

of which dialectical psychology has arisen. In "Psychological Universality," he discusses the search for universals through the medium of experiments, and the creation of a psychology of objects without a subject. He does this through a consideration of the methodological ideas of Wundt and the early Lewin. He attempts to present a constructive alternative, the study of dialogues, in which forms of communication between transacting actors are described. In "Psychology of Changes," he considers how the study of history can be used to clarify the study of memory and individual lives, and how the methodological ideas of Schaie and Baltes can be used in this regard. "Psychology of Development" is a critical discussion of Chomsky's ideas about language and Piaget's ideas about thought from a pragmatic and life-span perspective. In "Psychological Differences," he discusses measurement and psychometric testing, particularly issues in assessing intellectual functioning in the aged, and theories of personality development. Throughout, he emphasizes the neglect of a truly developmental perspective wherein the environment is seen as an active transactor with the actor. In "Psychological Treatments," Riegel discusses issues in education and psychotherapy. He presents a typology of epistemologies in which he emphasizes that there are many paths to knowledge and that these cannot be arrayed in a neat ontological order.

I hope my brief synopsis of this volume conveys the many kinds of topics about which Riegel wants to promote a dialogue. Had he not died so prematurely, he might have elaborated his themes more thoroughly. But he gives us a great deal in this volume—namely, the fruits of a dedicated, imaginative mind raising issues of importance.

Sit as little as possible. Give no credence to any thought that was not born outdoors, while one moved about freely—in which the muscles are not celebrating a feast, too.

—NIETZSCHE

All About Rejoicing, Raging, Grieving, Being Afraid, Etc.—And About Expressing It Facially

Carroll E. Izard

Human Emotions. New York: Plenum Press, 1977. Pp. xvi + 495. \$25.00.

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a complete definition of emotion must include neural, expressive, and experiential aspects. In his analysis, emotions can be both a state and a trait. Whereas most researchers in the peripheralist tradition would probably disagree with the view of emotions as a trait (since emotions, in their view, are accompanied by acute fluctuations in the level of physiological arousal), they would probably welcome Izard's important concept of an "emotion threshold," which implies both that people consistently differ in the range of emotion-relevant stimuli to which they respond and that they are differentially sensitive to these stimuli. In fact, if one takes the idea of an emotion threshold seriously, there is probably no need for the view of emotions as a trait.

Although Izard's emphasis on the role of the face and skeletal musculature in emotions is well justified—especially given the extent to which most researchers in the peripheralist tradition have neglected proprioceptive feedback—he provides relatively little conclusive experimental evidence. In fact, Izard points out that emotional experiences are possible without facial expressions and that expressions are often not accompanied by emotional experiences. The causal role of facial expression is further complicated by Izard's claim that "awareness of . . . facial feedback is actually our awareness of the subjective experience of a specific emotion" (p. 60). Whereas, of course, the view that facial expression could be a "true" cause of emotion without being consciously attended to would be entirely tenable, Izard seems to imply that conscious attention to facial feedback is essential (p. 61).

ALTHOUGH the problem of emotions is one of long standing in psychology, the last two decades have been exceptional with regard to the large amount of theoretical and experimental activity in this area. Among the recent treatments, Izard's *Human Emotions* stands as one of the most ambitious attempts at systematic conceptual analysis of human emotions.

Starting very early in the book, much of Izard's attention is devoted to the "differential emotions theory," which is essentially a centralist position with an additional heavy emphasis on the contribution of facial expression to the fundamental emotions. Izard believes that

Izard believes that visceral changes are epiphenomenal and limited to the maintenance of the already existing emotional states. His analysis generally relies on Cannon's criticisms of James's views and ignores cogent recent criticisms of Cannon's position (e.g., by Fehr & Stern, *Psychological Bulletin*, 1970). Perhaps the key issue in this debate is whether or not different emotions are caused by different patterns of physiological arousal. Such a differentiation is very important for the accuracy of James's original notions. In contrast, both Cannon (because of his emphasis on the thalamus) and theorists such as Schachter and Mandler (because of their emphasis on cognitive labeling) favor the view that various emotions are accompanied by similar physiological patterns. As for Izard, he paradoxically seems to believe both that "the work of Cannon actually supports the facial feedback hypothesis and the position of the differential emotions theory, which excludes visceral activity from the emotion process proper" (p. 56), and also that different emotions are maintained by different patterns of physiological arousal. For example, Izard specifically states that the research of Ax, Funkenstein, and Plutchik "has contributed significantly to the development of the principle of differential emotions" (p. 101).

