COMPREHENSIVE HANDBOOK OF PERSONALITY AND PSYCHOPATHOLOGY

VOLUME 1

PERSONALITY AND EVERYDAY FUNCTIONING

Jay C. Thomas

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Handbook Preface

Remarkably, the linkage between personality and psychopathology, although extensive, has not been underscored in the larger tomes on these subjects. In the last decade there have been many books on personality, adult psychopathology, and child psychopathology, but none seems to have related the three in an integrated fashion. In part, this three-volume *Comprehensive Handbook of Personality and Psychopathology* (CHOPP), with the first volume on *Personality and Everyday Functioning,* the second on *Adult Psychopathology,* and the third on *Child Psychopathology,* is devoted to remedying this gap in the literature. Another unique feature of CHOPP appears in the volumes on *Adult Psychopathology* and *Child Psychopathology,* where impact of adult and child psychopathology on family, work, school, and peers is highlighted, in addition to the relation of specific psychopathology to normal development. Given the marked importance of such impact, contributors were asked to delineate the negative impact of psychopathology on the individual's daily environments.

In light of the aforementioned features, we trust that CHOPP is timely and that it will be well received in many quarters in psychology. The work should stand as an entity as a three-volume endeavor. However, given the structure of each volume, we believe that it is possible to break up the set into individual volumes for relevant courses on personality, normal development, adult psychopathology, and child psychopathology.

Volume 1 (*Personality and Everyday Functioning*) contains 23 chapters divided into four parts (Foundations, Broad-Range Theories and Systems, Mid-Range Theories, and Special Applications). This volume is unique in that it encompasses both the broad theories of personality and those theories with a more limited range, known as mid-range theories. Broad-range theories were originally developed to explain the behavior of normal people in everyday situations. But it also is important to have a reference point for those individuals suffering from various sorts of psychopathology. Chapters in this section follow a general format where possible:

A. Statement of the Theory
B. Developmental Considerations
C. Biological/Physiological Relationships
D. Boundaries of the Theory
E. Evidence in Support of and against the Theory
F. Predictions for Everyday Functioning
    1. Family Life
    2. Work or School
    3. Retirement
    4. Recreation

Thus, Volume 1 sets the stage for Volumes 2 and 3 while at the same time standing on its own for understanding everyday life from the personality perspective.

Volume 2 (*Adult Psychopathology*) contains 30 chapters divided into three parts (General Issues, Major Disorders and Problems, Treatment Approaches). Volume 3 (*Child Psychopathology*) contains 27 chapters divided into three parts (General Issues, Major Disorders and Problems, Treatment Approaches). As previously noted, a unique feature in these volumes is mention of the impact of psychopathology on the family, work, school, and peers, often neglected in standard works. In both Volumes 2 and 3, most of the contributors have adhered to a relatively standard format for Part Two. In some instances, some of the authors have opted to combine sections.

A. Description of the Disorder
B. Epidemiology
C. Clinical Picture
D. Etiology
E. Course, Complications, and Prognosis
F. Assessment and Diagnosis
G. Impact on the Environment
    1. Family
    2. Work or School
    3. Peer Interactions
H. Treatment Implications

In addition, authors in Volume 3 include the sections Personality Development and Psychopathology and Implications for Future Personality Development. We trust that the relatively uniform format in Part Two of Volumes 2 and 3 will make for ease of reading and some interchapter comparisons within and across volumes.

Many individuals have worked very hard to bring this series of volumes to fruition. First, we thank our editor at John

Wiley, Tracey Belmont, for once again understanding the import and scope of the project and having confidence in our ability to execute in spite of interfering hurricanes, other natural events, and varied life events. Second, we thank our editors of the specific volumes for planning, recruiting, and editing. Third, we thank our eminent contributors for taking time out from their busy schedules to add yet one more writing task in sharing their expertise. Claire Huismann, our project manager at Apex Publishing, deserves special recognition for her extraordinary efforts, competence, and patience throughout the creation of this series. And finally, but hardly least of all, we thank all at John Wiley and Pacific University, including Carole Londeree, Linda James, Alison Brodhagen, Greg May, and Cynthia Polance, for their excellent technical assistance.

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Preface to Volume 1

People who find the study of psychology fascinating are usually intrigued by personality. This interest stems from recognition that, at its core, personality must describe at least some causes of behavior. Theoretical positions may quibble about whether personality is a direct, indirect, or mediating cause, but, bottom line, it is somehow causally involved with the way people behave. This view contrasts with that of some attribution theorists, who maintain the validity of the Fundamental Error of Attribution (Ross, 1977) and argue that personal dispositions are not necessarily the cause of behavior. This seems to be frequently misinterpreted as meaning that individual characteristics do not cause behavior (Funder & Colvin, 1997), an approach that we may label the *Fundamental Error of Attribution Theorists.* No one today would assert that personality causes all behavior. The interesting issues are when does personality impact behavior, to what extent does it influence behavior, and under what conditions? Personality theories must attempt to answer these questions if they are to be viable explanations of the human situation.

Both of the editors of this volume are not only psychologists, they are applied psychologists. Jay Thomas's training and practice are in industrial and organizational psychology, and Dan Segal's training and practice are in clinical psychology. Our applied focus led to other important questions about personality. We both have had the experience of studying the great and not-so-great systems of personality and wondering what those systems had to do with people in everyday life. How does personality influence family life, work life, recreation, retirement, and so forth? Further, personality and psychopathology would seem to be intimately related, but how? The Freudian system, for example, attempts to answer the latter, but often fails in the former (Dr. Freud, when is a cigar just a cigar?). This led us to ask what we should expect from a theory of personality, and we asked Theodore Millon and Seth D. Grossman in Part One, named "Foundations," to define what the goals of a theory of personality should be. Their answer not only encompasses the questions with which we began, but it also insists that personality psychology be consistent with the other sciences, most notably the evolutionary and biological sciences.

About a quarter century ago the debate over environmental versus personal determinates of behavior finally led to an interactionist perspective (Ekehammar, 1974; Magnussen & Endler, 1977). The interactionist perspective held that behavior was a product of both the person and the situation. Of course a theory that merely predicts behavior based on a current and local combination of person and environment may have some practical value, but it would not be viewed as a solution to the primary problem of how does personality cause behavior. Over time, situations mold personality and personality molds, or chooses, situations. Personality develops within an environmental context; general courses of development along with the local context must be attended to in order to understand both personality and psychopathology. Thus, the developmental systems perspective forms a foundation for understanding personality and psychopathology. This foundation is addressed by Richard M. Lerner, Jacqueline V. Lerner, Jason Almerigi, and Christina Theokas in Chapter 2.

If the environment influences personality development, then, of course, a critical component of that environment is the culture or cultures in which the person is born, develops, and lives. Cultures vary to an extraordinary degree in just about every facet of life. Culture is now seen as a pervasive influence on the development and expression of personality, and no broad system of personality is complete without incorporating it. One of the most interesting and least appreciated is the manner in which different cultures consider and use the construct of time. We asked Richard W. Brislin and Kevin D. Lo to present how culture, personality, and time work together in influencing behavior as the third and final chapter of "Foundations."

Personality is usually studied through broad systems that attempt to explain functioning in all or, at least, most areas of life and, in particular, abnormal behavior. The psychodynamic, behavioral, existential, and other such systems have become so infused into psychology that these same terms and accompanying concepts are used to describe competing approaches to psychotherapy. No handbook would be complete without thorough and incisive presentation of these major systems. In Part Two, named "Broad-Range Theories and Systems," we challenged our authors not only to think critically about the foremost theories of personality and psychopathology but also to flesh out how each approach contributes to our understanding of functioning in everyday life.

