example of how such consistency in change might operate is helpful. In overly challenging situations, a person might recognize that arousal reduction and skill building are the appropriate course of action; in times of boredom, the person might seek to increase arousal by seeking higher challenges. Such a person, who at one moment manifests a conservative attitude of perseverance and at another, a confidence aligned with taking risks, might seem to the outside observer to be inconsistent, contradictory, and at the mercy of environmental influences. On the contrary, from the internal reference of subjective experience, such flexibility or complexity of response displays consistency. Only such a person is capable of making choices that move predictably in the direction of optimal experience.

In this chapter, and in previous work (Csikszentmihalyi 1996; Csikszentmihalyi and Rathunde 1993), persons that exhibit such active-interactive orientations have been referred to as *complex persons*. A complex person is one who has *the self-regulative capacity to move toward optimal experiences by negotiating a better fit or synchrony of self with environment*. Traditional conceptions of personality that claim a stability of response, regardless of environmental circumstances, have been shown to be lacking (Barker 1950; Mischel 1968). We do not dispute the fact

that the social and physical demands of different contexts will evoke different behaviors. Traditional conceptions of personality, however, fail to look for *consistency within the change*, or the consistency in the ways that a person varies his or her behavior as a function of the setting (for further discussion of this point, see Cairns and Hood 1983; Sroufe 1979).

Physical scientists describing complex systems are also aware of this phenomenon of consistency in change; they call it emergent self-organization (e.g., Prigogine 1980). Waldrop (1992) comments:

Self-organizing systems are adaptive, in that they don't just passively respond to events the way a rock might roll around in an earthquake. They actively try to turn whatever happens to their advantage.... Complex systems have somehow acquired the ability to bring order and chaos into a special kind of balance. This balance point—often called *the edge of chaos*—is where the components of a system never quite lock into place, and yet never quite dissolve into turbulence, either. The edge of chaos is where life has enough stability to sustain itself and enough creativity to deserve the name of life.... The edge of chaos is the constantly shifting battle zone between stagnation and anarchy, the one place where a complex system can be spontaneous, adaptive, and alive. (pp. 11–12)

Although these words were written to describe the beauty of fractals—the patterned turbulence of rivers, weather, and other natural phenomena—they apply equally to psychological systems. This edge of chaos (and conversely, the “edge of order”) has been described here as equilibrium, balance, and synchrony. Optimal development also involves such a predictable unpredictability, and an unpredictable predictability. Note the similarities between the following passage from Roger's (1969) description of the fully functioning person, and the above description of complex physical systems:

It should therefore be clear that this person will seem to himself to be dependable but not specifically predictable. If he is entering a new situation with an authority figure, for example, he cannot predict what his behavior will be. It is contingent upon the behavior of this authority figure, and his own immediate reactions, desires, etc. He can feel confident that he will behave appropriately, but he has no knowledge in advance of what he will do.... It is the maladjusted person whose behavior can be specifically predicted, and some loss of predictability should be evident in every increase in openness to experience and existential living. In the maladjusted person, behavior is predictable because it is rigidly patterned. If such a person has learned a pattern of hostile reaction to authority... and if because of this he denies or distorts any experience which should supply contradictory evidence, *then* his behavior is specifically predictable.... I am suggesting that as the individual approaches the optimum of complete functioning his behavior, though always lawful and determined, becomes more difficult to predict. (pp. 292–293)

The behavior is lawful, according to Rogers, because the fully functioning person will attempt to select the best path toward growth and the synchrony of inner and outer demands. But this choice, in any given situation, cannot be known in advance, and that is why it is misleading to think of the person in anything but relational terms. Our concept of the complex person tries to avoid static definitions by viewing the person in terms of the dialectical process of integrating and differentiating self and environment. As Kegan (1982) observes, the person is “an ever progressive motion engaged in giving itself a new form.” Here, in contrast to

traditional approaches that see the person as a result of this process, the focus is placed not on what a person does, but the doing that a person is. Such an approach distinguishes the notion of person from “self” (i.e., a more psychological, subject-oriented perspective) and from “role” (i.e., a more sociological, object-based perspective). It also, we believe, will facilitate the recognition of similarities in various complex relationships across the life course.

## Examples of Complexity in Later Life

The optimal developmental outcomes described in the previous section are predicated on the achievement of psychological complexity. Complexity describes dialectical polarities in the person that enable him or her to continually negotiate, and renegotiate, an optimally rewarding self-environment fit. On the most general level, these polarities involve structure *breaking* and *building* and problem *finding* and *solving*. A person with such potentialities is presumably better able to “instigate” development by flexibly working at the edges of order and novelty, without letting one or the other dominate.

The dialectical model helps to explain why such polarities are related to the development of optimal personhood. To move from boredom to flow, and from anxiety to flow, structure-breaking and structure-building qualities are needed. In the domain of social relations, agency represents the former and communion the latter (Bakan 1966; Block 1973). An enjoyable conversation requires participants to assert differing points of view, but it also requires the coordination of such views for common understandings. The particular qualities that represent complexity depend upon the particular domain of activity, but in general it can be stated that phases of structure breaking require a sense of integrity and order that coincide with the confidence to take risks, test one’s limits, be open to new challenges, and seek the edge of chaos. Conversely, structure-building phases require a “foundation” that is ripe with diversity, novelty, and awareness, that coincides with determination, diligence, and patience to seek the edge of order. One goal of this chapter is to summarize the findings from a variety of studies, conducted by the authors and by others, that help to clarify how these abstract notions are translated into the lives of actual persons.

Therefore, we turn now to illustrate more concretely how complexity is manifested by some individuals in later life. While there are a number of dialectical models of adult thinking that are conceptually similar to our notion of complexity, there is still a need for more specificity in regard to how these dialectical thought processes are *actually manifested* by real persons. Recently, we had the opportunity to gather information relevant to this underexplored issue from a pool of interviews collected at the University of Chicago about creativity in later life. The 100 respondents in this study were individuals who had played successfully their part on the cultural stage (13 had been awarded Nobel prizes, and the rest had achieved comparable renown), but their lives can be used as examples of success

in a broader sense, as modeling optimal developmental trajectories. In the interviews, they talked about many factors related to their impressive accomplishments, but more important, their words gave excellent descriptions of how complexity is enacted in actual life situations. We draw from these interviews to make more concrete the theoretical ideas that have been presented thus far. These examples of later-life complexity, in turn, set the stage for a discussion of some connections that can be made to current developmental research.

Individuals who have been recognized for their eminent creativity may seem inappropriate for illustrating complexity. Creativity is often identified with one part of the developmental dialectic we have described, namely, the part associated with the escape from accommodation, with breaking structures, finding problems, and so on. It is true that creativity is most often identified with such differentiating responses; but that is probably because many creativity studies have set out to measure creativity in this way. However, creativity sustained over a great length of time and that results in eminent achievement is not something that rests upon divergent thinking alone; convergent, integrative thinking is equally important.

A few perspectives on creativity have recognized a bipolar psychological process that is characterized by an affective immediacy related to divergent thinking, along with convergence achieved through cognitive detachment and objectivity.<sup>4</sup> For instance, Getzels (1975) has commented: "Despite the self-evident need for strenuous effort... creative thinking entails, at least in some degree, surrender to freely rising playfulness" (p. 332). Einstein's account of his creative process suggested a similar duality (see Hadamard 1954, p. 142): a phase of "associative" play and a more "laborious" phase requiring logical coherence. Gardner (1993, chapter "[Intrinsic Motivation and Effective Teaching](#)", this Volume) has recently suggested that a playful, childlike quality survives alongside the mature intellect of seminal creators (see also Simonton 1984). Barron (1969) described creativity as a synchrony of immediacy and detachment in a chapter entitled "Cycles of Innocence and Experience." The title is drawn from the poetry of William Blake and contrasts "prelogical" thought that is concrete, spontaneous, and free of abstraction (i.e., innocence) with thought that utilizes "reason" and therefore has a logical structure (i.e., experience).

Why is creativity associated with both immediacy and detachment? Our model suggests that qualities such as curiosity, spontaneity, and divergent thinking move toward the subjective rewards of structure breaking; conversely, qualities that enhance logic, structure, and relatedness move toward the rewards of structure building. Barron's (1969) description of creativity said much the same thing, without the emphasis on subjective experience, "In the creative process there is an incessant dialectic and an essential tension between two seemingly opposed

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<sup>4</sup> Although the focus here, as in much of the chapter, is on psychological processes, creativity cannot be reduced to this level.

dispositional tendencies: the tendency towards structuring and integration and the tendency towards disruption of structure and diffusion.... The task is to avoid sacrificing one possibility to the other. We must be able to use discipline to gain greater freedom... tolerate diffusion, and even occasionally invite it, in order to achieve a more complex integration (pp. 177–179).

## *Seven Dimensions of Complexity*

We might summarize the traits involved in optimal development by concentrating on seven polar dimensions. This number is somewhat arbitrary and could be expanded or reduced depending upon the amount of detail we wish to observe.

A central polarity that surfaced in the University of Chicago study was the combination of *agency* and *communion*, that is, the drive toward both independence and interdependence (see Bakan 1966). This is often seen as an “androgynous” trait, in that it combines elements traditionally associated with both males and females. Why has androgyny been linked to positive developmental outcomes (Baumrind 1989), as well as to eminent achievement (Spence and Helmreich 1978)? Our perspective suggests that both characteristics play a role in negotiating optimal experience through structure changing and building; therefore, persons with a predominance of either attribute (i.e., a highly sex-typed individual) are at a disadvantage, at least in domains of activity where these qualities are especially important for competent performance.

One such domain is interpersonal relations or, more concretely, the act of communicating. Skills of communication are essential for playing one’s role on the cultural stage, no matter what that role is. It is equally central to business management (Leavitt et al. 1989), to the emotional well-being of families (Larson and Richards 1994), and to political leadership (Gardner 1995; Kouzes and Posner 1995).

For instance, students who cannot speak their mind to a teacher (agency) or listen to what that teacher has to say (communion) will not get the most out of the relationship; neither will the teacher. The teacher or student, therefore, who is capable of agency and communion in interpersonal communication—“speaking” as an individual and “listening” in a posture of openness to the other—would presumably be at an advantage for learning from such communication and for experiencing optimal rewards in the process. Charles Cooley (1961), though not discussing androgyny or optimal experience, said much the same thing about the optimally healthy person. After suggesting that males were, in general, less socially impressible and more inclined to an aggressive, solitary frame of mind than females, he commented: “So long as a character is open and capable of growth it retains... impressibility, which is not weakness unless it swamps the assimilating and organizing faculty. I know men whose character is proof of stable

and aggressive character who have an almost feminine sensitiveness regarding their seeming to others. Indeed, if one sees a man whose attitude towards others is always assertive, never receptive, he may be confident that man will never go far, because he will never learn much. In character, as in every phase of life, health requires a just union of stability with plasticity" (p. 828).

In our interviews with persons who had successfully negotiated adult roles, the combination of agency and communion was often evident. For instance, the path-breaking historian John Hope Franklin told about a memorable teaching experience that involved taking a graduate seminar to North Carolina to study the Reconstruction period. The class was exploring the idea advanced by a book claiming that segregation, and the Jim Crow laws of the 1880s–1890s, were relatively new and therefore not "sanctified by age." When asking one of the students how he was progressing, Franklin recalled:

His eyes were just sparkling.... He had found practices, as well as laws, segregating blacks and whites from much earlier.... And so he was saying that [the author's] thesis was collapsing. That was an overstatement to be sure. He was overly enthusiastic, but he was excited, and I got excited about a finding like that.... of course, [the author] had made some exceptions... and this [the student's findings] fell, in part, in the excepted category. But it doesn't detract from the fact that he was excited. And I was excited because he was excited, you see?

In the anecdote, Franklin reveals subtle and complex social skills. He listens to his student with an attitude of acceptance and shared enthusiasm, without, for the moment, judging or correcting his student's overly enthusiastic response. By being unobtrusive, receptive, and patient—in other words, by manifesting some of the key qualities of communion—Franklin was facilitating his student's agency and joyful discovery. Although aware that the student was overly enthusiastic, and somewhat in error about the facts, Franklin decided that the joyful moment was better left alone because the student would need to draw on that excitement to complete the hard work that lay ahead. Franklin continued:

Those students who will do the long haul are always willing to put the time and attention to the solution that the problem requires; one has to continue to be patient.... And that means that the student can't fudge or cheat or stretch his materials. He's got to stick with what the findings are. In my teaching I always give examples of that sort of thing among reputable historians. Not that I'm trying to debunk or anything like that, but I will point to a passage of widely and highly respected work and indicate to them just the way in which this particular historian misrepresented, and in some instances, prevaricated about the facts. I go back and show them what the facts were. Those are things I think are important.