Actually, in addition to the fact that quite different "differential patterns" accompanied different emotions in these studies, a single procedure was used to induce each emotion, which means that the effect of the *type* of emotional stimulus was hopelessly confounded with that of its *intensity*. Another problem is that even if sophisticated psychophysiological equipment can detect subtle differences in the physiological patterns accompanying various emotions, this does not resolve the issue of whether or not such differences can be accurately monitored by people without amplification (as in biofeedback procedures). If not, one would then be forced to assume that the different patterns have an effect on emotions through some nonconscious or noncognitive channel. Izard makes such an assumption, but as in other cases where "innate neural programs" are proposed in

the book, this is seldom buttressed with experimental evidence.

ALTHOUGH Izard never presents a full account of the temporal sequence in which different antecedents of emotion occur, he seems to share other researchers' traditional concern with such a sequence as, for example, when he agrees with Cannon's unsubstantiated claim that the viscera are too slow to contribute to the phenomenal experience of emotion. However, it would seem to me that the exaggerated emphasis on the temporal aspects of emotion has obscured other important research issues in this area. After all, the sequence of events preceding the subjective experience of emotion is a matter of hundreds of milliseconds; more importantly, the different systems involved (e.g., facial and postural proprioceptive feedback, visceral reactions, the perceptual-interpretive operations on the precipitating outside event and various internal events, etc.) are all interlocked in complex feedback loops. It would, therefore, seem more useful from a heuristic point of view to assume that information from all of the various mentioned sources contributes to some degree and is integrated into the overall experience. As things stand, given the close relationship between facial expression, visceral changes, and subjective experience that has been demonstrated most clearly by the studies of Kleck, Lanzetta, and others, it seems more prudent at this time to conclude that the cause-effect relationships between these variables (and their relative importance) remain unknown than to accept Izard's model.

Whether or not one agrees with the general framework of the differential emotions theory, and although many of the assumptions, definitions, taxonomies, and "general principles" with which the book abounds are difficult to accept, this book is important. Izard has achieved his goal of collecting in one place and expanding his earlier statements on the topic, presenting a relatively general theoretical position, and integrating his views with those of other researchers, notably Tomkins and Ekman. However, there are omissions that

are surprising for a book of such scope, ranging from specific influential studies (e.g., by Laird, Hirschmann, and Kleck & Lanzetta), to certain general topics (e.g., the research on the role of facial expression in deception). Also, in the chapter on principles and methods in the psychology of emotion, only two pages are devoted to the vast and important field of psychophysiological methodology.

The second half of the book, which deals in great detail with individual emotions, seems to me to be more successful than the more general first part. Clearly Izard has thought very carefully through many of the issues involved, and provides a thoughtful discussion of the relationship between various emotions, drives, cognitive functions, and personality characteristics—all considered from a developmental perspective and with frequent well-informed references to psychopathology and clinical applications. Particularly good treatments are provided of the relationship between pain and the various emotions, and of the implications of the coupling of sexual drive with emotions such as anger, fear, and disgust. A broad audience, ranging from informed lay readers to advanced graduate students and researchers can profit from these chapters. The only cautionary remark I have about this part of the book is that it is perhaps overambitious, which has as a consequence some excursions into fuzzy areas (e.g., the relationship between guilt, conscience, and morality), cursory and 10-years-behind-the-time treatments of certain topics on which there is a very large literature (such as the relationship between anger and aggression), and occasional arbitrary assertions (e.g., "The experience of guilt, like the experience of fear, is unlearned," p. 421).

DESPITE my various criticisms, I am glad that the differential emotions theory and its implications have been presented so thoroughly. Izard's book will undoubtedly make a noted contribution to the growing field of the psychology of emotion.