Authors of these chapters were given a structured format to follow (data and common sense permitting, of course), including a statement of the theory, developmental considerations, boundaries of the theory, evidence for and against the theory, and predictions for everyday functioning. These chapters include: "Psychodynamic Theories" (David L. Wolitzky), "Trait and Factor Theories" (Paul T. Costa Jr. and Robert R. McCrae), "Developmental Stage Theories" (Bert Hayslip Jr., Craig S. Neumann, Linda Louden, and Benjamin Chapman), "Behavioral Theories" (Madelon Y. Bolling, Christeine M. Terry, and Robert J. Kohlenberg), "Evolutionary Theories" (David A. Beaulieu and Daphne Blunt Bugental), "Cognitive Theories" (David J. A. Dozois, Paul A. Frewen, and Roger Covin), "Existential and Humanistic Theories" (Paul T. P. Wong), and "Constructivist Theories" (Jonathan D. Raskin). Although these experts on the broadband theories had a similar structure to follow, they excelled at providing thoughtful overviews and critiques of the models so that readers can understand the unique strengths and limitations of each major paradigm. Perhaps the greatest diversity among these chapters is the approaches to understanding everyday functioning, with topics as varied and far-ranging as the nature of romantic love, the choosing of one's spouse, success or failure regarding interpersonal relationships, the primal reciprocity of parent-child relationships, the emotional and academic transitions that children make in the school environment, child maltreatment, bullying at school and work, coping with retirement, choosing and valuing leisure interests and recreation, and the role of meaning-making and personal constructions in the major domains of life. These chapters provide numerous provocative and stimulating ideas for clinical intervention and research focus.

Psychologists are sometimes described as having "physics envy" because of our admiration of the success of physicists in quantifying, mathematizing, and empirically validating so many of the phenomena they study. However, even physics, with some of the greatest minds in history at its disposal, has not succeeded with a "theory of everything." So it is in psychology. The classic, broad systems of personality and psychopathology have not gained universal acceptance and sometimes seem inapplicable to many of the problems psychologists face as theoreticians, scientists, and practitioners. This was clear more than a half century ago when Robert Merton (1949) called for middle-range theories that attempted to explain behavior on a more limited scope than the prevailing broad theories of psychologists and sociologists. Even smaller in scope are limited-domain theories (cf. Miner, 1993) that attempt to explain and predict specific forms of behavior under bounded conditions. Our opinion is that the limited-domain theories are usually not as limited in scope as their authors proclaim, so Part Three is simply denoted Mid-Range Theories. The personality as depicted in these theories is not descriptive of the individual all the time, but rather it explains the situations certain people get themselves into and what they do once there. The prototype mid-range theory is John B. Miner's role motivation theory (Chapter 12), which loosely can be said to maintain that people have a repertoire of roles that they feel comfortable playing, and they tend to seek situations that allow them to play those roles. Think of John Wayne, who effectively played a limited range of characters across his many movies. One shudders to imagine him playing the pensive and indecisive Hamlet or the suave James Bond. John Wayne himself would probably have shuddered at the prospect.

For nearly a century, psychologists and career counselors have encouraged their clients to pursue careers in occupations that match their interests. The successful development of vocational-interest measures was an impetus to the wide use of testing in counseling and employee selection (Hansen & Dik, 2004). In spite of the success of interest measures, for many years there was little agreement about just what interests are and what their place in a taxonomy of human attributes should be. Crites (1969) treated interests separately from personality, although he termed them *dispositional response tendencies.* By 1991, René Dawes generally agreed with Crites but concluded that interests are manifestations or expressions of personality distinct from what is measured by standard personality inventories. Today, interests are firmly fixed as components of personality; one leader in the field even considers clusters of interests as representing personality types (Holland, 1997). Vocational interests are a critical aspect of personality as it influences everyday life, but as K. S. Douglas Low and James Rounds show in Chapter 13 controversy still abounds regarding the universality of the structure of interests.

If interests are part of personality, and because Silvia (2001) showed that interests are also emotions, then what is the relationship between personality and emotion? One current focus of research and theory is positive (PA) and negative (NA) affect and whether these are on opposite poles of a single continuum or represent different constructs altogether. Paul J. Silvia and John B. Warburton take on the PA/NA divide and address whether these are state or trait characteristics in Chapter 14.

The Declaration of Independence declares a right to "Life, Liberty, and the pursuit of Happiness" for all. Presumably the pursuit of happiness includes attaining a sense of well-being, clearly an important facet of everyday life. Removing external barriers to happiness and well-being may be a political process, but internal barriers abound as well. How one

thinks about life events, obstacles, and even good fortune seems to have an important impact on feelings of well-being. Following the issue of the relation of emotions to personality we now have to consider how cognition and personality are related. In Chapter 15 Deborah Wise and Johan Rosqvist explain how explanatory style influences well-being and how this may be considered an aspect of personality. Attitudes are largely cognitive constructs and they impact personality as well. Life is stressful. In the extreme case, about 50 percent of adults have been exposed to some form of trauma, but only about 10 percent of women and 5 percent of men (overall about 7 percent) develop post-traumatic stress disorder (PTSD) (Ozer & Weiss, 2004). It is a matter of considerable importance to determine why so many people seem resilient in the face of life's vicissitudes whereas a large minority are not resilient. According to Salvatore R. Maddi, hardiness, or the courage to face a stressful life, is a critical piece of the puzzle, as he discusses in Chapter 16. Finally, for some people the pursuit of happiness involves the pursuit of sensations, of risks. These people may at times appear fearless to the rest of us. In Chapter 17 Genevieve L. Y. Arnaut builds on the earlier work of Marvin Zuckerman (1994) to define sensation seeking as a personality trait and reviews the research of the past decade in establishing sensation seeking as an important and useful mid-range theory of personality.

One unifying characteristic of the mid-range theories is they are both theoretical and immediately practical. Because they are precise about predictions, conditions, and boundaries, their survival is far more subject to the results of empirical tests. Consequently, the chapters in Part Three tend to have an empiricist edge. Theories are presented, research results are provided, and the theories are revised in light of the findings to a greater extent than is the case for the broad-range systems.

Part Four, labeled "Special Applications," obviously includes aspects of personality and everyday life that we believe are important but that do not fit well into the previous sections of the volume. For most of these, the special application means the situation—the work organization. It is noteworthy that all of the authors of these chapters lead double lives as scholars and practitioners. Their academic side leads them to focus on the neatness of theory: internal consistency, relations to other theories, and research support. Their practitioner side demands practicality and a focus on what the theory means in the real world. This has led to some exciting and, we believe, seminal contributions to the relationship between personality and everyday life. Leadership theorists have recently been struck by the notion of the transformational leader, a person whose achievements stem primarily from the ability to establish a common vision and move followers to make that vision a reality. In popular parlance we often say the transformational leader does this through the strength of his or her personality. Is personality really part of transformational leadership? Is transformational leadership part of personality? These issues are addressed by Ram Aditya in Chapter 18 along with an extensive review of the research connecting personality to transformational leadership.

Person-environment fit (P-E fit) is a consistent theme throughout much of psychology. Probably everyone believes that P-E fit is important, but few have considered how to conceptualize how such a fit really comes about and what it means. We challenged John F. Binning, James M. LeBreton, and Anthony J. Adorno to reconceptualize what P-E fit is and how it relates to performance (loosely defined to include any aspect of performance). The result in Chapter 19 is a new theoretical statement that will generate interest and research for the next several years. In Chapter 20 a different permutation of the same authors also wrote on the phenomenon of subclinical psychopaths. Subclinical psychopaths are people who have many of the characteristics of antisocial personality disorder but are not severe enough to warrant a diagnosis. Such individuals are a matter of much concern in organizations, where they can generate considerable disruption and, occasionally, do some good. The very concept of *subclinical* raises interesting issues for the study of personality and psychopathology because it implies a gradation along a continuum rather than a threshold effect in which a person on one side of a line technically is not disordered whereas a person on the other side is disordered. Continuing the P-E fit theme is Daniel J. Svyantek and Jennifer P. Bott's Chapter 21 relating organizational climate, personality, and organizational behavior. This has been an area that has not received the research attention it deserves, partly because such studies are difficult to conceive and implement. As a consequence, much of their chapter is a review of the relevant literature followed by an example of how these issues can be researched.

The final chapters in Part Four change the pace a little to set the stage for the next two volumes of the handbook. In Chapter 22 Paula G. Williams and Heather E. Gunn examine gender differences in personality, particularly in the Big Five personality traits, and gender differences in psychopathology. They also incisively describe and scrutinize possible models that link gender, personality, and psychological adjustment. Finally, in Chapter 23 John D. Mayer closes the volume by explaining how the diagnoses in the most commonly used diagnostic system, the *Diagnostic and Statistical Manual of Mental Disorders,* 4th edition, text revision (*DSM-IV-TR;* American Psychiatric Association, 2000), can be organized based on modern personality theory. Considering the *DSM-IV-TR* was developed from a (purported) atheoretical stance,

Mayer's exposition is an impressive and noteworthy accomplishment. It allows for an informed and systematic transition from *Personality and Everyday Functioning* to personality and psychopathology, the theme of Volumes 2 and 3.

