the evolutionary perspective, the psychoanalytic approach, and the cognitive-behavioral, dynamic focus.

Part I covers the evolutionary perspective, with Plutchik, one of the editors, contributing the theoretical basis. One might ask why this point of view is given a special section. Surely none of the emotion theorists, whether included in this volume or not, would deny that human emotions have an evolutionary precedent in animal emotions. Once that is granted, it is not clear whether animal emotions contribute a great deal to either our knowledge of human emotions or our knowledge of emotional factors in psychopathology.

In Part 2, on the psychoanalytic focus, the evolutionary perspective is taken for granted. The first concern is to connect emotions with drives, assigning them a place within the psychoanalytic system. In Part 3, finally, the emphasis is on the historical, rather than the evolutionary, antecedents of emotions, that is, on how emotions are aroused in human beings and how they connect with action.

Parts 1 and 3, which discuss the antecedents of emotion and the whole sequence from perception to action, respectively, are also concerned with the role of emotion in various abnormal states and in psychotherapy. In contrast, the authors of Part 2, who seek to discover the connection between emotion and drive, do not discuss its role in pathological states or their treatments. Perhaps that is not surprising because psychoanalytic treatment seeks to uncover infantile memories and does not pay explicit attention to emotion. MacKenzie (Chapter 7) is the only author in the psychoanalytic section who comes to grips with the role of emotion in psychotherapy. Actually, MacKenzie is interested in group theory rather than in psychoanalysis. He discusses the therapeutic factors involved in group interaction during treatment rather than the role of emotion.

It is interesting to see the changes in the theoretical outlook that have occurred over the life of the series, the ten years from 1980 to 1990, particularly in the contribution of Plutchik. In his 1980 chapter, Plutchik was interested primarily in the structural complexity of emotion and only secondarily in the sequence from stimulus by means of inferred cognitions to feeling state and behavior. In the present volume, he enriches the sequence by adding physiological arousal to the feeling state, thus completing the emotional experience, and also inserts the impulse to action produced by emotion, which then results in behavior. It could almost be said that he now sees a psychological sequence where before he offered, at best, a series of emotion-related words.

In reviewing a symposium volume, it is difficult to do justice to individual contributors. The best I can do is discuss a few issues that seem particularly important. For instance, in Chapter 9, A. A. and C. N. Lazarus discuss the well-known controversy between R. Lazarus and R. B. Zajonc on the arousal of emotion. Zajonc insists that emotion directly follows the stimulus, without any intervening cognition, whereas Lazarus points out that not every experience is greeted with an emotion; hence, emotion must require some kind of cognitive appraisal. Also, emotions can be aroused by images and memories; hence emotions do not depend on a sensory stimulus but seem to follow on some kind of cognition. Perhaps it would be helpful to consider two types of cognition: what could be called an existential judgment (red, hot, high, sweet, etc.), which is a cognition that has nothing to do with emotion, and an evaluative judgment (good/bad, frightening, annoying, etc.). This evaluative judgment can be conceptual and deliberate (e.g., warm weather is pleasant, warm is a bad way to settle disputes) and does not usually lead to emotion. Or it can be an intuitive, unwitting appraisal of the self of something on oneself; this appraisal is direct as sense experience and leads to emotion, both in humans and animals. From an evolutionary perspective, it should be clear that the cognition involved in emotional arousal must be this unwitting, intuitive kind, which precognitive in Zajonc's sense. Of course because humans are capable of both types of judgment, they usually function together. Hence, a value judgment, strongly held, can also arouse emotion.

In Part 3, several authors describe interesting and elaborate methods of assessment and psychotherapy and provide acronyms for various factors or stages in therapy. Although these acronyms are helpful mnemonics, I confess to a distaste of such alphabet soup, particularly when we can diversify acronyms are offered (Chapter 8: DAS; Chapter 9: BASIC II; Chapter 10: SASB; Chapter 11: PRI CEBE, PAL).

The book as a whole is an interesting illustration of the varied ways in which the field of emotion has been narrowed down, and harvested. Whereas Part I will appeal mainly to theorists, Parts 1 and 3 will offer something of interest to clinicians of various therapeutic persuasions.

Maintaining Homeostasis Is Certainly Important, But Can It Lead to Change?

David S. Palermo (Ed.)
Coping With Uncertainty: Behavioral and Developmental Perspectives

Review by
David H. Utal


The processes through which organisms cope with the stress and uncertainty associated with unpredictable environments is a topic of both classic and current interest. Unfortunately, research on stress and coping has too often been hampered by traditional divisions within psychology. For example, research on
physiological responses to uncertainty has only occasionally been integrated with research on cognitive responses to uncertainty. The chapters presented in this volume represent an attempt to address this problem. The book presents research on both behavioral and physiological responses to stress and uncertainty, and the reader with basic knowledge in these areas can easily integrate many of the chapters.