Thus, the student's excitement stands, for the moment, but it will not stand in the way of the facts. Eventually, through more assertive episodes of instruction, Franklin demands that students coordinate their affectively charged insights with the careful work that distinguishes the scholar. In this way, Franklin balances communion and agency: sometimes he listens to students to support their individuality, but at other times he speaks from a position of authority so that students must adopt a mode of communion and listen to him. Given his complex teaching

style, it is not surprising that Franklin said of his over 50 years of teaching that it is “the thing that I like most of all.”<sup>5</sup>

A second polarity that emerged from the interviews involved the productive tension in work between *passionate investment* and *detached objectivity*. One of the best examples of this combination emerged from an interview with another leading historian, Natalie Davis. Her awareness of this dialectical tension in her working style was unusually clear:

Well, there're two different things—they overlap. One is this intense interest in finding out what was going on in the past.... I like to take mysteries to solve and I'm just very, very intrigued.... There is a kind of a rush of affect about it that I think is even more than curiosity.... I often say that I love what I'm doing and I love to write.... It's the curiosity part that pushes me to think about ways of finding out about something that I thought, or previous people thought, or people could not find out about, or ways of looking at a subject in ways that had never been looked at before. That's what keeps me running back and forth to the library and just thinking and thinking and thinking.

Equally as important as affect, however, is a mode of *detachment* that allows the person to make sure that the enthusiasm fits reality.

It is very important to find a way to be detached from what you write... to let you work out the criticism. You can't be so identified with your work that you can't accept criticism and response.... The side of me that is more... detached tries to let the situation that I'm writing about, and its complexities... just be. The danger of too much affect is not only that the self gets too involved in it where we can't take criticism... but also that there's too much restructuring of the people around your own investment.

When asked about how these modes fit together, she elaborated:

It is not as difficult now to be of several minds when I'm writing something: the side that's absolutely carried away, floating along with the project, and the side that's also detached and looking at myself.... They fit together. I don't feel it's one phase or the other.... It's immense curiosity in the beginning... you find all this stuff and then you begin to shape it.... The movement between identification, affect on one end, and detachment on the other, it has always got to be. And I feel this is present from the beginning, this kind of vacillation... the positioning of myself with different vantage points.

These passages provide a compelling illustration of complexity in action. Davis's passion and curiosity invite differentiation and save her work from tedium and rigidity; her detachment, in contrast, begins the process of criticism and the shaping of the multiple pieces into an organization that is not characterized by

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<sup>5</sup> We will have more to say later in the chapter about this interpersonal dynamic, and about how qualities such as agency and communion in children may be nurtured in family interaction. For instance, a mother's communion has often acted as a buffer for the father's agency, and vice versa. This traditional, sex-typed alliance is but one “solution” for creating a family context that spares children the fate of growing up in a home that overemphasizes one or the other quality and thus forces children into *one pattern of response*. We will return to this observation when considering how early experience within the family may have consequences for attaining complexity in later life. For now, we point out that parents with androgynous parenting styles have reported *more enjoyment in parenting* (Lamb, 1982).

premature closure. In Davis's words, moments of synchrony between these two modes achieve a *multiple vision*, or being of "two minds" at once. Having these two vantage points prevents the work from being either conventional or idiosyncratic and allows it to develop and to grow.

A third polarity is related to the previous one, and can be described as the combination of *divergent* and *convergent* thinking. Convergent thinking involves the ability to find commonalities in varied information; it is a rational, problem-solving orientation representative of the kind of intelligence that is often measured by IQ tests. Convergent thinkers have, so to speak, internalized the social mind; their thoughts usually can be predicted from knowing what others have thought. In contrast, divergent thinking is oriented toward individuality and problem finding. It involves fluency, or the ability to generate many ideas, explore multiple perspectives, make unusual associations, and so on (Guilford 1967; Runco 1991). This ability has been thought to be synonymous with creative thinking.

Divergent thinking, however, is not much use without convergent thinking as a counterbalance, and vice versa. This point came across in the remarks of another eminent scholar, the historian William McNeill. He described the starting point for his work as a process that led to "finding one's bent." Once an idea appeared in his mind, he found that it would spontaneously "crop up" in many different contexts, including some where he did not expect to find it. At some point in this divergent, differentiating process, however, a more convergent frame of mind was needed to gauge how the idea fit with reality. The later mode helped to bring closure and required more meticulous work, self-criticism, and intellectual integrity. The following quotation discusses this coordination of divergence (openness) and convergence (closure):

I've looked at myself and my colleagues and thought about what it is that makes some people able to get things done, write books, write articles, complete tasks, and someone else of equal intelligence, perhaps of superior intelligence, never quite gets things done—he wastes time, he throws his time away, deadlines go past and still he isn't done. I think the most important discrimination involves two things. One is the capacity to focus attention—called attention span in small children—which varies enormously. There are people who are always looking for an interruption and run off like that [snaps fingers] given the possible chance. You have to have tunnel vision.... The other thing is that you can handle the hypercriticism.... I know some of my colleagues who had extremely powerful and original minds, but who looked at what they had written and always said "it's not good enough." That is hypercriticism and they're really frozen by their own critical capacity. There is a nice balance—surely you want to be critical of what you've done, rewrite it, think it through carefully, not splash it on to a page and say that's it. But too much criticism can be self-destructive, and too much openness can be self-destructive. You have to have a balance, a certain openness up to a certain point, and then get it done, and be willing when it comes time to do it, to say... "I'm going to lock on this task now, it's time to do it".... [It is] closing things off at the right time, and not letting your critical faculty get so acute, so sharp that you can't get anything done. Both extremes I've seen act destructively upon... achievement.... They can be obstructive, perhaps, not destructive, but obstructive.... I think if you just study people around you reflecting on those who do and those who don't accomplish things they want to, these are the two pitfalls [too open, or too closed] that I've become aware of, things that obstructed very competent minds from achieving that which they wished to do.



A fourth polarity is again related to the previous two. Similar to the polarities of attachment/detachment and divergent/convergent thinking is the coordination of *playfulness* and *discipline*. The sociologist David Reisman, for instance, succinctly described such a synthesis in his comment that he “wanted at the same time to be irresponsible and responsible.” The sculptor Nina Holton articulated in more detail the need for a sense of play and work to permeate the creative process:

Tell anybody you're a sculptor and they'll say “Oh, how exciting, how wonderful.” And I tend to say “What's so wonderful?” I mean, it's like being a mason. Or being a carpenter, half the time. But they don't wish to hear that because they really only imagine the first part, the exciting part. But, as Kruschev once said, that doesn't fry pancakes, you see. That germ of an idea does not make a sculpture which stands up. It just sits there. So, the next stage, of course, is the hard work. Can you really translate it into a piece of sculpture? Or will it be a wild thing which only seemed exciting while you were sitting in the studio alone? Will it look like something? Can you actually do it physically? Can you, personally, do it physically? What do you have by way of materials? So, the second part is a lot of hard work. And sculpture is that, you see. It is the combination of wonderful wild ideas and then a lot of hard work.

A third instance of this polarity was expressed by Jacob Rabinow, one of the most prolific inventors in the world. When working on a project that required more discipline than playful intuition, he would use a mental “trick” to slow himself down:

Yeah, there's a trick I pull for this. When I have a job to do like that, where you have to do something that takes a lot of effort, slowly, I pretend I'm in jail. Don't laugh. And if I'm in jail, time is of no consequence. In other words, if it takes a week to cut this, it'll take a week. What else have I got to do? I'm going to be here for 20 years.... See? This is a kind of mental trick. Because otherwise you say, “My God, it's not working,” and then you make mistakes. But the other way, you say time is of absolutely no consequence. People start saying how much will it cost me in time? If I work with somebody else it's 50 bucks an hour, a hundred dollars an hour. Nonsense. You just forget everything except that it's got to be built. And I have no trouble doing this. I work fast, normally. But if something will take a day gluing and then next day I glue the other side—it'll take two days—it doesn't bother me at all.

A fifth polarity that is less obviously related to the preceding ones is the coordination of *extroversion* and *introversion*. It is not uncommon that particular individuals prefer to be either at the center of action or at a spot along the periphery that allows them to observe what is going on. Generally people tend to be either on one or the other side of this dimension; in fact, whether one is extroverted or introverted is held to be one of the basic and most enduring traits of personality (McCrae and Costa 1984; Costa and McCrae 1980). Complex persons, on the other hand, seem to enjoy both the company of other people or solitude, depending on the demands of the moment. The physicist and writer Freeman Dyson, for instance, pointed to the door of his office and said:

Science is a very gregarious business. It is essentially the difference between having this door open and having it shut. When I am doing science I have the door open. I mean, that is kind of symbolic, but it is true. You want to be, all the time, talking with people. Up to a point you welcome being interrupted because it is only by interacting with other people that you get anything interesting done. It is essentially a communal enterprise.... There are new things happening all the time and you should keep abreast and you keep yourself aware of what is going on. You must be constantly talking. But, of course, writing is different. When I am writing I have the door shut, and even then too much sound comes through, so, very often when I am writing I go and hide in the library where nobody knows where I am. It is a solitary game. So, I suppose that is the main difference. But, then, afterwards, of course the feedback is very strong... and you get a tremendous enrichment of contacts as a result. Lots and lots of people write me letters simply because I have written books which address a general public, so I get into touch with a much wider circle of friends. So it's broadened my horizons very much. But that is only after the writing is finished and not while it is going on.

In this comment, contact with people—talking, listening—is identified with keeping abreast of new things and different points of view. While interaction is a process of letting in information, closing the door for solitude is a process of limiting information. The door, so to speak, acts as a boundary between self and other much as intellectual detachment creates “distance” from spontaneous action so that feedback can be integrated. Others have noted that social interaction is a dialectical process between forces driving people together and apart, and either excessive openness or closedness has detrimental effects on relationships and personal growth (Altman 1975; Altman et al. 1981). An excessive orientation toward extroversion or toward introversion reduces our flexibility to negotiate a rewarding self-environment fit; it makes us more predictable, less sensitive to the moment, and therefore less complex in response to the variable needs of the situation. The introvert may forfeit the opportunity to grow because of lack of stimulation, and the extrovert because he or she does not take time out to reflect on experience.

The following quote from Piaget (1952) fits well with Dyson's description of the dialectic of contact and solitude: “It is true that I am sociable and like to teach or to take part in meetings of all kinds, but I feel a compelling need for solitude and contact with nature. After mornings spent with others, I begin each afternoon with a walk during which I quietly collect my thoughts and coordinate them, after which I return to the desk at my home in the country.... it is this dissociation between myself as a social being and as a “man of nature” (in whom Dionysian excitement ends in intellectual activity) which has enabled me to surmount a permanent fund of anxiety and transform it into a need for working” (p. 55).

A sixth polarity might be described in terms of the interconnection between periods of *energy* and *quietude*. As one might expect, many of those interviewed for the study worked long hours with great concentration and intensity; however, this did not mean that they were slavishly tied to their work. On the contrary, it was not uncommon to come away from interviews with the impression of persons who were unhurried and at peace with themselves. It is especially startling to hear people with a lifetime of exceptional accomplishments to their credit describe

themselves as fundamentally lazy. Only a self-imposed daily discipline, they say, kept them from giving into the lackadaisical side of their nature.