This volume is the product of many people's hands and minds. The chapter authors invested ingenuity and labor to create the body of the book, and we are grateful to them for their contributions. Linda James, Carole Londeree, and Alison Brodhagen were extraordinarily helpful in preparing the manuscript. Tracey Belmont and the staff of John Wiley & Sons were critical in completing this project. Finally, our friend and colleague (and Jay Thomas's coeditor in chief of the series) Michel Hersen has been a tremendous influence on this project from start to finish. Only those who have worked with Michel can appreciate the nature of his contributions.

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PART ONE

FOUNDATIONS

CHAPTER 1

Goals of a Theory of Personality

THEODORE MILLON AND SETH D. GROSSMAN

THEORETICAL FUNCTIONS

Kurt Lewin wrote some 70 years ago (1936) that "there is nothing so practical as a good theory." Theory, when properly fashioned, ultimately provides more simplicity and clarity than unintegrated and scattered information. Unrelated knowledge and techniques, especially those based on surface similarities, are a sign of a primitive science, as has been effectively argued by modern philosophers of science. All natural sciences have organizing principles that not only create order but also provide the basis for generating hypotheses and stimulating new knowledge. A good theory not only summarizes and incorporates extant knowledge but is heuristic, that is, has "systematic import," as Hempel has phrased it (1961), in that it originates and develops new observations and new methods. It is unfortunate that the number of theories that have been advanced to explain clinical phenomena is directly proportional to the internecine squabbling found in the literature. Paroxysms of "scientific virtue" and pieties of "methodological purity" rarely are exclaimed by theorists themselves but rather by their less creative disciples.

Of course, formal theory should not be pushed far beyond the data, and its derivations should be linked wherever feasible to established observations. However, even a reasonable speculative framework can be a compelling instrument for helping coordinate and give consonance to complex and diverse observations—if its concepts are linked where possible to relevant facts in the empirical world. By probing beneath surface impressions to inner structures and processes, previously isolated facts and difficult-to-fathom data may yield new relationships and expose clearer meanings. Progress does not advance by brute empiricism alone, that is, by merely piling up more descriptive and more experimental data. What is elaborated and refined in theory is understanding, an ability to see relations more plainly, to conceptualize categories more accurately, and to create greater overall coherence in a subject, that is, to integrate its elements in a more logical, consistent, and intelligible fashion.

Unfortunately, the formal structure of most clinical theories of the past has been haphazard and unsystematic; concepts often were vague, and procedures by which empirical consequences could be derived were tenuous, at best. Instead of presenting an orderly arrangement of concepts and propositions by which hypotheses could be clearly derived, most theorists presented a loosely formulated pastiche of opinions, analogies, and speculations. Brilliant as many of these speculations may have been, they often have left the reader dazzled rather than illuminated. Though many theories in personality generated brilliant deductions and insights, few of these ideas could be attributed to their structure, the clarity of their central principles, the precision of their concepts, or their formal procedures for hypothesis derivation. It is here where the concepts and laws of adjacent sciences may come into play, providing models of structure and derivation that may undergird and parallel the principles and observations of personology.

A unifying theory for personology must coalesce the disparate schools of personality study, not in a haphazard way that merely identifies or records their separate contributions, but in a manner that integrates alternative perspectives at a deeper level, that is, one that synthesizes the several viewpoints intrinsically. Whereas eclectic approaches have as their benefit the advantages of open-mindedness and comprehensiveness, they are likely to generate little more than a measure of illusory psychic comfort. A substantively unifying paradigm will interweave fundamental relationships that exist among the cognitive, biological, intrapsychic, and behavioral elements that inhere in the person. This will, for example, generate synergistic therapeutic strategies such as those that have been demonstrated by employing combinatorial treatment approaches (e.g., cognitive-behavioral therapy [CBT], pharmacologic/family interventions). However, even more synergy is possible and desirable.

Theories that focus their attention on only one level of data (e.g., intrapsychic, cognitive) cannot help but generate formulations that are limited by their narrow preconceptions; their formulations must, inevitably, be constrained by the

simple fact that psychological processes are multidetermined and multidimensional in expression. Contrariwise, those who endorse a single-level approach assert that theories that seek to encompass the totality of personality structure and functions will sink in a sea of data that can be neither charted conceptually nor navigated methodologically. Clearly, those who undertake to propose integrative or holistic theories are faced with the formidable task not only of exposing the inadequacies of single-level theories but of providing a convincing alternative that is both comprehensive and systematic. The reader must judge whether such theorists possess the analytic skills necessary not only to penetrate the complex labyrinths of one's mind and behavior but to chart their intricate pathways in a manner that is both conceptually clear and methodologically testable.

In this chapter, we will go beyond current conceptual boundaries in personology and incorporate the contributions of more firmly grounded adjacent sciences. We believe that much of psychology remains adrift, divorced from broader spheres of scientific knowledge, isolated from deeper and more fundamental, if not universal, principles. Psychology has built a patchwork quilt of dissonant concepts and diverse data domains. Preoccupied with but a small part of the larger pie, or fearing accusations of reductionism, we have failed to draw on the rich possibilities that may be found in both historic and adjacent realms of scholarly pursuit. With notable exceptions, there are few cohering concepts that would connect current personologic topics to those of our sister sciences of nature. We seem trapped in (obsessed with?) contemporary fads and horizontal refinements. Integrative schemata and cohesive constructs that link relevant personologic observations to other fields of science are needed. This goal—albeit a rather grandiose one—would be to refashion our patchwork quilt into a well-tailored and cohesive tapestry that interweaves the diverse forms in which nature expresses itself.

No better sphere within the psychological sciences undertakes such a synthesis than the subject matter of personology, the study of persons. Persons are the only organically integrated system in the psychological domain, evolved through the millennia and inherently created from birth as natural entities rather than culture-bound and experience-derived gestalts. The intrinsic cohesion of persons is not merely a rhetorical construction but an authentic substantive unity. Personologic features may be differentiated into normal or pathological and may be partitioned conceptually for pragmatic or scientific purposes, but they are segments of an inseparable biopsychosocial entity. Arguing in favor of establishing explicit links between the several domains of personologic science calls neither for a reductionistic philosophy, a belief in substantive identicality, or efforts to so fashion such links by formal logic. Rather, one should aspire to their substantive concordance, empirical consistency, conceptual interfacing, convergent dialogues, and mutual enlightenment.

The remainder of this chapter will attempt to address several key questions concerning the nature of personology, its foundations, and future directions.

HOW CAN WE CREATE A SCIENTIFIC STRUCTURE FOR THE SUBSTANTIVE SUBJECT OF PERSONOLOGY?

Integrative consonance such as previously described is not an aspiration limited to the physical sciences but is a worthy goal within personologic science as well. If personology is ever to become a full-fledged science, rather than a potpourri of miscellaneous observations and ideas, the overall and ultimate architecture of the field must be comprehensively structured, that is, given a scaffold or framework within which its diverse elements and principles can be located and coordinated. For example, personality traits or types should not stand alone, unconnected to other realms of scientific discourse. They should be anchored to an empirically supportable theory, on the one hand, and prove instrumental for clinical assessment and pragmatic for therapeutic action, on the other. The overall arrangement of personology should seek to coordinate all of the separate realms that make up its scientific and applied efforts, namely a foundation in the universal laws of nature, a coordinated psychological theory, a derivable taxonomic classification, a series of operational assessment tools, and a flexible yet integrated group of remediation techniques. As recorded in Millon (2000), rather than developing independently and being left to stand as autonomous and largely unconnected functions, a truly mature personologic science, one that is designed to create a synergistic bond between its components, will be structured explicitly to embody the following five elements:

Universal scientific principles, that is, it should be grounded in the ubiquitous laws of nature. Despite varied forms of expression (in physics, chemistry, psychology, for example), these principles should reflect fundamental evolutionary processes and thereby provide an undergirding framework for guiding and constructing subject-oriented theories.

A subject-oriented theory, that is, explanatory and heuristic conceptual schemata of nature's expression in what we call personology and psychopathology. This theory should be consistent with established knowledge in both its own and related sciences (e.g., biology, sociology), and reasonably accurate propositions concern-

ing normal functioning and clinical conditions should be both deduced and understood from it, enabling thereby the development of a formal classification system.