The nine chapters of the book cover a diverse range of species and ages. Most focus on the relation between physiological (i.e., neural or endocrine) and behavioral responses to uncertainty. In almost all species, the relation has turned out to be much more complex that originally expected. One cannot, for example, explain the relation between unbound serum cortisol and behavioral indexes of stress in terms of simple linear correlations. Levine and Wiener's chapter, which focuses on infant squirrel monkeys, and Gunnar, Marvinney, Ikenssee, and Fisch's chapter, which focuses on infant humans, both make this important point. Thus, an important contribution of this volume is an appreciation of the complexity in both neural/endocrine and physiological/behavioral relations.

Two central themes can be discerned from the various chapters. First, it is clear that behavior is the primary mechanism by which organisms balance the need to maintain internal homeostasis with the complexity and uncertainty that are encountered in their environment. The range of behavioral responses from stress or uncertainty is large, and development seems to consist in part of acquiring or mastering different mechanisms for mediating this relation. For example, Gunnar et al. point out that infants can respond to the stress and uncertainty of circumcision or physical examination in numerous ways, including falling asleep and crying. The choice of the two behavioral responses may in part depend on physiological responses to the uncertainty, as well as the magnitude and type of uncertainty. Likewise, Peterson, Susanman, and Beard point out that adolescents may either seek out or avoid their parents as a function of the type of uncertainties they face.

The second consistent theme is that within many species, there are wide individual differences in coping mechanisms, as well as reactions to uncertainty. Some chapters focus explicitly on the possible sources of individual differences. For example, Blizard focuses on reactivity in inbred strains of rats, and Kagan, Snidman, and Reznick use both physiological and behavioral measures to explore developmental continuity in inhibition. What emerges from these discussions of individual differences is that many personality characteristics may be related developmentally to the way in which an individual negotiates the uncertainty that is inherent in its environment. Other implications can be drawn readily from the perspectives presented on individual differences. For example, individual differences in coping with the new uncertainties faced by aging adults may be related to earlier patterns of coping with uncertainty.

Most of the authors adopt either explicitly or implicitly a systems approach to the analysis of the physiological or behavioral responses to environmental uncertainty. A central assumption of the systems approach is that the causes of behavioral, neural, or endocrine responses must be construed in terms of multiple and dynamic influences. This systems approach is applied in the book to the analysis of relations within the endocrine system, between the endocrine and neural systems, and to the relation between endocrine and behavioral responses to uncertainty in the newborn human infant. Since the time of the conference on which the book is based (1986), the systems approach has gained increasing popularity within developmental, physiological, and personality psychology. Consequently, some of the ideas presented in the book are now somewhat dated. Thus, readers might want to simultaneously consult more recent discussions and applications of system theory, such as the work of Gunnar and Theilen (1989). In this vein, Yates, Garfinkel, Walter, and Yates (1987) present an excellent and very detailed systems analysis of the endocrine system. In any case, this book will serve as a valuable introduction to the application of systems theory to research on stress and coping.

The book is less successful in its attempt to explore issues in the development of mechanisms for dealing with uncertainty. Indeed, it is clear that development was only a secondary focus of each chapter; many of the chapters end with only a brief mention of development. In addition, when developmental issues are discussed, they are often cast within the traditional but dated nature-versus-nurture dichotomy. Appealing to this dichotomy seems inconsistent with the developmental systems approach that most of the authors advocate. A key assumption of the developmental systems perspective is that nature and nurture must always be viewed as coactants, not interactants (Gottlieb, 1991; Lickliter & Berry, 1990). Continuing attempts to differentiate genetic and environmental causes of development seem diametrically opposed to the developmental systems approach (Johnston, 1987). A systems approach implies that development must be construed in terms of the simultaneous, constructive coaction of genetic and environmental factors (Gottlieb, 1991).

The relative lack of attention to development may be a consequence of the focus on homeostatic mechanisms. Almost all of the chapters address mechanisms by which organisms attempt to maintain homeostasis in the face of uncertainty. Yet the concept of development seems to imply failures in the attempt to maintain homeostasis. As is well known, many developmental theorists (e.g., Piaget and Freud) have suggested that development takes place when current homeostatic mechanisms are no longer successful. A new level of cognitive development, for example, provides new and more powerful ways of coping with uncertainty. The book's focus on homeostatic mechanisms is interesting and important, but a developmental perspective would seem also to require considering when and why homeostasis fails.

References