Several told stories that helped to explain these apparently contradictory traits, stories that portrayed a harmonious interweaving of activity and rest. For instance, the economist Kenneth Boulding described working in beautiful, natural settings by “writing” with a tape recorder while looking at a mountain stream. And there were numerous stories of intense periods of work interspersed with naps, walks, bike rides, gardening, chopping wood, and other diversions that had more than a restorative relation to work. The important theme that emerged linking these diverse anecdotes was that the energy of these persons was not controlled entirely by external schedules. Rather, they instinctively knew when to focus their attention and when to relax it; several commented that they had “mastered their own time.” They considered the rhythm of activity and idleness to be important for the success of their work, and they learned such strategies from trial and error. The Canadian novelist Robertson Davies gave the following entertaining example:

Well, you know, that leads me to something which I think has been very important in my life, and it sounds foolish and rather trivial. But I’ve always insisted on having a nap after lunch, and I inherited this from my father. One time I said to him, “You know, you’ve done awfully well in the world. You came to Canada as an immigrant boy without anything and you have done very well. What do you attribute it to?” And he said, “Well, what drove me on to be my own boss was that the thing that I wanted most was to be able to have a nap every day after lunch.” And I thought, “What an extraordinary impulse to drive a man on!” But it did, and he always had a twenty-minute sleep after lunch. And I’m the same. And I think it is very important. If you will not permit yourself to be driven and flogged through life, you’ll probably enjoy it more.

Finally, complexity was manifested by attitudes toward work that were at once *iconoclastic* and *traditional*, oriented toward blazing new trails while preserving the integrity of their respective domains of action. Contrary to the modern prejudice that holds that old ideas are probably wrong, and that anything new must be better than whatever is old, these individuals understood that ideas and practices that have been passed down through the generations must have had some advantages or they would not have been preserved, whereas novelties have not yet stood the test of time.

Without question, a strong and independent ego characterized many of those we interviewed; yet so did humbleness and a clear awareness that in their work they “stood on the shoulders of giants,” and that their achievements were made possible only by the tradition in which they were trained. Confidence often fed into an aggressive, iconoclastic disposition; for instance, the Nobel-prize winning economist George Stigler stated:

I’d say one of the most common failures of able people is a lack of nerve. And they’ll play safe games. They’ll take whatever the literature’s doing and add a little bit to it.... So there’s a safe game to play. In innovation, you have to play a less safe game, if it’s going to be interesting. It’s not predictable that it’ll go well.

But innovation for its own sake does not make sense, except in relation to the tradition of thought that provides the background against which novelty can be

recognized. The artist Eva Zeisel produces ceramics that have been recognized by the Museum of Modern Art in New York as masterpieces of contemporary design, yet she feels rooted to the artistic folk tradition in which she grew up as a young girl in the early decades of the century. She shows a keen awareness of the interplay between innovation and tradition in the following excerpt:

This idea to create something different is not my aim, and shouldn't be anybody's aim. Because, first of all, if you are a designer or a playful person in any of these crafts, you have to be able to function a long life, and you can't always try to be different. I mean different from different from different... to be different is a negative motive, and no creative thought or created thing grows out of a negative impulse. A negative impulse is always frustrating. And to be different means not like this and not like that. And the "not like"—that's why postmodernism, with the prefix of "post," couldn't work. No negative impulse can work, can produce any happy creation. Only a positive one.

### *Dialectical Thinking and Optimal Experience*

The concepts of agency, passion, divergent thinking, playfulness, extroversion, iconoclasm, and energy share common features, as do communion, detachment, convergent thinking, discipline, introversion, tradition, and quietude. This, of course, is partly due to the selective focus that was brought to bear upon the interviews; in other words, to some extent we found in the interviews what we were looking to find. But there must be more to these polarities; countless related ones have surfaced in many fields of study and in different religions, mythologies, and philosophies in the East and the West. They are present in the Buddhist philosophy associating the optimal experience of Nirvana with the middle path between the so-called yang qualities of the male (e.g., dominance, activity, aggression) and the yin qualities of the female (e.g., passivity, receptivity, yielding) (Kuo 1976). Notions of dialectical opposition are also woven into the fabric of Western thought from early philosophers such as Anaximander and Heraclitus, through Aristotle and Plato, and continuing through Marx, Hegel, and others (see Adler 1927; Rychlak 1976). Such oppositions have also characterized some of the most prominent theories of human development, from Freud's notions of the ego mediating demands from the id and superego to Piaget's dialectical model that we discussed earlier in some detail (see also Lerner 1976; Riegel 1973).

The emergence of related dialectical themes from so many different time periods and cultures provides a compelling reason for theorists of human development to continue to puzzle over their meanings. Our interpretation of the polarities culled from the interviews emphasizes the phenomenological perspective that we have tried to develop in this chapter. It looks across all of the complementary pairs and asks: How is each related to the optimal experience associated with structure changing and building, and thus with moving beyond boredom and anxiety? A phenomenological interpretation cannot provide a comprehensive explanation for the existence of these various polarities, but it does

**Table 2.1** Contrasting traits conducive to optimal development in later life

Qualities associated with escaping boredom through seeking new challenges	Qualities associated with overcoming anxiety through developing new skills
Agency	Communion
Passion	Detachment
Divergent thinking	Convergent thinking
Playfulness	Discipline
Extroversion	Introversion
Energy	Quietude
Iconoclasm	Tradition

provide an often overlooked entry point for theorists and researchers who are interested in exploring dialectical themes.

Table 2.1 summarizes the contrasting traits that were illustrated by the interviews, and it suggests in general terms how they relate to our experiential model. If one of the most important goals of development is a person’s flexibility in adjusting to ever new situations (Kelly 1955; Lerner 1984), then the material from the interviews attests to potential for human flexibility in later life. But more important, it helps to explain how experience is optimized by avoiding the boredom of overly integrated states and the anxiety of overly differentiated ones. In other words, the polarities are instructive for understanding the process of finding challenges and building skills, and thus also for understanding the temporary equilibrium of challenges and skills that trigger flow experiences.

Why, for instance, has John Hope Franklin enjoyed teaching so much? How are the qualities of agency and communion related to his enjoyment of teaching? A phenomenological interpretation suggests that his complex teaching style was *self-correcting*, thus allowing him to avoid the negative experiences associated with being too receptive to students or too directive toward them. The former problem plagues those who try to accommodate every encounter with the other; it transforms interaction into an activity that is experienced as overwhelming, lacking in control, and thus inviting anxiety. On the other hand, consistently ignoring the interests and points of view of others, never changing one’s behavior in response to the encounter, makes interaction monotonous and boring.

Both extremes are avoided in Franklin’s teaching style because he is capable, as the changing situation warrants, of shifting between the qualities of agency and communion. In the example cited earlier, he did not hesitate to be emphatic in response to his student’s overly enthusiastic “discovery.” He listened attentively to the student, letting him take the lead. Yet based upon knowledge gained through this episode, Franklin will be better able to find the right time to insist that the student check his facts. In this way, his agency as a teacher is supported by insights gained through communion. And the same can be stated in reverse: Franklin’s responsiveness to his student was initially set up by taking his class to North Carolina and assigning the study of the Reconstruction period. In this way, the polarity of agency and communion helped to negotiate the most rewarding fit

between teacher and student and presumably made this experience of teaching more enjoyable.

A similar reasoning would hold for the other polarities. The process of work (e.g., writing, research, sculpting) was presumably more rewarding for those who described various combinations of playfulness with discipline, passion with detachment, and so on, because of the greater flexibility in forging a self-environment fit. For instance, Davis's notion of observing immediacy (i.e., being of two minds at once) allowed her to recognize problems as they arose in the spontaneous course of working. Curiosity elicited a need for detachment to shape the material generated in this exploratory mode; this feedback from active engagement led to the discovery of problems that needed to be recognized and solved. Borrowing a phrase from the philosopher and theologian Paul Tillich (Gilkey 1990), it might be said of Davis and others who expressed similar dialectical themes that their *objectivity was based on intense subjectivity*. And the converse of this statement is likewise relevant: *their subjectivity was based on intense objectivity*. In other words, it was through recognizing and solving problems (e.g., through critical revision of written work, "tricking" themselves into more patient modes of work, closing the door for solitude) that they constructed the skills and sense of confidence that, in turn, supported modes of spontaneous exploration.

That subjectivity and objectivity must be coordinated to sustain involvement does not explain how or why this combination facilitates flow experiences. The following analogy is helpful in this regard. Imagine that you are playing a game of bridge or chess. Part of the enjoyment of the game derives from making the best decisions in terms of the rules of the game. In fact, without following the rules scrupulously, one could not even play, let alone enjoy it. Yet if all one had to do was follow a prescribed script, the game would not be enjoyable either. Within the rules there must be space for uncertainty, for individual style, for taking a risk, for expressing one's preferences.

The same is true of interactions in general: one cannot enjoy a conversation unless one pays attention to the other's words and expressions; yet one also has to have an opportunity to express one's own emotions and ideas. An enjoyable novel has a strong plot and clearly delineated characters that create a concrete, objective world of their own. Yet to be enjoyable, the novel must also leave space for the reader to project his or her imagination between the lines, so that the reading becomes a process of cocreation, rather than the passive decoding of the author's intentions. In each of these instances, enjoyment follows from the dynamic interplay between subjectivity and objectivity, and it is this that leads to higher levels of complexity.

In summary, the polarities described above instigate a person's development while optimizing his or her experiences; each describes, albeit in different ways and in regard to different activities, a flexibility in negotiating a fit between self and environment (for further discussion of goodness-of-fit models see Lerner

1984; Thomas and Chess 1977).<sup>6</sup> One extreme of each polarity describes the more aggressive movement of self into environment (i.e., assimilation that moves toward accommodation), and the other half describes the receptive movement of environment into self (i.e., accommodation that moves toward assimilation). A person who is able to enact both processes at the same time can (a) effectively counterbalance the movement toward differentiation with integration, and vice versa; (b) avoid the loss of psychic energy associated with persistent boredom or anxiety; and (c) better direct and invest attention in rewarding and growth-enhancing activities.

## *Complexity and Wisdom*

We have seen earlier that of the roles available in the cultural repertoire for an older person, perhaps the one that best captures the optimal developmental outcome is the notion of *wisdom*. We now return to examine more closely what this concept entails and how it is related to the dynamics of complexity developed in the previous section.

Wisdom as a quality of the long-lived person in a community is a theme that repeatedly occurs in Eastern and Western cultures. Such persons are thought to have a special insight that enables them to make or advise the “best” course of action in a given set of circumstances. The transmission of this idea across countless generations and societies argues for its validity on evolutionary grounds. In other words, just as biological information that helps survival is transmitted from one generation to the next, it is reasonable to believe that the cultural transmission of this concept, with its rich web of meaning, is important for similar reasons (Csikszentmihalyi and Rathunde 1990).

There are many names by which a wise person is known: mentor, sage, counselor, elder, teacher, and so on. All of them connote one attribute that we believe is central: *an ability to select, or help others select, a course of action that is optimal for survival and growth, based upon insight in regard to the relevant life processes*. The wise person, in the broadest sense, is able to give good counsel about solving fundamental problems of living (Baltes, chapter “[The Quality of Experience of Asian American Adolescents in Activities Related to Future Goals](#)”, this Volume). Such counsel, in both the East and the West, has historically been linked to reflection on life experiences; through reflecting upon the successes and failures in a long life, the wise person develops a *meta-awareness of the process of the self-environment relationship* (Rathunde [in press-c](#)). A wise teacher, for instance, has been described as unobtrusive, discrete, and patient, qualities that

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<sup>6</sup> Lerner(1984), in addition, contains an in-depth, multidisciplinary look at human plasticity, its foundation in evolutionary processes, and the developmental importance of flexible self regulation.

facilitate the joyful self-discovery of younger individuals by allowing them to make mistakes that further their growth (Chinen 1984; Clayton and Birren 1980). Such decisions of noninterference (or interference) are based upon a superior awareness of complex interpersonal processes, as apparently was the case with the historian John Hope Franklin's interaction with his student.

A central characteristic of wisdom, mentioned earlier, is the ability to transcend narrow, specialized thinking and to see events within their broader contexts. John Reed, CEO of Citicorp and one of the most astute and successful captains of finance, describes his ways of approaching problems:

I have always been a person who had to understand the context within which I operate. Some people are perfectly capable of coming in and saying, "Gee, the cars are going out with bent fenders, what do I have to do to get rid of that?" and they'll just figure out what machine is bending the fender. It'll never interest them who designed the car, who is going to own it, or any of the other externalities. I'm not that way at all. I'll work a problem, but in order for me to identify with it, I have to have a context. So I get curious: Who is going to drive the car? Why was it designed this way? Does the bending of the fender have to do with the design? That is the pattern of my thought process—I have always tried to put it into a context.