A taxonomy of personality patterns and clinical syndromes, that is, a classification and nosology derived logically from the personology/psychopathology theory. These should provide a cohesive organization within which its major categories can be readily grouped and differentiated, permitting thereby the development of relevant and coordinated assessment instruments.

Integrated clinical and personality assessment tools, that is, instruments that are empirically grounded and quantitatively sensitive. These should enable the theory's propositions and hypotheses to be operationally investigated and evaluated and the categories making up its taxonomy to be readily identified (diagnosed) and measured (dimensionalized), specifying therefrom target areas for interventions.

Personalized therapeutic interventions, that is, coordinated strategies and modalities of treatment. These should be designed in accord with the theory, incorporate and synthesize diverse therapeutic techniques (interpersonal, cognitive, intrapsychic, biochemical), and be oriented to modify both problematic clinical and personologic characteristics, consonant with professional standards and social responsibilities.

The coordination of all five elements (i.e., making them reciprocally enhancing and mutually reinforcing) constitutes the structure of a personologic science. Working together, these components will produce integrated knowledge that is greater than the sum of its individual constituent parts. It is the synthesis of these structural elements that have been disconnected and pursued independently in the twentieth century that is sought. Just as each person is an intrinsic unity, each component of a personologic science should not remain a separate element of a potpourri of unconnected parts. Rather, each facet of our work should be integrated into a gestalt, a coupled and coordinated unity in which the whole becomes more informative and useful than its individual parts.

WHY SHOULD EVOLUTIONARY THEORY SERVE AS THE SUBSTANTIVE BASIS OF UNIVERSAL PRINCIPLES FOR PERSONOLOGY?

In our view, all basic or applied sciences (physics, engineering, personology) are outgrowths of a common conceptual grounding in evolution theory. All disciplines of science, once achieving sufficient maturity, are natural expressions of the operation of evolutionary principles. With reference to the preceding discussion of the structure of a science, each of these disciplines is composed of subject-area theories (e.g., elementary particle physics, personology), formal classification taxonomies (e.g., composition of synaptic neurochemical substances, the International Classification of Diseases [ICD]), operational measuring instruments (e.g., cyclotron apparatus, the Minnesota Multiphasic Personality Inventory (MMPI)), and, when applied, efficacious methods of effecting change (e.g., locomotive engine, cognitive therapy). As noted in prior paragraphs, we believe that only when all of the structural components of a science are articulated and coordinated can a science and its research techniques achieve full empirical validity and instrumental efficacy.

We are reaching a time, we believe, when our knowledge of personology can be structured in a manner akin to our more advanced sciences. By employing universal principles of evolutionary theory as a guide to understanding the components of personality study, we can begin to formulate theoretical conceptual hypotheses that will explain our subject domain. Such principles also will enable us to construct a taxonomic system derived from the theory and assessment tools that can identify the categories and dimensions composing the taxonomy and then point to the clinical characteristics that will serve as therapeutic targets. In effect, a substantive clinical paradigm based on evolutionary principles that is structured in this manner will furnish a guide to where, how, and which research investigations and treatment interventions are wisest to employ. Failing to build a substantive and structured paradigm will keep us on the same scattered and helter-skelter course that has plagued the field of personality study since time immemorial. Assuredly, brilliant theoretical ideas have been proposed in the past, as have classification systems and instruments been generated as well as imaginative therapies developed, but our field remains stuck in a babel of conflicting and confusing perspectives in which little has changed in the past half-century and little has been synthesized or structured logically. Integrating the several structural components that make up a personologic science, aligned with a generative substantive paradigm such as evolutionary theory, will provide us with an overarching framework worthy of our collaborative efforts.

The role of evolution may be most clearly grasped when it is paired with the principles of ecology. So conceived, the procession of evolution in physics, chemistry, and biology represents a series of serendipitous transformations in the structure of a phenomenon (for example, elementary particle, chemical molecule, living organism) that appear to promote survival in both its current and its future environments

(Millon, 1990). Such processions usually stem from the consequences of either random fluctuations (such as mutations) or replicative reformations (for example, recombinant mating) among an infinite number of possibilities—some simpler and others more complex, some more and others less organized, some increasingly specialized and others not. Evolution is defined, then, when these restructurings enable a natural entity (for example, a biological species) or its subsequent variants to survive within present and succeeding ecologic milieus. It is the continuity through time of these fluctuations and reformations that makes up the sequence we characterize as evolutionary progression.

In recent times, we have seen the emergence of *sociobiology,* a new science that explores the interface between human social functioning and evolutionary biology (Cosmides & Tooby, 1987; Daly & Wilson, 1978; Rushton, 1985; Symons, 1992; Wilson 1975, 1978, 1998). Contemporary formulations by psychologists have likewise proposed the potentials and analyzed the problems involved in cohering evolutionary notions, individual differences, and personality traits (e.g., Buss, 1984, 1994). The concept of personology, first formulated by Murray (1938), has been extended in the senior author's writings (Millon, 1990) to parallel the concept of sociobiology. It represents a field of science and study that defines and encompasses the broad subject of personality. It is intended to serve as a conceptual model and formal theory that utilizes evolutionary principles, generates a formal taxonomy, and formulates a basis for clinical assessments and personalized therapies (Millon with Davis, 1996; Millon, 1997, Millon with Grossman, Meagher, Millon, & Everly, 1999).

The common goal among personologic scientists is not only the desire to apply common principles across diverse scientific realms but also to reduce the enormous range of personality concepts that have proliferated through history; this might be achieved by exploring the power of evolutionary theory to simplify and order previously disparate features. For example, all organisms seek to avoid injury, find nourishment, and reproduce their kind if they are to survive and maintain their populations. Each species displays commonalities in its adaptive or survival style. Within each species, however, there are differences in style and differences in the success with which its various members adapt to the diverse and changing environments they face. In these simplest of terms, *personality* would be employed as a term to represent the more or less distinctive style of adaptive functioning that a particular organism of a species exhibits as its relates to its typical range of environments. *Normal personalities,* so conceived, would signify the utilization of species-specific modes of adaptation that are effective in average or expectable environments. Disorders of personality, or what we would prefer to term *pathological personality patterns,* would represent different ways of maladaptive functioning that can be traced to psychic deficiencies, trait imbalances, or internal conflicts that characterize some members of a species as they relate to the environment they routinely face.

During its life history an organism develops an assemblage of traits that contribute to its individual survival and reproductive success, the two essential components of fitness formulated by Darwin. Such assemblages, termed *complex adaptations* and *strategies* in the literature of evolutionary ecology, are close biological equivalents to what we in psychology have conceptualized as *personality styles.* In biology, explanations of a life-history strategy of adaptations refer primarily to biogenic variations among constituent traits, their overall covariance structure, and the nature and ratio of favorable to unfavorable ecologic resources that have been available for purposes of extending longevity and optimizing reproduction. Such explanations are not appreciably different from those used to account for the development of normal and pathological personality styles.

Bypassing the usual complications of analogies, a relevant and intriguing parallel may be drawn between the *phylogenic evolution* of a species genetic composition and the *ontogenic development* of an individual organism's adaptive strategies (that is, its "personality style"). At any point in time, a species will possess a limited set of genes that serve as trait potentials. Over succeeding generations the frequency distribution of these genes likely will change in their relative proportions depending on how well the traits they undergird contribute to the species "fittedness" within its varying ecological habitats. In a similar fashion, individual organisms begin life with a limited subset of their species' genes and the trait potentials they subserve. Over time the salience of these trait potentials—not the proportion of the genes themselves—will become differentially prominent as the organism interacts with its environments, learning from these experiences which of its traits fit best, that is, are optimally suited to its ecosystem. In phylogenesis, then, actual gene frequencies change during the generation-to-generation adaptive process, whereas in ontogenesis it is the salience or prominence of gene-based traits that changes as adaptive learning takes place. Parallel evolutionary processes occur, one within the many generations of life of a species, the other within the limited life of a single organism. What is seen in the individual organism is a shaping of latent potentials in adaptive and manifest styles of perceiving, feeling, thinking, and acting; these learned and distinctive ways of adaptation, engendered by the interaction of biologic endowment and social experience, constitute, in our view, the elements of what are termed personality styles, normal or abnormal. Thus the formative process of a single

lifetime parallels gene redistributions among species during their evolutionary history.