It is important to note that Reed does not claim that his holistic, contextualized approach makes him a more successful businessman; in fact, he provides examples of very effective CEOs whose tunnel vision expresses only convergent thinking. But he claims that personally he enjoys the more complex contextual approach and could not think otherwise. (Of course, to continue in his role, Reed has to satisfy the objective rules expected of a person in his position, and in fact, during the last 4 years, the value of his company's stock appreciated by over 400 %.)

Contemporary research on wisdom suggests useful standards for the process of optimal human development. Sternberg (1990) describes wisdom, in contrast to intelligence and creativity, in the following way: "The wise person seeks to understand the meaning and limitations of this [existing] knowledge. The intelligent person seeks to make optimal use of this knowledge. The creative person, though, wishes to be freed from this knowledge" (p. 153). Using the analogy of three branches of government, Sternberg associates wisdom with a *judicial* function of mental self-government, intelligence with an *executive* function, and creativity with a *legislative* function. Such a tripartite schema is consistent with what has been said thus far about complex systems. A creative/legislative response represents the movement toward differentiation, or the attempt to go beyond what is known and to generate novelty; an intelligent/executive response, in contrast, can be thought of as the movement toward integration, in that it seeks consistency based upon establishing clear and predictable parameters for action. Finally, a wise/judicial response expresses a contextual evaluation of the process of knowing and therefore an understanding of the strengths and limitations of legislative/creative and executive/intelligent responses.

Attaining wisdom, then, allows the person to combine these self-governing functions in a way that is optimal for development. A creative response may generate movement toward change, but for this reason it may not be useful



in situations that call for decisive action. An intelligent response may reinforce consistency, but would be inadequate for generating new ideas. A wise response would reflect an awareness of how each function compensated for the limitations of the other: intelligence would be rigid if not informed by creativity, and creativity would lead to chaos if not reined in by the focus of intelligence. In the final analysis, it is wisdom that takes into account specific self-environment circumstances, evaluates them in terms of process, and thus gains oversight as to when creative responses must give way to more intelligent ones, and vice versa. A wise response would therefore reflect what Rogers called the predictable unpredictability of the fully functioning person: whether a particular response (i.e., seeking change or stability) is appropriate may not be known in advance; yet the action that best fits the situation at hand will reliably be chosen, and such actions may reflect either continuity or discontinuity (see also Lerner and Busch-Rossnagel 1981). Thus, wisdom is yet another way to describe the flexibility of the complex person who finds the best path toward growth and optimal experience (see also Rathunde 1995).

Recently, a number of researchers investigating adult development and *post-formal cognition* have similarly depicted the flexibility and the dialectic performance of so-called wise persons (Brent and Watson 1980; Clayton and Birren 1980; Holliday and Chandler 1986; Kramer 1983; Labouvie-Vief 1980, 1982; Pascual-Leone 1990; Sinnott 1984). Labouvie-Vief (1990), for instance, notes the dualities described by Piaget (e.g., assimilation and accommodation), by Freud (e.g., primary and secondary processes), by James (e.g., the spontaneous “I” and the conceptual “me”), and even by contemporary neuropsychologists who contrast two different anatomically and chemically based processing systems (see Tucker and Williamson 1984). She utilizes the historical distinction between *mythos* and *logos* to label these dual modes. *Mythos* signifies *a close identification of the self with the object of thought* (i.e., a mode of subjectivity where knower and known are indivisible); *logos* signifies the use of reason, or *the ability of thought to separate subject and object*, to logically analyze a relationship.

Labouvie-Vief (1990) conceives wisdom as *reconnecting* these two important ways of relating to the world. Traditionally, they are often set against each other and dichotomized. Thus, *mythos* has come to be identified with emotion, the body, subjectivity, and other so-called feminine characteristics; *logos*, in contrast, because of its correspondence to rational thought, the mind, objectivity, and so on, has been perceived as more masculine.<sup>7</sup> This is also the dichotomy that underlies the gender differentiation of children in our culture (Gilligan 1982; Gilligan et al. 1990). If wisdom reconnects these modes by looking beyond their illusory polarization, then such a description comes close to the meaning of complexity.

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<sup>7</sup> It is worth noting that this alignment of objectivity and subjectivity with masculine and feminine characteristics is best suited to instrumental domains, where it is men who have traditionally had to learn to accommodate to reality demands; this alignment would often be reversed in expressive, social activities, where women have had to assume more objective modes of self-sacrifice.

Others have identified related polarities that are characteristic of wisdom. Meacham (1983) has described a balance of *mature faith* and *cautiousness*; Erikson et al. (1986) discuss the same idea as the blending of *trust* and *skepticism*. Trust and faith allow one to engage activities wholeheartedly and with spontaneity that leads to new ideas and connections; skepticism and caution, in contrast, slow down this movement to integrate the emergent connections in a way that best cuts with the grain of reality. The dissociation of these qualities not only describes a condition that has negative consequences for individuals, it also sheds light on unwise practices in larger social system. For instance, Tillich's project of synthesizing objectivity and subjectivity implied a cultural critique. He suggested that modern science, by overemphasizing the scientist's need to be detached to know the object (i.e., by ignoring the reverse fact that subjectivity provides the basis for objectivity), has primarily identified itself with the objective-detachment pole of the dialectic, resulting in the disassociation of technical knowledge from human concerns and interests. This, in turn, has resulted in the many current problems and dangers associated with the undirected use of technology.

In summary, wisdom is a cultural mask that depicts the fullest expression of what has been described here as complexity. The wise person develops, to a greater extent than most, the capacity to move toward optimal experiences by understanding the dynamic relation of self and environment. This is perhaps why wisdom is often discussed in the context of states of transcendence or ecstasy. The wise person, presumably as the result of reflection on a long and rich life, understands the twin needs for integration and differentiation: the need to accommodate to avoid anxiety and disorder, and the need to assimilate to avoid boredom and stagnation. Such persons are best prepared to turn any situation to their advantage by consistently moving toward synchrony, but in an unpredictable fashion that depends specifically upon time, place, and context.

Descriptions of the wise person, like descriptions of any complex system, will of necessity be paradoxical, and are best expressed through dialectical notions that emphasize process, opposition, and interaction in specific circumstances. Thus, developmental research aimed at better understanding such instigative characteristics of persons will undoubtedly prove to be difficult. Nevertheless, productive research is already proceeding under the aegis of wisdom as a potential adult outcome (e.g., Baltes, this Volume). A phenomenological interpretation of wisdom may add to this growing body of work. In addition to empirical studies, more hermeneutic studies of wisdom in various cultures and historical periods would also be useful.

### ***Complexity, Ego Control, and Ego Resiliency***

Besides theory and research on wisdom there are other connections that might be drawn between the notion of complexity and the literature on adult development. One related perspective focuses on ego control and ego resiliency (Block and

Block 1980). While work in this area does not address the motivational aspects of optimal experience, it does share a conceptual overlap with the ideas presented here in three important ways: (a) a focus on the dynamics of change and process (e.g., assimilation and accommodation); (b) a focus on personal characteristics that identify different capacities for the flexible use of assimilating and accommodating processes for adaptation to environmental circumstances; and, important for our focus on child development later in the chapter, (c) an attention to family dynamics and how socialization impacts a person's flexibility.

Developmental research has often investigated self-control, willpower, postponement of immediate gratification, tolerating frustration, and related processes (e.g., Brandstädter, this Volume). Research in these areas has proceeded in three directions under the intellectual traditions of learning theory, Vygotskian theory, and psychoanalytic theory (see Harter 1983). Freud linked self-control to ego strength and the person's ability to adhere to the reality principle (Freud 1922). Work on *ego control* and *resiliency* emerges from this tradition. The former concept describes a person's capacity for self-control. Block and Block (1980) conceptualize ego control on a continuum of under-control to overcontrol: undercontrollers have permeable self-other boundaries in the sense that they have an inability to delay gratification, exercise caution, foresee the consequences of their actions, and thus manifest more immediate and direct manifestations of affect; overcontrollers, on the other hand, restrict spontaneous expression of affect, show excessive rigidity, and thus have a much higher threshold of response.

Although neither extreme of ego control is ideal for development, one might think of each as a "positive" characteristic that has been taken too far. For instance, undercontrollers are "open" to the other because of their permeable boundaries, but relatively closed to self-reflection; on the other hand, overcontrollers are "open" to the self because their defensive boundaries allow the self to become an object of reflection, yet they are relatively incapable of spontaneous action. Although originally a description of adult characteristics, the Blocks (1980) suggest that similar traits can be observed in children: undercontrollers are "more active, assertive, aggressive, competitive, outgoing, attention-seeking, extrapunitive, over-reactive to frustration, jealous, exploiting, and less compliant, orderly, yielding, and private than children scoring in the overcontrolled direction" (p. 68).

It is interesting to note the similarities between the characteristics of undercontrollers and overcontrollers and the polarities listed in Table 2.1. The active traits that we identified with moving toward differentiation and finding challenges (e.g., agentic, extroverted, passionate), and those identified with moving toward integration and skill building (e.g., receptive, introverted, detached) are quite similar in meaning to those used to define the two sides of ego control. It is reasonable to see the complex person as someone capable of "loosening" and "tightening" self-other boundaries depending on the particular situation. And this is similar to what the Blocks describe as ego resiliency. The concept of resiliency was derived from Lewin's (1951) notion of elasticity. "Elasticity refers to the capacity of the boundary to change its characteristic level of permeability-impermeability depending upon impinging psychological forces, and return to its

original modal level of permeability after the temporary, accommodation-requiring influence is no longer pressing” (Block and Block 1980, pp. 47–48).

High ego resiliency describes a capacity for flexible adaptation to changing life circumstances, whereas low resiliency results in “ego brittleness.” By combining the implications of ego control and resiliency, the Blocks established a fourfold typology: brittle undercontrollers versus resilient undercontrollers, and brittle overcontrollers versus resilient overcontrollers. The brittle ego is subject to the potentially negative consequences of undercontrol (i.e., impulsiveness, restlessness, fidgeting), whereas the resilient ego draws on its strengths (i.e., curiosity, energy, spontaneity). Similarly, the brittle ego suffers the downside of overcontrol (i.e., anxiousness, inhibition), whereas the resilient ego can draw on its advantages (i.e., reflection, calmness, empathy).

Our descriptions of wisdom and the complex person would constitute an additional type: a person who can take advantage of the full range of permeability-impermeability in regard to self-other boundaries to attain optimal experience. Whereas the Blocks’ position places a person at one or the other end of the ego control continuum, psychological complexity suggests that both ends can be part of a person’s repertoire of masks, to be flexibly used when needed. Our perspective also contrasts with other personality theories that identify major traits thought to be stable during adulthood (e.g., Costa and McCrae 1980). Such approaches may constrain measurement in ways that identify persons as consistently high or low on one trait (e.g., openness to experience), rather than conditionally high or low depending upon the quality of experience in particular contexts.

Conceptualizing high-level adult thinking in terms of a *flexible repertoire* also provides an alternative to the postmodern practice of identifying a predominant thinking style in different persons and cultures (i.e., masculine versus feminine, individualistic versus communal, and so on), and then presuming that these styles are incompatible (Perkins 1996). Such differences can be seen as complementary parts of a repertoire. The Japanese, for instance, have a word, *kejime*, to describe the successful ability to shift between spontaneous and disciplined behavior (Bachnik 1992). Doi (1986) views the Japanese self as organized by the situational shifting between these two modes, referred to as *ura* (in back) and *omote* (in front), respectively. Other paired terms are used to describe *relationships* between dualities that help a person to locate particular situations on an inner/self or outer/society axis. *Kejime*, or situational shifting, is therefore a crucial social skill for the Japanese and a major pedagogical focus in Japanese education, Bachnik (1992) comments that such a conception calls into question the appropriateness of either/or frames of reference that emphasize self or society: “Shifting would require pluralistic perspectives on the self and social order that could encompass disunity and chaos as well as unity and order” (p. 4).

In this section we have attempted to illustrate more concretely some of the characteristic qualities of complex persons, namely, qualities enabling a harmonious dialectic between differentiation and integration, which lead to the ability to play more meaningful cultural roles while allowing for the development of one’s unique individuality. The brief examples of later-life complexity set the stage for

discussing two areas of developmental research—wisdom, and ego control and resiliency—that have explored similar themes. These areas of research afford bridges to several ideas in this chapter, and they offer the potential for expanding on them.