It may be a bit presumptuous, but what the senior author has proposed in his recent books and papers may be seen as akin to Sigmund Freud's abandoned *Project for a Scientific Psychology* (1895/1924), to Henry Murray's seminal thesis in his proposal for a field he christened personology (1938), and to Edward Wilson's recent and controversial *Sociobiology* (1975). Each were worthy endeavors to advance our understanding of human nature; this they did by exploring interconnections between scientific disciplines that evolved ostensibly unrelated bodies of research and manifestly dissimilar languages.

Pre-Darwinian theorists such as Linnaeus limited themselves to apparent similarities and differences between animals as a means of constructing their taxonomic categories. Darwin was not seduced by overt appearances. Rather, he sought to understand the principles by which these surface features came about. His classifications were based not only on descriptive qualities but on theoretically explanatory ones. Both the spirit and substance of Darwin's explanatory principles guide the proposals of the theoretical ideas that follow. The principles employed are similar to those that Darwin developed in explicating the origins of species. However, these efforts seek not to derive the origins of species, but the structure and style of each of the normal styles and clinical personality syndromes described in the ICD and *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV;* American Psychiatric Association, 1994), each of which were based on psychiatric observation and inference alone. Aspects of the brief formulations recorded here have been elaborated in numerous published books by the senior author (Millon, 1969, 1981, 1990; Millon with Davis, 1996; Millon et al., 1999).

A rough model concerning the styles of clinical and personality patterns may be derived with reference to four spheres in which evolutionary and ecological principles are operative. They have been labeled *existence, adaptation, replication,* and *abstraction.*

Existence relates to the serendipitous transformation of states that are more ephemeral, less organized, or both into those possessing greater stability, greater organization, or both. It pertains to the formation and sustenance of discernible phenomena, to the processes of evolution that enhance and preserve life, and to the psychic polarity that I have termed *pleasure* and *pain. Adaptation* refers to homeostatic processes employed to foster survival in open ecosystems. It relates to the manner in which extant phenomena adapt to their surrounding ecosystems, to the mechanisms employed in accommodating to or in modifying these environments, and to the psychic polarity termed *passivity* and *activity. Replication* pertains to reproductive styles that maximize the diversification and selection of ecologically effective attributes. It refers to the strategies utilized to replicate ephemeral organisms, to the methods of maximizing reproductive propagation and progeny nurturance, and to the psychic polarity labeled as *self* and *other. Abstraction* incorporates the sources employed to gather knowledge about the experiences of life and the manner in which this information is registered and transformed. Here, we are looking at *styles of cognizing*—differences (first) in what people attend to in order to learn about life and (second) how they process information; that is, what they do cognitively to record this knowledge and make it useful to themselves. They constitute the reflective capacity to transcend the immediate and concrete; how they interrelate and synthesize the diversity of experience; how they represent events and processes symbolically; and how they weigh, reason, and anticipate. In essence, these abstraction powers signify a quantum leap in evolution's potential for human change and adaptation.

As noted, the polarities articulated here in evolutionary terms have forerunners in psychological theory that may be traced back to the early 1900s. A number of pre–World War I theorists proposed a set of three parallel polarities that were used time and again as the raw materials for constructing psychological processes. For example, Freud wrote in 1915 (1925) what many consider to be among his most seminal papers, those on metapsychology and, in particular, the section entitled "Instincts and Their Vicissitudes," speculations that foreshadowed several concepts developed more fully later, both by himself and others. Although he failed to pursue their potentials, the ingredients Freud formulated for his tripartite polarity schema were drawn on by his disciples many decades later, seen prominently in the recent growth of ego psychology, self psychology, and object relations theory (see Millon, 1990, and Millon & Grossman, 2005, for a fuller discussion of this recent history).

WHAT ARE THE ORIGINS OF NORMAL STYLES AND PATHOLOGICAL PATTERNS OF PERSONALITY?

The culling of that which we call personality from a universe of influences takes place through the addition of successive constraints on system functioning. Each child displays a wide variety of behaviors in the first years of life. Although exhibiting a measure of consistency consonant with his or her constitutional disposition, the way in which the child responds to and copes with the environment tends to be largely

spontaneous, changeable, and unpredictable. These seemingly random and capricious behaviors serve an important exploratory function. The child is trying out a variety of behavioral alternatives for dealing with his or her environment. Over time the child begins to discern which of these actions enable him to achieve his or her desires and avoid discomforts. Endowed with certain capacities, energies, and temperaments, and through experience with parents, siblings, relatives, and peers, the child learns to discriminate which activities are both permissible and rewarding and which are not.

Tracing this sequence over time, it can be seen that a shaping process has taken place in which the child's initial range of diverse behaviors gradually becomes narrowed, selective, and, finally, crystallized into preferred ways of relating to others and coping with this world. These learned behaviors not only persist but are accentuated as a result of being repetitively reinforced by a limited social environment. Given continuity in constitutional equipment and a narrow band of experiences for learning behavioral alternatives, the child acquires a pattern of traits that are deeply etched and difficult to modify. These characteristics make up his or her personality—that is, ingrained and habitual ways of psychological functioning that emerge from the individual's entire developmental history and that, over time, come to characterize the child's style.

The interaction between biological and psychological factors is not unidirectional such that biological determinants always precede and influence the course of learning; the order of effects may be reversed, especially in early development. Biological maturation is dependent on favorable environmental experience, and the development of the biological substrate itself can be disrupted, even totally arrested, by depriving the maturing organism of stimulation at sensitive periods of neurological growth. Nevertheless, there is an intrinsic continuity throughout life. The authors contend that childhood events are more significant to personality formation than later events and that later behaviors are related in a determinant way to early experience. Despite an occasional disjunction in development, there is an orderly and sequential continuity, fostered by mechanisms of self-perpetuation and social reinforcement, that links the past to the present.

Deeply embedded behavior patterns may arise as a consequence of psychological experiences that affect developing biological structures so profoundly as to transform them into something substantially different from what they might otherwise have been. Circumstances that exert so profound an effect are usually those experienced during infancy and early childhood, a view persuasively articulated in the seminal writings of Freud at the turn of the century. The observations of ethologists on the consequences of early stimulation upon adult animal behaviors add substantial evidence for this position (Rakic, 1985, 1988). Experimental work on early developmental periods also has shown that environmental stimulation is crucial to the neurological maturation of psychological functions. In essence, psychological capacities fail to develop fully if their neurological substrates are subjected to impoverished stimulation; conversely, these capacities may develop to an excessive degree as a consequence of enriched stimulation (Lipton & Kater, 1989).

What evidence is there that serious consequences may result from an inadequate supply of early psychological and psychosensory stimulation? Numerous investigators (e.g., Beach & Jaynes, 1954; Killackey, 1990; Melzick, 1965; Rakic, 1985, 1988; Scott, 1968; Thompson & Schaefer, 1961) have shown that impoverished early environment results in permanent adaptational difficulties. For example, primates reared in isolation tend to be deficient in traits such as emotionality, activity level, social behavior, curiosity, and learning ability. As adult organisms they possess a reduced capacity to cope with their environments, to discriminate essentials, to devise strategies, and to manage stress.

Conversely, intense levels of early stimulation also appear to have effects, at least as experimentally demonstrated in lower mammalian species. Several investigators have demonstrated that enriched environments in early life resulted in measurable changes in brain chemistry and brain weight. Others have found that early stimulation accelerated the maturation of the pituitary-adrenal system, whereas equivalent later stimulation was ineffective. On the behavioral level, enriched environments in animals enhance problem-solving abilities and the capacity to withstand stress. More interesting, however, is the possibility that some kinds of overstimulation may produce detrimental effects. Accordingly, excess stimulation would result in overdevelopments in neurobiological substrates that are disruptive to effective psychological functioning. Just as excess food leads to obesity and physical ill health, so, too, may the psychostimulation of certain neural substrates, such as those subserving emotional reactivity, dispose the organism to overreact to social situations. Thus, when neurological dispositions that subserve potentially problematic personality traits become prepotent, they may disrupt what would otherwise be a more balanced pattern of psychological functioning.

Another and related question to be posed is does the timing of environmental events have any bearing on their effect? The concept of sensitive periods of development states that there are limited time periods during which particular stimuli are necessary for the full maturation of an organism, after which they will have minimal or no effects. Without the requisite stimulation, the organism will suffer various malde-

velopments that are irremediable and cannot be compensated for at a later date.