Characteristics that make it possible to take an active role in creating one's environment and furthering development comprise only a part, perhaps only a small part, of the vast array of biological and cultural influences on the development of the person. Nevertheless, they comprise the part that is most *human* in human development. The capacity for lifelong learning and the relative lack of “hardwired” responses to the environment are perhaps *the* distinguishing characteristics of humans. Lerner (1984) reached the same conclusion, arguing that what is optimally developed in development is the style or self-regulative capacity to adapt to unforeseen contextual conditions (i.e., changing self to fit context or context to fit self). Although such instigative characteristics are probably related to genetic predispositions (e.g., aspects of temperament may influence modal levels of openness/withdrawal, ability to focus attention, and so on; see Thomas and Chess 1977), they are also influenced by contexts of socialization, especially the family. Thus, a better understanding of how such characteristics may emerge through child development is a question central to understanding the development of the person.

## The Foundations of Complexity in Child Development

Having sketched our ideas about adult complexity in theoretical terms and through examples of desirable outcomes, we turn our attention to examining how the foundations of complexity might be established in child development. Although it is impossible to trace with precision the evolution of the outcomes we have discussed, or support a strong causal position on the link between early experience and these outcomes, the assumption here is that our previous discussion will make it easier to identify processes in the early years that facilitate the full development of the person. Many of the presumed connections that are discussed await further research and verification. To limit the focus of the discussion, we make three additional assumptions:

1. If complex outcomes are manifested by dialectical polarities, then contexts that socialize such outcomes will presumably have a dialectical character.
2. Of the many relationships that are important for child development, one undoubtedly is foundational: *the parent-child relationship*. We therefore limit our discussion to parent-child interaction, starting in adolescence and working our way back to early childhood, and then infancy.

3. If there is a plausible link in the ontogenetic development of complexity from birth to old age, then it is reasonable to assume that human beings are prepared by evolution to (potentially) develop in such a way. Thus, we conclude the chapter by exploring the notion that complexity is a goal of human development rooted in our evolutionary history.

Guided by these limiting assumptions, this section explores the possible relationship between children's socialization and complex outcomes in adulthood. The approach taken is exploratory, with two intentions: to develop further the theoretical perspective in this chapter, and to stimulate future research on these and related issues.

### ***The Importance of Social Context***

How is a foundation for later-life complexity established in childhood? We agree with Bronfenbrenner (1992) that mature self-regulation is in large part the legacy of past social experience: "It is true that individuals often can and do modify, select, reconstruct, and even create their environments. But this capacity emerges only to the extent that the person has been *enabled* to engage in self-directed action as a joint function not only of his biological endowment but also of the environment in which he or she developed. There is no one without the other" (pp. 223–224). As to what type of environment is optimal: "Extremes either of disorganization or rigidity in structure or function represent danger signs for psychological growth, with some intermediate degree of system flexibility constituting the optimal condition for human development" (p. 241).

Following Piaget, most research that has explored the constructive nature of thought has not so valued interpersonal processes. Theoretical work on social cognition, for instance, has focused on how internal constructions—*developed independently of contact with other people*—affect the perception and therefore the dynamics of social interaction (Kahlbaugh 1993). Many of these theories, in addition, do not incorporate the dialectical insights of Piaget (Kuhn 1978). Thus, few attempts have been made to theorize how thought, in general, develops out of dialectical interactions between self and other.

In part as a result of the slow assimilation of the Russian perspective on development represented by the work of Luria and Vygotsky, a greater emphasis is currently being placed on how the person develops within a sociocultural context, and how higher mental functions are "internalized" from social interaction (Bruner 1990; Mead 1934; Rogoff 1990; Stern 1985; Wertsch 1979, 1985). The time is ripe, then, for approaches that *link dialectical developmental principles to social interaction*. Toward this end, the thought of James Mark Baldwin (1906, 1908, 1911) provides an important historical context (Kahlbaugh 1993) and critical insights for our attempt to link phenomenology to social processes.

### *An Extension of Baldwin's Views on Development in Context*

Baldwin's thought is relevant to the concerns in this chapter for several reasons. His theory of "development" (i.e., progress in constructing "platforms" of organization) is dialectical and rests upon syntheses of dualistic oppositions. Much of what has been said earlier in regard to Piaget also applies to Baldwin: development proceeds through the interplay of a conservative, assimilating function that fits information to preexisting structures and a change-oriented accommodation function that reconstructs the subject due to opposition encountered in environment (see Broughton and Freeman-Moir 1982).

More important for our purposes are three differences between Baldwin and Piaget. First, Baldwin was more attuned to the importance of subjective rewards associated with successful adaptation; he believed positive experiences induced repetition, and repetition led to the formation of habits. As did his colleagues John Dewey and William James, Baldwin talked at great length about *interest* as the motivating force of attention (1906, see pp. 41–44). Thus, his insights are more in line with our goal of providing a phenomenological rendering of assimilative and accommodative processes.

A second crucial difference is the way Baldwin conceptualized optimal adult development. Piaget emphasized logical thought in his final stage of formal operations and the capacity to formulate rational hypotheses about relationships in the world. In his highest stage, hyperlogic, Baldwin emphasized *an aesthetic appreciation of the world that transcends dualities*. His descriptions of this stage resemble contemporary theories on postformal operations and wisdom (Basseches 1980; Kramer 1983), and our earlier comments on complexity in later life: "The intuition of reality reached in aesthetic contemplation preserves all the meaning of fact or truth except its externality to experience, and all that of use or worth except its subjectivity in experience; thus essentially removing from the constitution of the real the opposition of inner and outer, subject and object" (1911, p. 256).

The most important difference between Baldwin's and Piaget's models has to do with the role of social processes. For Piaget, the quality of the social environment could affect the speed with which children develop through various stages, not the quality of the stage itself; and social processes became more important as children developed more mature forms of thought. Social processes were more integral to Baldwin's account of development. He recognized the greater novelty associated with social interaction, and therefore its more important role as a source of resistance that promotes growth: "Persons remain, even after each vital experience with them, still the unreduced; and the individual's mass of surging psychic tendencies and dispositions comes up again and yet again to the task of appropriating them in the molds of habit and recognized fact" (1906, p. 61). Thus, one reason Baldwin located the development of the person more centrally in social interaction was because the other was more capricious, intrusive, and "self-nucleating," and therefore more of a stimulus to development.



It was through interaction that the assimilating and accommodating functions were stretched to the highest degree, and *these functions were developed from birth in coordination with a primary caretaker*. Through *imitation*, for instance, a child accommodates the other; but imitation is never “pure” in the sense of a replication because actions are infused with private meaning, and what is learned is always in relation to subjective experience. Similarly, when appropriating a word, one makes it one’s own by filling it with personal intention (Bakhtin 1981). In this way, accommodation is “creative” and not passive mimicking. Through a process of *ejecting* the self, on the other hand, the child assimilates the other on its own terms; when contradictions arise, the self is reconstructed. Thus, the dynamics of development are much like Piaget’s, but relations with a primary caretaker are seen as essential to the dialectical growth of the self, and social dependency becomes essential for development to occur (see also Tobach 1981; Tobach and Schneirla 1968).

Interaction with a more powerful person (in relation to the child) will encourage accommodation; interaction with a less powerful person will favor assimilation. A mother might be thought of as “less powerful” when she is reactive to the wants and desires of the infant; in other words, when *she* accommodates, the child assimilates. A mother is “more powerful” when the child must accommodate, perhaps by imitating actions, reacting to verbal or physical stimulation, adjusting to schedules of feeding, and so on. One can see in this general dynamic how the dialectical growth of the self might proceed in a positive direction through the mutual give and take of mother and child, or how habits of unsuccessful assimilation or accommodation might develop through relations with an overly active or a chronically passive mother.

Stating the same using the commonsense terms *love* and *discipline*<sup>8</sup> to represent parenting behaviors that encourage assimilation and accommodation, respectively: When a parent appropriately mixes love with discipline, a child develops successful habits of assimilation and accommodation, thus making the coordination of these modes, and optimal experiences, more likely to occur. Over time, children socialized in homes that balance love with discipline develop a superior capacity to *self-regulate* their attention and respond to the environment in ways that promote optimal experience and growth. In other words, they are more likely to manifest the development-instigating characteristics that are associated with complexity.

There is a variety of ways parents might provide children with a healthy combination of love and discipline. One strategy is what we now think of as the

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<sup>8</sup> Too often the word *discipline* is equated with punishment. The word is a derivation of the Latin *discipulus*, meaning pupil. This meaning reflects the idea that discipline is about *training the mind and character through experience*. Insofar as punishment furthers such training or instruction, its meaning is consistent with discipline.



traditional nuclear family. Fathers and mothers have historically created a well-rounded system through a division of labor: fathers play the role of disciplinarian and mothers that of nurturer (Parsons and Bales 1955). The manifestations of such traditional sex-role divisions are apparent in parental styles of interaction. For instance, fathers, due to their active styles, are more often a source of stimulation, whereas mothers are a source of arousal modulation or comfort (Field 1985). In general, fathers have been less sensitive to a child's perspective, and thus they have constituted a source of external challenge for the child; mothers have been more willing to subordinate their attention in support of their children's interests.<sup>9</sup> Although contemporary families maintain less rigid boundaries between parental roles, one still can observe strong vestiges of these historical patterns (Larson and Richards 1994).

The traditional solution, however, is but one of many possible ones. One or both parents, or a single parent, can adopt an *androgynous* role as a nurturer and disciplinarian. Arguably, such a style holds distinct advantages for the well-timed delivery of love and discipline, and thus for achieving a more satisfying parent-child relationship (i.e., a mother would not have to rely on "Wait until your father gets home" to provide discipline, and a father would not have to use the refrain "Go ask your mother" when asked for support). It is not hard to imagine several other ways that love and discipline can be effectively combined. A nurturant family, for instance, may enroll the child in a school that is intellectually and physically rigorous. Or a child with accomplished and demanding parents may be accommodated by an attentive caregiver or by other members of the extended family. The point is not to argue for a particular family organization (although some arrangements may be advantageous); rather, the claim is that *children who develop strong habits of assimilation and accommodation in some proximal context of socialization* are more likely to develop a mature ability to self-regulate as adults.

### ***Parent-Child Interaction and the Growth of Complexity***

The above hypotheses about social interaction and dialectical development are used next to explore and integrate various perspectives on parenting over the course of child development. In the following selective review, we attempt to link parental love and discipline, or *support* and *challenge*, to three stages of child development: adolescence, early childhood, and infancy.

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<sup>9</sup> If reacting to a "more powerful" father is associated with learning habits of accommodation, then the increasing absence of father involvement in modern homes could help to explain the apparent decline of social integration in many communities.

## Parenting in Adolescence

Does a family still influence adolescent development? Do the qualities of love and discipline still matter, and in the ways discussed above? Even if interactions with parents were related to habits of self-regulation, it could be argued that patterns established in childhood would be relatively “fixed” by the teenage years; in Vygotskian (1978) terms, the “intermental” would have already become the “intra-mental.” Furthermore, adolescents encounter a much wider social circle than young children and fall under the sway of peer influence. They have also wider unsupervised exposure to symbolic media (e.g., television, books, music, and film), as well as the effects of schooling. Despite all of the above influences, however, a great deal of research suggests that parental qualities like love and discipline (referred to by various names in the literature) are still important for adolescent development (Damon 1983; Irwin 1987; Maccoby and Martin 1983).

Baumrind (1987, 1989) has associated the combination of “responsiveness” and “demandingness” (i.e., authoritative parenting) with optimal competence in adolescence, operationally defined as the androgynous combination of *agency* and *communion*. Cooper and her colleagues (Cooper et al. 1983) found that the combination of *connection* and *individuality* in family interaction (i.e., listening and coordinating views, and expressing individual options) was related to adolescents’ identity achievement and role-taking skills. Both of these outcomes demonstrate effective differentiating and integrating processes: identity achievement requires a period of *crisis* (i.e., the exploration of alternatives) and *commitment* (i.e., firm decisions after considering the alternatives; Marcia 1966); role taking requires considering others’ perspectives, and then integrating one’s own (Cooper et al. 1983). Finally, Hauser’s (1991) research has revealed how supportive (*affective enabling*) and challenging (*cognitive enabling*) “moves” in family conversations were related to higher adolescent ego development; it also seems that higher stages of ego development are increasingly dialectical in character (Kegan 1982; Loevinger 1966).

Our own research with families and adolescents is consistent with the above findings, although it emphasizes experiential outcome measures. For instance, talented adolescents who perceived their family contexts as supportive and challenging reported more optimal experience and interest in their daily lives, especially while doing school activities; parents perceived by their sons and daughters as supportive and challenging reported more satisfaction in their relationships with their children and in their own lives (Csikszentmihalyi et al. 1993; Rathunde 1996). A follow-up study of a representative national cross-section of approximately 700 teenagers replicated these findings with a more diverse sample: after adjusting for the adolescents’ gender, grade (sixth through twelfth), ethnic background (African American, Asian, Latino, Caucasian), and parental education, adolescents from supportive and challenging families reported more optimal experience and interest in school (Rathunde *in press*).

A family environment is challenging when parents expect adolescents to take on more mature responsibilities, learn new age-appropriate skills, take risks that

lead toward greater individuation, and so on. Thus, a challenging context is one wherein adolescents acquire the training effect of discipline; they “practice” reorganizing their attention, being more objective, and formulating plans of action that accommodate progressively new expectations and goals. When a parent creates a supportive environment by listening in a nonjudgmental way, allowing the adolescent to explore interests, taking care of everyday necessities that might be distracting, and so on, an adolescent can engage the world in a way that is less self-conscious, less constrained by the demands of reality, and more attuned to his or her own subjectivity.

A supportive and challenging context thus creates the ideal conditions for assimilating and accommodating and for optimal experiences that emerge when these two modes are in equilibrium. We have found some empirical confirmation for these assertions. Family support was linked specifically to more playful, spontaneous, and affectively charged experiences, and family challenge was linked to more directive, self-conscious, goal-directed states. To the extent that these experiential states are taken to indicate assimilative and accommodative processes, respectively, a supportive and challenging family exercises both aspects of the dialectic, and thus makes it more likely that adolescents can turn boredom and anxiety into flow or interest (see Csikszentmihalyi and Rathunde 1993; Csikszentmihalyi et al. 1993; Rathunde 1993, *in press*).

## Parenting in Early Childhood

If adolescent experience is tied to conditions in the home, despite the greater influence of friends, school, and the media, it is likely that the quality of younger children’s experience is *even more closely tied to conditions at home*. Barbara Rogoff’s (1990) research is especially relevant to this issue. She has studied parents and children in a variety of cultural settings, using a Vygotskian perspective that emphasizes the development of mind through interpersonal interaction. The primary theoretical concept in her approach is the support-challenge combination of *guided participation*: “Guided participation involves adults or children challenging, constraining, and supporting children in the process of posing and solving problems—through material arrangements of children’s activities and responsibilities as well as through interpersonal communication, with children observing and participating at a comfortable but slightly challenging level” (1990, p. 18).

The basic processes of guided participation are universal. In all cultural settings, parents and children must *bridge* to a mutual interpretation of a situation that allows *inter subjectivity*, or a common focus of attention and shared presuppositions (Rogoff et al. 1993). Thus, all parents use some measure of support and challenge: support to bolster children’s attempts to master skills, and challenge to move children toward higher levels of mastery. Support and challenge must be skillfully proportioned by adults to help children avoid situations that are over- or underchallenging. For instance, support might be manifested by simplifying the

structure of a task by breaking it down into subgoals, verbally relating new tasks to old ones, carefully following a child's gaze and attention, helping a child avoid frustrating obstacles, and so on. But as a child grows more skilled, the level of challenge could be raised by asking questions that seek more information, releasing some responsibility to the child, *not* intervening when children can be successful on their own, and so on.

A parent must carefully observe a child's cues to effectively guide participation: "Interactional cues—the timing of turns, nonverbal cues, and what each partner says or does not say—are central to the achievement of a challenging and supportive structure for learning that adjusts to the learner's changes in understanding" (Rogoff 1990, p. 104). A child might explicitly ask for more or less help, or signals could be implicit, involving a look, a gesture, listlessness, or gaze aversion. A number of studies reveal sensitive adjustment in action. For instance, effective tutors hypothesized what was the best level for intervention, and then modified their hypotheses based upon students' reactions (Wood and Middleton 1975). Mothers assisting 6- and 9-year-old children on a classification task began by giving redundant verbal and nonverbal information; as the session continued, however, their use of redundancy decreased and only reappeared when children showed difficulty or hesitation in solving problems (Rogoff and Gardner 1984). Finally, similar moment-to-moment dynamics were evident even at the university level when experts tutored students in the fields of chemistry, physics, computer science, and mathematics (Fox 1988a, b).

The benefits of guided participation emerge from maintaining a child/learner in the *zone of proximal development* (i.e., where the child is challenged slightly beyond his or her skill level, yet is capable of mastering the challenge with the help of a more skilled partner; see Vygotsky 1978). According to Rogoff, this zone represents a "dynamic region of sensitivity" where development occurs, and the skills of a culture are passed from one generation to the next. From a phenomenological perspective, we would add that a child's subjective experience within this zone is very close to the more optimal, intrinsically rewarding flow experience. In the zone of proximal development, challenges are slightly higher than skills, and the person experiences the slightly unpleasant state of *arousal*, which will change into flow if the person develops the next level of skills (Csikszentmihalyi and Rathunde 1993). From a phenomenological perspective, it is the attraction of flow that spurs the child to move out of the zone by acquiring new skills.

A number of studies confirm that guided participation is beneficial for children's development. For instance, it has been linked to infants' and toddlers' communicative competence (Hardy-Brown et al. 1981; Olson et al. 1984), to improvement in children's seriation skills (Heber 1981), and to greater exploration of novel objects by 3- to 7-year-olds (Henderson 1984a, b). Wood and Middleton (1975) found that when mothers tailored their instruction to their children's needs (i.e., guiding at a slightly challenging level, adjusting their instruction to children's successes, etc.), children performed more effectively on a task of building block

pyramids. Interestingly, the number of interventions a mother made did not relate to performance; rather, it was the quality of the interventions that was effective.

While guided participation is a universal process, there are important variations across cultures in terms of the goals that are valued and the means to their attainment: “A major cultural difference may lie to the extent to which adults adjust their activities to children as opposed to the extent to which children are responsible for adjusting to and making sense of the adult world” (Rogoff et al. 1993, p. 9). The former, *child-centered* pattern emphasizes parental accommodation to a child’s level by joining the child in play, treating the child as a conversational peer, and so on. Such is the pattern described in the studies cited above, and it is the typical pattern manifested in middle-class families in the United States: “In the middle-class populations that have been studied, the bridge between adults’ and children’s points of view is often built from children’s starting point, with adults building on children’s perspectives by focusing on children’s direction of attention and adjusting adult concepts to reach children’s understanding” (p. 19).

When children are more embedded in the everyday lives and work environments of adults, they are responsible for accommodating to adults through observation and emulation. In this *adult-centered approach*, a child might be expected to speak when spoken to, reply to questions, or simply carry out directions, with adults providing helpful feedback in response to the child’s efforts. This pattern has been observed in a variety of non-Western cultures such as in Kaluli New Guinea and Samoa, where children were expected to adapt to normal adult situations (e.g., caregivers modeled unsimplified utterances; Ochs and Schieffelin 1984). It has also been observed in some African American communities where children were not encouraged to initiate dialogue with their elders and held their parents’ attention longer when remaining silent (Ward 1971), and in Eastern cultures, such as Japan, where parents stressed children’s roles as apprentices to more experienced members of the community (Kojima 1986).

The goal of parenting in Polynesia, according to Martini and Kirkpatrick (1992), is to turn children into ‘*enana motua*, or “parent persons.” To achieve this goal, socialization revolves around teaching children how to become competent householders and establish and maintain familiar relations at home, away from home, and in the broader community—while maintaining autonomy in a dense network of binding relationships. This complex balance between group participation and autonomy is further reinforced by the culture, starting with peer interaction among children (Martini 1994).

Rogoff and her colleagues (1993) argue that people from differing communities could benefit by synthesizing child-centered and adult-centered patterns of socialization. For instance, the child-centered approach in the West is thought to have benefits for developing the “discourse of schooling,” whereas the adult-centered approach helps to develop children’s observational skills. By encouraging skills of observation, the adult-centered approach might help Euro-American children to better coordinate their actions with others in a group; the child-centered approach, in turn, could help traditional communities, and some minority communities in the West, to access educational opportunities that open doors to

Western economic institutions that rely on assertive individuality. Later in the chapter we discuss other benefits that may result from a synthesis of these two patterns.

### Parenting in Infancy

A great deal of work on parenting in infancy helps to elaborate the theoretical dynamics under discussion. For instance, Field (1985, 1987) has suggested that whereas infants are born with genetic predispositions that make them differentially responsive to stimulation in the environment (see also Eysenck 1973; Freedman 1979; Izard 1977), mothers who learn their infants' stimulation and arousal modulation needs, *and who match their behavior accordingly*, provide optimal contexts for the development of secure attachment and self-regulation (see also Lewis and Rosenblum 1974). In other words, a mother modulates her behavior to match her child's need for stimulation or comfort, thus helping the child to maintain an optimal level of arousal. Under normal circumstances, mothers and infants even achieve a synchrony in their behavioral and physiological rhythms (Brazelton et al. 1974; Field 1985; Stern 1974).

When a mother fails to stimulate or comfort a child in appropriate ways, the child may withdraw from interaction, show gaze aversion, negative affect, elevated heart rate, or other disturbances; such infants, when hospitalized and removed from under- or overstimulating environments, often show improvement (Field 1987). However, if a mother *consistently* fails to develop a synchronous pattern that fits her child's needs, the child can experience behavioral and psychological disorganization, making him or her vulnerable to a number of later developmental problems. For instance, relationships have been reported between early interaction disturbances and school-age behavioral and emotional problems, including hyperactivity, limited attention span, and disturbed peer interaction (Bakeman and Brown 1980; Field 1984; Sigman et al. 1981).

Some infants (e.g., a preterm or Down syndrome baby) may be "harder to read" in terms of their arousal needs, but parents typically adapt and do a better job than strangers. Interaction coaching studies have also shown that parents can learn to be more sensitive interactive partners. For instance, when asked to mimic their infant's responses, mothers become less active behaviorally and more attentive to their infant's cues; in contrast, when asked to keep their infant's attention, they are less sensitive to infant cues and more active behaviorally (Clark and Seifer 1983; Field 1977). The former coaching technique therefore enhances a child-centered approach to parenting, and the latter technique encourages an adult-centered approach.

Intersubjective perspectives are also at the front line of attachment research (Bretherton 1987). Attachment theory suggests that infants and parents are genetically prepared for mutual negotiation and cooperative action (Bowlby 1969; for contrasting perspectives see Gottlieb et al., chapter "The Costs and Benefits of Consuming", this Volume; Thelan and Smith, chapter "Do Students Care About

Learning”, this Volume; Trevarthen 1979), and that even newborn infants are capable of experiencing a sense of emergent self-organization (Stern 1985). What is particularly useful about attachment research is the abundant empirical and theoretical work that has addressed how early interactions affect later child development. Attachment researchers hypothesize that the quality of the early caregiver-infant interactions affects how children interpret their worlds through the development of a *working model* (see discussion below). In other words, basic styles of relating to the world are thought to be fundamentally connected to the interactive characteristics of early caregiver-infant interactions.

The term *attachment system* refers to a coherent behavioral-motivational system that is organized around a particular figure (or figures). Bowlby (1969) observed that the attachment system was *activated* by perceived danger and *deactivated* by safety. Bretherton (1987) contends that it is more helpful to think of the system as *continually active*, because this clarifies two distinct attachment phenomena: use of the caregiver as a safe base when there is perceived danger, and use of the caregiver as a launching point for exploration. Bretherton’s conceptualization allows the attachment system to be seen on a continuum with other optimal arousal models discussed in this chapter. And like the other models discussed, the attachment system combines two “antithetical” human propensities: to seek continuity (comfort) in the face of overwhelming change, and change (stimulation) in the face of numbing continuity.

It is not surprising, then, that a support/challenge combination is also recognized as the most effective way to parent infants. *Secure attachment* is associated with care-giving that is supportive when it needs to be, yet challenging in terms of encouraging exploration and autonomy.<sup>10</sup> Such a balance helps create the synchronous patterns associated with secure attachment (Isabella and Belsky 1991), such as those observed in feeding situations, face-to-face interactions, responses to crying episodes, and many other types of interactive behaviors (Ainsworth and Bell 1969; Bell and Ainsworth 1972). Asynchronous patterns leaning toward over- or understimulation, on the other hand, have been associated with insecure attachment patterns (Isabella and Belsky 1991).