The senior author has proposed four neurodevelopmental stages through which individual human organisms progress that are paralleled by a set of four psychosocial tasks that must be fulfilled to achieve adequate growth in later life. The first three pairings of stages and tasks, and in part the fourth as well, are shared by all mammalian species; they recapitulate the four evolution phases referred to earlier: existence, adaptation, replication, and abstraction. Each evolutionary phase has its ontogenetic parallel; that is, each individual organism moves through neurodevelopmental stages that have functional psychological capacities related to their respective phases of evolution. Within each stage, every individual acquires personologic dispositions representing a balance or predilection toward one of the two polarity inclinations; which inclination emerges as dominant over time results from the inextricable and reciprocal interplay of intraorganismic and extraorganismic factors. Thus, during early infancy, the primary organismic function is to continue to exist. Here, each evolution phase has supplied two contrasting polarity components that orient the infant toward life-enhancing environments (pleasure) and away from life-threatening ones (pain).

Personality development should be coordinated with several fundamental polarity orientations derived from evolutionary principles. These will be briefly noted; they are more extensively discussed in Millon, 1990, Millon with Davis, 1996, and Millon, Grossman, Millon, Meagher, & Ramnath, 2004. Although four seemingly distinct stages of neurodevelopment have been differentiated as sequential stages, it is important to state at the outset that all four stages and their related evolutionary functions begin in utero and continue throughout life, that is, they proceed simultaneously and overlap throughout the ontogenetic process. For example, the elements that give shape to gender identity are underway during the sensory-attachment phase, although at a modest level, as do the elements that give rise to attachment behaviors continue and extend well into puberty. Stages are differentiated only to bring attention to periods of development when certain processes and tasks are prominent and central. The concept of sensitive periods implies that developmental stages are not exclusionary; rather, they merely demarcate a period in life when certain developmental potentialities are salient in their maturation and in their receptivity to relevant life experiences. Note again that each evolutionary phase is related to a different stage of ontogenetic development. For example, life enhancement–life preservation corresponds to the sensory-attachment stage of development in that the latter represents a period when the young child learns to discriminate between those experiences that are enhancing (pleasurable) and those that are threatening (painful).

As evident in the foregoing, it would have been an error to leave the discussion of evolutionary-neuropsychological development with the impression that personality growth was merely a function of stimulation at sensitive maturational periods. Impoverishment and enrichment have their profound effects, but the quality or kind of stimulation the youngster experiences is often of greater importance. The impact of parental harshness or inconsistency, of sibling rivalry or social failure, is more than a matter of stimulus volume and timing. Different dimensions of experience take precedence as the meaning conveyed by the source of stimulation becomes clear to the growing child.

Both neurological and learning concepts can be utilized to describe changes in response probabilities arising from prior stimulus exposure. But, because learning concepts are formulated in terms of behavior-environment interactions, it is reasonable, when discussing the specific properties of qualitatively discriminable stimulus events, to utilize the conceptual language of learning. Moreover, the principles derived from learning theory and research describe subtle features of psychological behavior that cannot begin to be handled intelligently in neurological terms. Moreover, further reason for the stage-specific significance of experience is the observation that children are exposed to a succession of psychosocial tasks that they are expected to fulfill at different points in the neurodevelopmental sequence. These stage-specific tasks are timed to coincide with periods of rapid neurological growth (e.g., the training of bladder control is begun when the child possesses the requisite neural equipment for such control; similarly, children are taught to read when intracortical development has advanced sufficiently to enable a measure of consistent success). In short, a reciprocity appears between periods of rapid neurological growth and exposure to related experiences and tasks. To use Erikson's (1950) terms, the child's newly emerging neurological potentials are challenged by a series of crises with the environment. Children are especially vulnerable at these critical stages because experience both shapes their neurological patterns and results in learning a series of fundamental attitudes about themselves and others. During the sensory-attachment stage, for example, when pleasure and pain discriminations are central, the critical attitude learned deals with one's trust of others. The sensorimotor-autonomy stage, when the progression from passive to active modes of adaptation occurs, is noted by learning attitudes concerning adaptive confidence. During the pubertal gender-identity stage when the separation between self and other roles is sharpened, we see the development of reasonably distinct sexual roles. The intracortical-integrative

stage, when the coordination between intellectual and affective processes develops, is characterized by the acquisition of a balance between reason and emotion.

The premise that early experience plays a central role in shaping personality attributes is one shared by numerous theorists. To say the preceding, however, is not to agree as to which specific factors during these developing years are critical in generating particular attributes, nor is it to agree that known formative influences are either necessary or sufficient. There is reason to ask whether developmental analysis is even possible in personality studies in light of the complex and variable character of developmental influences. Can this most fundamental of scientific activities be achieved given that we are dealing with an interactive and sequential chain of causes composed of inherently inexact data of a highly probabilistic nature in which even the very slightest variation in context or antecedent condition often of a minor or random character produces highly divergent outcomes? Because this looseness in the causal network of variables is unavoidable, are there any grounds for believing that such endeavors could prove more than illusory? Further, will the careful study of individuals reveal repetitive patterns of personologic congruence, no less consistency among the origins of such diverse attributes as overt behavior, intrapsychic functioning, and biophysical disposition? And will attribute commonalities and coherence prove to be valid phenomena, that is, not merely imposed upon observed data by virtue of observational expectation or theoretical bias?

The yearning among researchers and theorists of all viewpoints for a neat package of developmental influences simply cannot be reconciled with the complex philosophical issues, methodological quandaries, and difficult-to-disentangle subtle and random factors that give shape to personality. In the main, almost all developmental theses today are, at best, perceptive conjectures that ultimately rest on tenuous empirical grounds, reflecting the views of divergent schools of thought positing their favorite hypotheses. These speculative notions should be conceived as questions that deserve continued evaluation rather than promulgated as the gospel of confirmed fact.

It should be noted that data and inferences concerning past experiences, especially those of early childhood, are of limited, if not dubious, value. For example, events and relationships of the first years of life are notably unreliable, owing to the lack of clarity of retrospective memories. The presymbolic world of infants and young toddlers comprises fleeting and inarticulate impressions that remain embedded in perceptually amorphous and inchoate forms, forms that cannot be reproduced as the growing child's cognitions take on a more discriminative and symbolic character. What is recalled, then, draws upon a highly ambiguous palette of diffuse images and affects, a source of which recaptured content is readily subject both to direct and to subtle promptings from contemporary sources, for example, a theoretically oriented researcher or therapist.

Arguments pointing to thematic or logical continuities between the character of early experience and later behaviors, no matter how intuitively rational or consonant with established principles they may be, do not provide unequivocal evidence for their causal connections. Different, and equally convincing, developmental hypotheses can be and are posited. Each contemporary explication of the origins of most personality disorders is persuasive yet remains but one among several plausible possibilities.

For pedagogical purposes, personality can be heuristically decomposed into various trait domains. Although these facilitate clinical investigation and experimental research, no such division exists in reality. Personality development represents the complex interplay of elements within and across each of these domains. Not only is there an interaction between person and environment, there also are interactions and complex feedback loops operating within the person as well at levels of organization both biological and psychological.

Because all scientific theories are to some extent simplifications of reality—the map rather than the territory—all theories involve trade-offs between scope and precision. Most modern developmental models are organismic and contextual in character. By embracing a multitrait model we might aspire to completely explain personality development as a totality. However, we must simultaneously accept the impossibility of any such explanation. Thus, we must posit the existence or reality of experimental error, that is, that the interaction of personality variables is often synergistic, combinatorial, and nonlinear rather than simply additive. Certain conceptual gimmicks could be used to recover this imprecision or to present an illusion of precision. We might give an exposition of personality-disorder development from a single-domain perspective, whether cognitive, psychodynamic, or behavioral. Such explanations might increase precision, but this feat would be accomplished only by denying essential aspects of the whole person. Such reductionism with respect to content is incommensurate with a guiding metaphor, that of the total organism. Thus, whereas any one personologic domain could be abstracted from the whole in order to give an exposition of personality development from a particular and narrow perspective, this would not do justice to the entire fabric of the person. Further, the interaction of influences persists over time. The course of later characteristics is related intrinsically to earlier events; an individual's personal history is itself a constraint on future development. Person-

ality development must be viewed, therefore, as a process in which organismic and environmental forces display not only a mutuality and circularity of influence but also an orderly and sequential continuity throughout the life of the individual.