Because of the dependence of human infants on their caregivers, the latter have enormous influence on the patterning of intersubjective relations during the first year of life. Attachment theory suggests that from these relations children develop an internal working model of how the world works. Such a model serves a functional purpose: it represents reality as it is experienced and therefore allows the utilization of past experience to imagine alternatives and make decisions (Fraiberg 1943). In an evolutionary perspective, working models provide a survival advantage to the extent that they permit more insightful and adaptive behavior

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<sup>10</sup> The attachment literature typically describes optimal parenting in terms of a child-centered approach. This is underscored by the fact that most attachment researchers view maternal insensitivity as a mother’s inability to *take the perspective of a child* (see Ainsworth 1983).



(Johnson-Laird 1983). The adaptiveness of a model depends upon its correspondence to the actual world (i.e., what is represented has to simulate relevant aspects of the environment); the more complex a working model is, the more flexible are an organism's potential responses.

Based upon interactions with a caregiver, then, a child learns essential information about how self and other are related, and this information becomes a template for future interpretations. Distortions or disturbances in the interactive relationship result in distortions in processing information; because working models become automatic and habitual, these distortions can lead to relatively stable maladaptive patterns of development. Stern (1985) makes the provocative suggestion that when mothers consistently "overattune" or "underattune" to infant cues, they can *undermine infants' ability to evaluate their inner states*. From an experiential perspective, this result would seriously undermine later abilities to evaluate boredom and/or anxiety and respond in ways that promote flow experiences.

Also relevant from an experiential perspective are studies that show attachment patterns have carryover effects that influence children's *style* of engaging activities. For instance, secure attachment at 12 months predicted more adaptive communication in a problem-solving task too difficult for 2-year-olds to perform by themselves. Securely attached infants tried to solve the problem independently, but turned to the mother for help when they got stuck; mothers, in turn, comforted their children and helped them to focus on the task (Matas et al. 1978). Thus, the style of engaging the task reflected the style of interaction in a securely attached dyad (i.e., exploration in a context of support). It is also noteworthy that securely attached toddlers displayed more enthusiasm and task enjoyment.

In summary, several perspectives on parenting in adolescence, childhood, and infancy converge around the idea that parental combinations of support and challenge create optimal contexts for child development. Studies in each area, moreover, inform the phenomenological perspective in this chapter. Combinations of parental support and challenge were associated with adolescents' reports of flow experience in school (Rathunde 1996, Rathunde, *in press*); children's engagement in the zone of proximal development (Rogoff 1990); toddlers' enthusiastic task performance (Matas et al. 1978); and infants' optimal arousal (Field 1987). Common to all the perspectives reviewed was an emphasis on children's development through inter-subjective experience in the family; the historical roots of this perspective can be found in Baldwin (1906), Cooley (1902), Mead (1934), and Vygotsky (1962).

A deeper recognition of continuities across parenting studies is an important step toward more integrative theories of child development. One of the most important areas to explore, we believe, is how child-centered and adult-centered parenting use support and challenge to create optimal learning environments. In the West, it is often taken for granted that a child-centered approach is the best way to socialize children. However, adult-centered approaches are effective in different ways. We elaborate on this distinction next, and offer several hypotheses that we hope will stimulate future research.



## ***Further Thoughts on Child-Centered and Adult-Centered Parenting***

Children benefit when they have successful experiences with child-centered and adult-centered parenting approaches. The former, we believe, enhance children's efforts to differentiate the self through mastering *discovered* challenges,<sup>11</sup> and the latter facilitates children's efforts to integrate the self through mastering challenges *presented* by significant others (see Csikszentmihalyi 1990, on "discovered" and "presented" challenges). In terms of the flow model, matching skills to either type of challenge could lead to flow; however, the lessons learned in terms of self-regulation are very different. Child-centered approaches guide children toward flow, so to speak, from existing skills to higher challenges, or toward equilibration on the path from assimilation toward accommodation. Adult-centered approaches reverse this process, putting challenges ahead of skills and accommodation before assimilation. Thus, successful child-centered approaches are more likely to strengthen children's self-regulative capacities to find enjoyment in an emergent sense of differentiation; successful adult-centered approaches strengthen the ability to seek enjoyment in integration.<sup>12</sup> Children who benefit from success with both types would presumably develop the most complex internal model of the world, one allowing the widest range of options for regulating arousal and instigating development.<sup>13</sup>

The above ideas provide a framework for future research, but we can offer some indirect support for them now. Our study of talented teenagers looked at talent development in the arts (i.e., athletics, music, and visual arts), and the sciences (i.e., math and science; see Csikszentmihalyi et al. 1993). According to the students we interviewed, the former domain was perceived as child-centered: teachers encouraged discovered challenges, student initiative, intrinsic motivation, and so on. In contrast, math and science classes were perceived as adult-centered: teachers presented challenges, required student compliance, and instilled extrinsic motivation. Child-centered instruction in the arts apparently created more

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<sup>11</sup> Challenges are "discovered" by children when child-centered parents structure the environment in ways that are sensitive to children's interests and thus more conducive to a discovery orientation.

<sup>12</sup> Perhaps these two general patterns of socialization—one more suited for attempts to differentiate and "break" with tradition, and one more suited for integrative attempts to "build" on tradition—can help to explain the often-cited emphasis on individuality in the West and on social connection in the East. In addition, flow experience in the West is more often a private thing (e.g., in recreation or leisure), whereas flow in strongly adult-centered cultures (e.g., tribal cultures) is often a matter of public ceremony and ritual (see Turner 1979, on flow and ritual).

<sup>13</sup> To the extent that both parenting approaches characterize one home context, a child presumably benefits. It is also worth noting, however, that a synthesis of sorts might take place when a child gets experience with both patterns as a result of different contexts (e.g., home and school), or perhaps as a result of experience with different age playmates—sometimes having to "follow" and accommodate, and sometimes having to "lead" and organize others' efforts.

opportunities for differentiation than integration; students reported feeling good about what they were doing in class, but they did not feel that what they were doing was connected to their future goals. In contrast, the sciences created more opportunities for integration than differentiation; students felt that class activities were related to their goals (e.g., college and jobs) but less often felt personally motivated. Interestingly, those students who went on to develop their talents farthest—*across all of the talent areas*—reported personal enjoyment *and* the feeling that they were working toward important future goals (see also Rathunde 1993).

While child-centered and adult-centered approaches each build different strengths when effective, they may also lead to different weaknesses when they fail. For instance, a child-centered approach can fail in two ways: parents can overwhelm children with support whenever they show interest in something, or parents can let children select unrealistic challenges. As a result, two kinds of “failure” with assimilation and challenge seeking can occur: the former child will need the help of others to discover challenges (e.g., a child who depends on a parent to combat boredom and needs help in deciding what to do), the latter child will feel frustrated by a pattern of pursuing challenges that always seem out of reach (e.g., a child who deals with anxiety of piano lessons by quitting, selecting another instrument, quitting, and so on). An adult-centered approach can also fail in two ways: parents can prescribe behaviors and then make sure expectations are met through overly close monitoring and guidance, or parents can set expectations too high and fail to provide supportive feedback. These imbalances can lead to two types of failure with accommodation and solving presented challenges: the former child will feel dominated by social circumstances and unable to express individual interests (e.g., a child who passively conforms, following parental expectations blindly), and the latter child will feel frustrated and angry that it is so hard to please others (e.g., a child who rebels or rejects parental wishes).

Although child-centered approaches encourage differentiation and adult-centered approaches encourage integration, the above comments make it clear that *both* approaches can result in outcomes that isolate children from their social context or embed them too deeply within it. In each case, though, the detachment or enmeshment of children is qualitatively different. Conformity and dependence are both a type of Overintegration, and rebellion and disillusionment are both forms of overdifferentiation, but each outcome is unique, and each results from different socialization dynamics. An overly supportive child-centered approach encourages dependence, and an overly supportive adult-centered strategy promotes conformity. Conversely, an overly challenging child-centered approach, by allowing children to “get in over their heads” with unrealistic challenges, encourages disillusionment; an overly challenging adult-centered approach encourages rebellion from adult expectations. Put differently, dependence results when discovered challenges are too easy, and conformity when presented challenges are too easy; both problems are associated with overly “supportive” parents. In contrast, disillusionment results when discovered challenges are too difficult, and rebellion when presented challenges are too difficult; both problems are related to parents who allow children to be challenged beyond their capacities.

In summary, we propose that complexity in adulthood is aided by early social experiences that enhance the differentiation and integration of the self through mastering discovered and presented challenges, respectively. If a person develops through wearing masks on a cultural stage and performance suffers if the role is played mechanically according to script or, on the contrary, unrelated to the script at all, then a person—like a good actor—benefits from following a role from an existing script, but “improvising” on it to make it fit individual traits and interests. Our earlier examples of successful aging indicate how this is possible: complex persons can be traditional or iconoclastic, value continuity or change, be conservative or liberal, depending on what response best fits the situation.

### ***Neoteny and Complexity: The Evolutionary Logic of Unending Childhood***

Are the recurring themes in this chapter—the dialectic of assimilation and accommodation, the balancing of skills and challenges, the intersubjective dynamics of support and challenge, and so on—just instances of a selective ordering of information, or do they reflect something intrinsic to human nature? We believe that the connections made thus far between complexity in later life and its foundation in child development have a deeper meaning that can be discerned in an evolutionary framework. In keeping with the strategy of moving from maturity to earlier developmental periods, we take one final step “back,” so to speak, to an evolutionary perspective on neoteny.

*Neoteny* refers to the retardation of development, especially that of the nervous system, such that infants are born relatively immature and must learn what they need to know to survive (Gould 1977; Lerner 1984). Compared to other primates, humans are considered neotenous because their rate of development from fetus to adulthood is unusually slow. In fact, adult humans even retain many of the physical traits of the human fetus, such as flat-facedness and minimum body hair (Bolk 1926). Huxley (1942) and others (see Montagu 1989) have suggested that neoteny “drives off” of the developmental timescale traits that have been a part of our evolutionary past (e.g., the heavier eyebrow ridges and projecting jaws of adult apes, of Neander-taloids, and so on). More important than the physical characteristics, Lorenz (1971) maintained that the behavioral outcomes of neoteny—the retention of childlike traits such as curiosity, playfulness, and flexibility, to mention just a few—are far more important. He concluded that the defining characteristic of humans was nonspecialization, allowing an *unending state of development* and an ability to change in response to new environments.

In his book *Growing Young*, Ashley Montagu (1989) concurs with this perspective and sums it up in the following ironic phrase: “The goal of life is to die young—as late as possible” (p. 5). He argues that we are biologically prepared by evolution to “grow young,” or to emphasize rather than minimize childlike traits

as we mature. Although the importance of these ideas are known by a small group of social and natural scientists, Montagu asserts that the enormous ramifications of an *applied understanding of neoteny* have yet to be fully recognized. Such an understanding would explicitly recognize and nurture childlike traits, leading to adjustments in parenting and teaching philosophies; it would also redefine society as a system designed to extend the neotenous traits of humankind.

The universal manifestation of attachment processes provides deeper insight into the evolutionary logic of neoteny. Attachment discloses the fact that heavy parental investments in caregiving have a genetic underpinning (Bowlby 1969), and that human infants and their parents are biologically prepared for intersubjectivity (Papousek and Papousek 1987). In other words, parents and infants come equipped with the necessary skills for dialectic negotiations and joint meaning-making: “Humans are born with a self-regulating strategy for getting knowledge by human negotiation and co-operative action.... Thus socialisation is as natural, innate or ‘biological’ for a human brain as breathing or walking” (Trevvarthen 1988, p. 39).