We have contended that childhood experiences are crucially involved in shaping lifelong patterns of behavior. A few words should be said, however, about why early experience should be judged as more important than comparable later experiences. Throughout evolutionary history, early life has been a preparation for later life. Until recently, and except at times of massive environmental upheaval, all species have lived in the same basic ecological niches throughout their history. Under these conditions, the experiences of early life provide an opportunity for the young organism to acquire sensitivities and behaviors that enable it to function more adequately in its environment. It learns to become acquainted with the elements of its habitat, differentiating those components that are gratifying from those that are endangering. It learns to imitate the behavior of its parents, thereby acquiring methods and competencies that would otherwise take appreciably longer, if ever, to learn.

The importance of early learning cannot be overstated for creatures that continue to live in the same environments as had their ancestors. Until recently, this continuity has been true for humans, as well. In recent decades, however, childhood learnings are often inapplicable and inappropriate when carried into adulthood. We are now in a Western society in which few constants persevere, where values and customs are in conflict, and where the styles of human interaction today are likely to change tomorrow. We now see the emergence of a new unstructured and highly fluid personality style that is commonly diagnosed clinically today as the borderline personality. In these adults we find a reflection of the contradictory and changing customs and beliefs of contemporary society. This newest pattern of childhood adaptation leaves the person unable to find the center of him or herself. Such persons have learned *not* to demonstrate consistency and continuity in their behaviors, thoughts, and feelings, no less in their ways of relating to others. These unstable and contradictory cultural patterns impact experiential discontinuities, a new consideration in our study of personality development.

Given the preceding, we would be remiss in our presentation if we failed to stress further that personality development is shaped by the institutions, traditions, and values that make up the cultural context of societal living; these cultural forces serve as a common framework of formative influences that set limits and establish guidelines for members of a social group. The continuity and stability of cultural groups depend largely on the success with which their young are imbued with common beliefs and customs. To retain what has been wrought through history, each group must devise ways of molding its children to fit in, that is, to accept and perpetuate the system of prohibitions and sanctions that earlier group members have developed to meet the persistent tasks of life. Each infant undergoes a process of socialization by which he learns to progressively surrender his impulsive and naive behaviors and to regulate or supplant them with the rules and practices of his group. Despite the coerciveness of this process and the loss of personal freedom that it entails, children learn, albeit gradually, that there are many rewards for cooperative and sharing behaviors. Societal rules enable the child to survive, to predict the behaviors of others, to obtain warmth and security, and to learn acceptable strategies for achieving the rich and diverse rewards of life. It is important to recognize, then, that the traditions of a culture provide its members with a shared way of living by which basic needs are fulfilled for the greater majority with minimal conflict and maximal return.

We must note, once again, that for many children the process of cultural training and inculcation is far from ideal; methods by which societal rules and regulations are transmitted by parents often are highly charged and erratic, entailing affection, persuasion, seduction, coercion, deception, and threat. Feelings of stress, anxiety, and resentment may be generated within the young, leaving pathological residues that are perpetuated and serve to distort their future relationships.

The notion that many of the pathological personality patterns observed today can best be ascribed to the perverse, chaotic, or frayed conditions of our cultural life has been voiced by many commentators of the social scene (Fromm, 1955; Goodman, 1960; Millon, 1987; Millon with Davis, 1996; Reisman, 1950; Wachtel, 1983; Yankelovich, 1981); these conditions have been characterized in phrases such as *the age of anxiety, growing up absurd,* and *the lonely crowd.* It is not within the scope of this chapter to elaborate the themes implied in these slogans; the reader may be interested in an article written by the senior author about two decades ago regarding the effects of contradictory social values and the disintegration of social beliefs and traditions on the emergence of the so-called borderline personality disorder (Millon, 1987).

HOW CAN WE BEST DIFFERENTIATE NORMAL FROM PATHOLOGICAL PERSONALITIES?

Any conception of personality must distinguish pathological patterns not only from their more normal variants but also from other, so-called classical, psychiatric disorders. Pathological patterns of personality are not medical illnesses for

which some discrete pathogen can be found or for which exists some underlying unitary cause. The use of *DSM* language, *disorder,* for these pathologies or maladaptive patterns is indeed unfortunate, for these individuals are not disordered at all in the medical sense in that a healthy organism has been upset or undermined. Personality, normal or maladaptive, is best conceptualized as an intrinsic and enduring pattern comprising the entire matrix of the person that functions well or not in an average, expectable environment. Hence, we prefer the terms *pattern* or *style* rather than the implicitly misleading *disorder.* This mislabeling tends to nullify the logic of the multiaxial model, encouraging the view that clinical syndromes and personality disorders are parallels, existing alongside each other in a horizontal relationship. The *DSM* multiaxial model was intended to be a structural innovation, that is, composed to encourage the view that classical clinical syndromes represented a disabling outcome when the more enduring and more stable personality pattern of the patient had been upset or disordered. That is, clinical syndromes (Axis I) signify a disordered state, whereas personality pathologies (Axis II) are persistent and enduring patterns of maladaptation. The organization of personality pathologies is as integrative as those of so-called normal personalities, which is why personality pathologies are so tenacious.

Numerous attempts have been made to develop definitive criteria for distinguishing psychological normality from abnormality. Some of these criteria focus on features that characterize the so-called normal, or ideal, state of mental health, as illustrated in the writings of Offer and Sabshin (1974, 1991). Central to our understanding of normality and abnormality is the recognition that these terms exist as relative concepts; they represent arbitrary points on a continuum or gradient. No sharp line divides normal from pathological behavior. Not only is personality so complex that certain areas of psychological functioning can operate normally while others do not, but environmental circumstances change such that behaviors and strategies that prove adaptive at one time fail to do so at another. Moreover, features differentiating normal from abnormal functioning must be extracted from a complex of signs that not only wax and wane but often develop in an insidious and unpredictable manner. Pathological personality patterns, as previously remarked, are not disorders or diseases at all in the medical sense. Rather, personality pathologies are reified constructs employed to represent varied styles or patterns in which the personality system functions maladaptively in relation to its environment and over time.

When alternative strategies employed to achieve goals, relate to others, and cope with stress are few in number and rigidly practiced (*adaptive inflexibility*); when habitual perceptions, needs, and behaviors perpetuate and intensify preexisting difficulties (*vicious circles*); and when the person tends to lack resilience under conditions of stress (*tenuous stability*), we speak of a pathological personality pattern. We keep in mind that personality is an interactional concept that admits of degrees, shading gently from normality to clinicality, and has at a latent level no single underlying cause or pathogenicity, but instead is as multidetermined as the personality system itself is multifaceted. The three disorder criteria noted previously are intimately related to the personality pathology taxonomy that we will briefly note in later paragraphs.

In the following paragraphs we will draw upon the first three of the evolutionary polarities touched on previously. The fourth polarity also is worthy of note and relevant to an understanding of personality traits; however, to include this polarity in the following section will take us somewhat afield in this already extensive chapter. Interested readers wishing to review the details of this fourth and cognitively oriented polarity may look into the manual for the *Millon Index of Personality Styles-R* (*MIPS-R;* Millon, Weiss, Millon, & Davis, 2003).

Evolution/Neurodevelopmental Stage I: Aims of Existence: The Pain-Pleasure Polarity

An interweaving and shifting balance between the two extremes that make up the pain-pleasure polarity typifies normality. Both of the following criteria should be met in varying degrees as life circumstances require. In essence, a synchronous and coordinated personal style should have developed to answer the question of whether the person should focus on experiencing only the pleasures of life versus concentrating his or her efforts on avoiding its pains.

Life Preservation: Avoiding Danger and Threat

One might assume that a criterion based on the avoidance of psychic or physical pain would be sufficiently self-evident not to require specification. As is well known, debates have arisen in the literature as to whether mental health/normality reflects the absence of mental disorder, being merely the reverse side of the mental illness/abnormality coin. That there is a relationship between health and disease cannot be questioned; the two are intimately connected, conceptually and physically. On the other hand, to define health solely as the absence of disorder will not suffice. As a single criterion among several, however, features of behavior and experience that signify both the lack of (e.g., anxiety, depression) and an aversion to (e.g., threats to safety and security) pain in its many and diverse forms provide a necessary foundation upon

which other, more positively constructed criteria may rest. Substantively, positive normality must comprise elements beyond mere nonnormality or abnormality. And despite the complexities and inconsistencies of personality, from a definitional point of view normality does preclude nonnormality.