*The concept of neoteny thus provides a unifying link among various parts of this chapter.* First, it provides a rationale for the presumed goal of complexity in later life, the defining characteristic of which was unending development due to flexibility (see also Lerner 1984). The lifelong learners we interviewed can thus be seen as exemplars of the neotenous promise of human evolution. Second, the concept provides a way to link the idea of complexity with our observations about child development in social interaction. The trade-off in having a plastic versus fixed path of development is the enormous dependence that human children have on their parents (Gould 1977; Lewontin 1981). This dependence is illustrated by comparisons to other primates; humans give birth at a later age, have fewer young with each gestation, have longer gestation periods, lactate longer, and have fewer children across their lifetime (Altmann 1989; Johanson and Edey 1981). The human fetus is also expelled from the womb “early” because the evolution of brain size made premature birth necessary to permit safe passage through the birth canal (Montagu 1989). This almost total dependence of human infants on caregivers, and the genetic predisposition to form attachments, explain why “individual” development occurs within a social process.

How does this slow and steady “tortoise strategy” lead to adult complexity? And what about this strategy is connected to optimal experiences that we claim are so important for development? These final questions of the chapter are addressed by taking a closer look at the *opportunity for play* afforded by neotenous development. Of the many consequences resulting from this basic human predicament of prolonged dependence, we believe play says the most about human development. Neoteny provides infants with ample time to play in a relatively *unpressured* context; Bruner, Jolly, and Sylva (1976) add that play was favored by evolution as a pressure-free time during which adult skills could be imitated with successful solutions *that lead to pleasure*. The phenomenon of play thus contains the evolutionary logic of neoteny; a closer look at its character will reveal the essential connection among parental protection, optimal experiences, and the growth of complexity.

## *The Syntelic Character of Play*

Baldwin (1906) has analyzed the character of play in a way that links it to the highest levels of human development. He refers to play as *syntelic* to capture its unique confluence of subjective and objective, inner and outer, characteristics:

Both the inner freedom and the outer semblance must be retained [in play]; the latter gives consistency, pattern, dramatic quality, all that is meant by “semblance”; the former give control, selective character, essential inwardness (p. 114).

The play object becomes not the inner or fancy object as such, nor yet the outer present object as such, *but both at once, what we are calling the semblant object*, itself the terminus of a sort of interest which later on develops into that called “syntelic” (p. 116).

Baldwin is suggesting in these comments that play opens up the opportunity for make-believe against a background of reality (i.e., real sense objects); both of these qualities— an essential inwardness and an outer semblance—must be present. If there is no reference in play to the external world, it becomes pure fancy, and it loses its interest and drama. On the other hand, if play is too reality dependent or compulsory, it again loses its interest, but for a totally different reason. Play must retain its character of self-illusion, what Baldwin calls a “don’t-have-to feeling,” that invests the object with personal meaning, inner determination, and a feeling of self-control; to a certain extent, this quality *tempers* the external control that would otherwise hold. Thus, Baldwin (1906) states, “Play is a mode of reconciliation and merging of two sorts of control.... For it provides for the relative isolation of the object and opens the way for its treatment by experimentation” (p. 119).<sup>14</sup>

It is this *syntelic* character of play that makes it crucially important and links it to higher forms of human thought. By allowing the oscillation between subjective and objective modes, Baldwin perceives a developmental link to the emergence of basic human dualisms (e.g., mind/body, self/other, truth/falsity) and the eventual *overcoming* of such dualisms with full development. The legacy of play can thus be seen in the syntelic character of Baldwin’s highest form of thought, aesthetic contemplation. As illustrated earlier, his descriptions of aesthetic modes are remarkably close to contemporary perspectives on post-formal thought processes, and to our remarks on flow experience: “In aesthetic experience the partial insights of

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<sup>14</sup> Analogously, one can think of the scientific process as syntelic, as an oscillation between theoretical (subjective) and empirical (objective) modes of “control.” emergence of basic human dualisms (e.g., mind/body, self/other, truth/falsity) and the eventual *overcoming* of such dualisms with full development. The legacy of play can thus be seen in the syntelic character of Baldwin’s highest form of thought, aesthetic contemplation. As illustrated earlier, his descriptions of aesthetic modes are remarkably close to contemporary perspectives on post-formal thought processes, and to our remarks on flow experience: “In aesthetic experience the partial insights of intelligence and feeling are mutually conserved and supplemented” (1911, p. 279). His perspective, though, adds insight to the developmental history of such outcomes; in other words, play is germinal of the highest forms of human thought as its syntelic character is elaborated and reinstated on higher levels of organizations.

intelligence and feeling are mutually conserved and supplemented” (1911, p. 279). His perspective, though, adds insight to the developmental history of such outcomes; in other words, play is germinal of the highest forms of human thought as its syntelic character is elaborated and reinstated on higher levels of organizations.

The essential benefits of playing, then, lie in the manipulation of information in a pressure-free context that is informed by external and internal determinants, but controlled by neither. Play can retreat from compulsion and the “have-to” state of mind, or escape from the irrelevance of a “don’t-have-to” consciousness. Thus, play captures the same self-environment synchrony we described in flow experiences; in addition, the dynamics of both are similar. Berlyne (1960, 1966), for instance, viewed play as serving a stimulus-seeking function when the organism was bored and an arousal-decreasing function when the organism was anxious. Other theorists have emphasized the positives of one or the other function; for instance, Ellis (1973) viewed play as stimulus seeking, and Freud (1959), Vygotsky (1962), and Erikson (1977) thought of play primarily as a safe way to reduce tension by dealing with problems in a symbolic way.

Also like flow, play results in the differentiation and integration of the self. When it is exploratory, it generates novelty (Fagen 1976); when it is imitative (or repetitive), it builds habits (Piaget 1966).<sup>15</sup> Vandenberg (1981) likened these differentiating and integrating aspects of play to the functions of genetic mutation and DNA, respectively, in providing for biological diversity and continuity. Play may be no less important in providing for cultural diversity and continuity. A number of theories have drawn connections among play and human creativity, achievement, and flexibility (Bruner 1972; Rubin, Fein, and Vandenberg 1983; Sutton-Smith 1976). One of the strongest statements on the importance of play is given by Huizinga (1955), who saw in it the roots of our cultural institutions.

In conclusion, neoteny is connected to play through the establishment of an optimally stimulating context that is free of survival pressure due to parental investments of energy. Groos (1901) notes from an evolutionary perspective that *this period of human immaturity exists precisely for the purpose of play*, and there is a correlation between the length of play and an organism’s eventual complexity (see also Gould 1977; Johanson and Edey 1981; Lerner 1984; Lewontin 1981). When flow experiences are seen on a continuum with play (i.e., as play reinstated on adult levels of organization), Groos’s formula can be extended to flow experiences; in other words, *to the extent that adults continue to have flow experiences, their lives reflect a neotenuous pattern of unending development*. This observation is consistent with our earlier examples of complexity in later life: these individuals regulated their attention in ways that promoted flow experiences and maintained the ability to “play” in adulthood.<sup>16</sup>

<sup>15</sup> An interesting research hypothesis is that child-centered parenting enhances exploratory play, and adult-centered parenting encourages playful imitation.

<sup>16</sup> In Baldwin’s terminology, to “play” in adulthood means having *aesthetic experiences* that allow the reconciliation of the various partial truths (e.g., feeling and intellect, inner and outer).

Much can be learned about the development of the person by better understanding the social conditions that take advantage of a neotenuous developmental pattern. Important clues about these conditions can be found in the attachment relationship between caregiver and infant. Unless otherwise plagued by problems of their own, parents are prepared by evolution to create a play space through adjustments of support and challenge that helps infants to regulate their arousal. It is not a coincidence, we believe, that optimal developmental outcomes in infancy, childhood, and adolescence are all associated with parental combinations of support and challenge; such combinations—to the extent that they create appropriate conditions for optimal experiences—are consistent with the evolutionary logic of neoteny. Thus, future studies that continue to uncover how families (or other contexts of socialization) facilitate optimal experiences and outcomes will inform the creation of social environments that are more consistent with our biological potentials.

Another area of research from which much can be learned about unending development is the study of successful aging. The examples of complexity used in this chapter illustrate that it is worthwhile to ask lifelong learners how they were able to stay interested and involved. Much research, however, remains to be done. Do “protective” social conditions still play a role in facilitating optimal experiences in late adulthood? How much of this regulatory function is (or can be) taken over by individuals through the internalization of supportive and challenging conditions they have experienced in their lifetimes? While the focus in this chapter has been on the individual’s responsibility for negotiating optimal experience, it is certain that social conditions remain important. For instance, many of those we interviewed had the benefit of tenured or emeritus positions on a faculty; many had extremely devoted spouses; and most seemed free from financial worries. Further studies of successful aging can shed light on how personal instigative qualities, and social conditions, work to maintain the promise of neoteny. To the extent that insights gained are linked to child development, including the earliest moments of parent-child interaction, developmental theory will benefit greatly.

## Conclusions: The Role of Experience in Development

Theories of development have tended to look at the individual as an organism propelled along the life course by external forces. From conception to death, individuals were seen as dependent variables who were a function of a host of independent variables: genetic programs, early environments and stimulations, social and cultural contexts. In opposition to such overly deterministic perspectives, recent approaches have emphasized the active, purposeful role of the individual in helping to shape his or her developmental trajectory (e.g., Magnusson and Stattin, chapter “[The Ecology of Adolescent Activity and Experience](#)”, this Volume; Brandtstädter, chapter “[Intrinsic Rewards in School Crime](#)”, this



Volume; Bronfenbrenner, “[The Relationship Between Identity and Intimacy: A Longitudinal Study with Artists](#)”, this Volume).

The notion of personhood fits within this latter approach. It brings to the forefront of attention the fact that human beings come into the world exceptionally immature and must depend on a supportive social context to develop their full potentialities. The social context, in turn, expects the growing individual to display certain minimum competencies before he or she can be accepted as a “person.” Perhaps the most basic requirements are that the individual be able to communicate with others and be able to play at least the most simple roles available on the cultural stage. In addition, each culture evolves expectations of optimal personhood that serve as the ideal goals of individual development. Some of these ideal traits—wisdom in old age, continued involvement in meaningful goals, the ability to retain control of the body and the mind—seem to be cherished across cultures and historical periods. Psychological complexity, or the ability to develop and use the full range of potentialities open to human beings, is also universally valued.

But why would the individual want to become a complex person? What is the motivation that propels an infant to become a competent child, a productive adult, a wise elder? Developmental theories do not deal with these questions, presumably because they assume them to be trivial. Infants grow into adults because they must, because they have no choice. They develop into complex adults if and when favorable circumstances make it possible. As long as one looks only at *distal* causes for development, neglecting such questions is reasonable. But explanations that only deal with distal causes and ignore *proximal* ones are incomplete. Such proximal explanations must deal with the motivations that prompt individuals to make autonomous choices along the life course. And to understand motivations we must take into account the quality of a person’s experience.

A child who is overwhelmed by too many and too difficult opportunities, or who has learned to respond with apathy and indifference to an environment that lacks stimulation, might never learn to enjoy the active shaping of his or her experience. And yet only if one enjoys overcoming obstacles does one acquire *amor fati*, that love of being that lets an individual become a complex person. If one learns to experience flow with other people and also in solitude, through agency as well as through communion, through passion and through detachment, then it is likely that one will continue taking advantage of opportunities for self-discovery and self-organization when these become available.

So the central pragmatic question for development becomes: How do we help children learn to enjoy as many aspects of their lives as possible? How do we create contexts in the family, the schools, the community that will help children enjoy complexity? If we do not approach developmental issues from this perspective, we will miss the fact that to become active agents in their own ontogeny, individuals have to *want* to develop and become more complex. And they will want to do so only if they enjoy it. If they do not, development becomes alienated because the child as well as the adult will learn and grow primarily for extrinsic reasons. The child will study to graduate from school, the adult will work to get a paycheck and be promoted, and both will endure their present conditions listlessly,



in anticipation of a more pleasant future. This is not the kind of developmental trajectory that leads to complexity, or to a desirable old age.

By contrast, development is intrinsic if a person feels that every moment of life is worth experiencing for its own sake: if one feels fully engaged, fully present while eating and sleeping, studying, and watching television; if one enjoys being with friends; if one finds exhilarating even being hassled or being involved in conflicts and arguments. And *complex* development is intrinsic if a person learns to enjoy learning, meeting new challenges, overcoming obstacles, unfolding potentialities for being that are not naturally easy to use. When a child can enjoy both quiet and adventure, solitude and gregariousness, discipline and spontaneity, cognitive convergence and divergence, then he or she will *want* to become more complex. Whatever we can do to facilitate that kind of development will benefit the community as well as the child who is about to become a person on its stage.

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