It may be of interest next to record some of the psychic pathologies of personality that can be traced to aberrations in meeting this first criterion of normality. For example, among those termed *avoidant personalities* (Millon, 1969, 1981; Millon with Davis, 1996), we see an excessive preoccupation with threats to psychic security, an expectation of and hyperalertness to the signs of potential rejection that leads these persons to disengage from everyday relationships and pleasures. At the other extreme of the criterion we see a risk-taking attitude, a proclivity to chance hazards and to endanger life and liberty, a behavioral pattern characteristic of those we label *antisocial personalities.* Here there is little of the caution and prudence expected in the normality criterion of avoiding danger and threat; rather, we observe its opposite, a rash willingness to put one's safety in jeopardy, to play with fire, and to throw caution to the wind.

Life Enhancement: Seeking Rewarding Experiences

At the other end of the existence polarity are attitudes and behaviors designed to foster and enrich life, to generate joy, pleasure, contentment, fulfillment, and thereby strengthen the capacity of the individual to remain vital and competent physically and psychically. This criterion asserts that existence/survival calls for more than life preservation alone; beyond pain avoidance is pleasure enhancement.

This criterion asks us to go at least one step further than Freud's parallel notion that life's motivation is chiefly that of reducing tensions (that is, avoiding or minimizing pain), maintaining thereby a steady state, if you will, a homeostatic balance and inner stability. In accord with our view of evolution's polarities, we would assert that normal humans are driven also by the desire to enrich their lives, to seek invigorating sensations and challenges, to venture and explore, all to the end of magnifying if not escalating the probabilities of both individual viability and species replicability.

As before, a note or two should be recorded on the pathological consequences of a failure to meet a criterion. These are seen most clearly in the personality disorders labeled *schizoid* and *avoidant.* In the former there is a marked hedonic deficiency, stemming either from an inherent deficit in affective substrates or the failure of stimulative experience to develop either or both attachment behaviors or affective capacity (Millon, 1981; Millon with Davis, 1996). Among those designated *avoidant personalities,* constitutional sensitivities or abusive life experiences have led to an intense attentional sensitivity to psychic pain and a consequent distrust in either the genuineness or the durability of the pleasures, such that these individuals can no longer permit themselves to experience them. Both of these personalities tend to be withdrawn and isolated, joyless and grim, neither seeking nor sharing in the rewards of life.

Evolution/Neurodevelopmental Stage II: Modes of Adaptation: The Passive-Active Polarity

To maintain their unique structure, differentiated from the larger ecosystem of which they are a part, to be sustained as a discrete entity among other phenomena that make up their environmental field, requires good fortune and the presence of effective modes of functioning. The vast range of behaviors engaged in by humans fundamentally may be grouped in terms of whether initiative is taken in altering and shaping life's events or whether behaviors are reactive to and accommodate those events.

Normal or optimal functioning, at least among humans, appears to call for a flexible balance that interweaves both polar extremes. In the first evolutionary stage, that relating to existence, behaviors encouraging both life enhancement (pleasure) and life preservation (pain avoidance) are likely to be more successful in achieving survival than actions limited to one or the other alone. Similarly, regarding adaptation, modes of functioning that exhibit both ecologic accommodation and ecologic modification are likely to be more successful than either by itself. Normality calls for a synchronous and coordinated personal style that weaves a balanced answer to the question of whether one should accept what the fates have brought forth or take the initiative in altering the circumstances of one's life.

Ecological Accommodation: Abiding Hospitable Realities

On first reflection, it would seem to be less than optimal to submit meekly to what life presents, to adjust obligingly to one's destiny. To illustrate: The evolution of plants is essentially grounded (no pun intended) in environmental accommodation, in an adaptive acquiescence to the ecosystem. Crucial to this adaptive course, however, is the capacity of these surroundings to provide the nourishment and protection requisite to the thriving of a species.

To the extent that the events of life have been and continue to be caring and giving, is it not perhaps wisest, from an evolutionary perspective, to accept this good fortune and let matters be? This accommodating or passive-life philosophy has worked extremely well in sustaining and fostering those

complex organisms that make up the plant kingdom. Hence passivity, the yielding to environmental forces, may be in itself not only unproblematic but, where events and circumstances provide the pleasures of life and protect against their pains, positively adaptive and constructive. Where do we find clinical nonnormality that reflects failures to meet the accommodating/abiding criterion?

One example of an inability to leave things as they are is seen in what the *DSM* terms the *histrionic personality.* Their persistent and unrelenting manipulation of events is designed to maximize the receipt of attention and favors as well as to avoid social disinterest and disapproval. They show an insatiable if not indiscriminate search for stimulation and approval. Their clever and often artful social behaviors may give the appearance of an inner confidence and self-assurance; but beneath this guise lies a fear that a failure on their part to ensure the receipt of attention will, in short order, result in indifference or rejection, and hence their desperate need for reassurance and repeated signs of approval. As they are quickly bored and sated, they keep stirring up things, becoming enthusiastic about one activity and then another. There is a restless stimulus-seeking quality in which they cannot leave well enough alone.

At the other end of the polarity are personality pathologies that exhibit an excess of passivity, failing thereby to give direction to their own lives. Several Axis II disorders demonstrate this passive style, although their passivity derives from and is expressed in appreciably different ways. Dependent personalities typically are average on the pleasure/pain polarity. Passivity for them stems from deficits in self-confidence and competence, leading to deficits in initiative and autonomous skills as well as a tendency to wait passively while others assume leadership and guide them. Passivity among obsessive-compulsive personalities stems from their fear of acting independently, owing to intrapsychic resolutions they have made to quell hidden thoughts and emotions generated by their intense self-other ambivalence. Dreading the possibility of making mistakes or engaging in disapproved behaviors, they became indecisive, immobilized, restrained, and passive.

Ecologic Modification: Mastering One's Environment

The active end of the polarity signifies the taking of initiative in altering and shaping life's events. Such persons are best characterized by their alertness, vigilance, liveliness, vigor, and forcefulness, their stimulus-seeking energy and drive.

White (1959, 1960), in his concept of effectance, sees it as an intrinsic motive that activates persons to impose their desires upon environments. In a similar vein, Fromm (1955) proposed a need on the part of humans to rise above the roles of passive creatures in an accidental if not random world. To him, humans are driven to transcend the state of merely having been created; instead, humans seek to become the creators, the active shapers of their own destiny. Rising above the passive and accidental nature of existence, humans generate their own purposes and thereby provide themselves with a true basis of freedom.

Evolution/Neurodevelopmental Stage III: Strategies of Replication: The Other-Self Polarity

If an organism merely duplicates itself prior to death, then its replica is doomed to repeat the same fate its original suffered. However, if new potentials for extending existence can be fashioned by chance or routine events, then the possibility of achieving a different and conceivably superior outcome may be increased. And it is this co-occurrence of random and recombinant processes that does lead to the prolongation of a species' existence. This third hallmark of evolution's procession also undergirds another of nature's fundamental polarities, that between self and other.

As before, we consider both of the following criteria necessary to the definition and determination of normality. We see no necessary antithesis between the two. Humans can be both self-indulging and other-nurturing, although most persons are likely to lean toward one or the other side. A balance that coordinates the two provides a satisfactory answer to the question of whether one should be devoted to the support and welfare of others or should fashion one's life in accord with one's own needs and desires.

Progeny Nurturance: Constructively Encouraging Others

As described earlier, recombinant replication achieved by sexual mating entails a balanced though asymmetric parental investment in both the genesis and nurturance of offspring. Eloquent proposals related to this criterion have been formulated by the noted psychologist Gordon Allport. One of Allport's (1961) criteria of the mature personality, which he terms a warm relating of self to others, refers to the capability of displaying intimacy and love for a parent, child, spouse, or close friend. Here the person manifests an authentic oneness with the other and a deep concern for his or her welfare. Beyond one's intimate family and friends, there is an extension of warmth in the mature person to humankind at large, an understanding of the human condition, and a kinship with all peoples.

The pathological consequences of a failure to embrace the polarity criterion of others are seen most clearly in the personality pathologies termed *antisocial* and *narcissistic.* Both personalities exhibit an imbalance in their replication strat-