

## Chapter 3

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# Basic Emotions

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### INTRODUCTION

In this chapter I consolidate my previous writings about basic emotions (Ekman, 1984, 1992a, 1992b) and introduce a few changes in my thinking. My views over the past 40 years have changed radically from my initial view (Ekman, 1957) that: (a) a pleasant-unpleasant and active-passive scale were sufficient to capture the differences among emotions; and (b) the relationship between a facial configuration and what it signified is socially learned and culturally variable. I was forced to adopt the opposite view by findings from my own and others' cross-cultural studies of facial expressions. There are some who have challenged this by now quite large body of evidence: I describe those challenges and the answers to them in Chapter 16.

The framework I describe below is most influenced by Darwin (1872/1997) and Tomkins (1962), although I do not accept in total what either said. There are three meanings of the term "basic" (see also Ortony & Turner, 1990). First, it distinguishes those who maintain that there are a number of separate emotions, that differ one from another in important ways. From this perspective, fear, anger, disgust, sadness and contempt, all negative emotions, differ in their appraisal, antecedent events, probable behavioral response, physiology and other characteristics described below. So, too, amusement, pride in achievement, satisfaction, relief and contentment, all positive emotions, differ from each other. This basic emotions perspective is in contrast to those who treat emotions as fundamentally the same, differing only in terms of intensity or pleasantness.

To identify separate discrete emotions does not necessarily require that one also take an evolutionary view of emotions. A social constructionist could allow

for separate emotions without embracing the second meaning of the adjective "basic". Even the discovery of universals in expression or in antecedent events does not require giving a major role to evolution. Instead, one can attribute universals to species-constant learning—social learning which will usually occur for all members of the species, regardless of culture (cf. Allport, 1924). In this view it is ontogeny, not phylogeny, which is responsible for any commonalities in emotion: universals in expression are due to what ethologists call "conventionalization", not "ritualization" (see Ekman, 1979 for a discussion of these distinctions as applied to emotion).

The second meaning of the adjective "basic" is to indicate instead the view that emotions evolved for their adaptive value in dealing with *fundamental life tasks*. Innate factors play a role in accounting for the characteristics they share, not species-constant or species-variable learning. There are a number of ways to describe these fundamental life tasks. Johnson-Laird & Oatley (1992) say they are universal human predicaments, such as achievements, losses, frustrations, etc. Each emotion thus prompts us in a direction which, in the course of evolution, has done better than other solutions in recurring circumstances that are relevant to goals. Lazarus (1991) talks of "common adaptational tasks as these are appraised and configured into core relational themes" (p. 202) and gives examples of facing an immediate danger, experiencing an irrevocable loss, progressing towards the realization of a goal, etc. Stein & Trabasso (1992) say that in happiness a goal is attained or maintained, in sadness there is a failure to attain or maintain a goal, in anger an agent causes a loss of a goal, and in fear there is an expectation of failure to achieve a goal. Tooby & Cosmides (1990) tell us that emotions impose "... on the present world an interpretative landscape derived from the covariant structure of the past ...". Emotions, they say, deal with recurrent "... adaptive situations ... fighting, falling in love, escaping predators, confronting sexual infidelity, and so on, each [of which] recurred innumerable times in evolutionary history ..." (pp. 407–408). Tooby & Cosmides emphasize what I consider the crucial element which distinguishes the emotions: our appraisal of a current event is influenced by our ancestral past.

These different descriptions are quite compatible, each emphasizing another aspect of the phenomenon. Common to all these views is the presumption that emotions are designed to deal with inter-organismic encounters, between people or between people and other animals. Nevertheless, it is important to note that emotions can and do occur when we are not in the presence of others, and are not imagining other people. We can have emotional reactions to thunder, music, loss of physical support, auto-erotic activity, etc. Yet I believe the primary function of emotion is to mobilize the organism to deal quickly with important interpersonal encounters, prepared to do so by what types of activity have been adaptive in the past. The past refers in part to what has been adaptive in the past history of our species, and the past refers also to what has been adaptive in our own individual life history.

The term "basic" has been used also to describe elements that combine to form more complex or compound emotions. So, for example, smugness might be

considered to be a blend of the two elemental emotions, happiness and contempt. Earlier we (Ekman & Friesen, 1975) made just such a proposal about facial expressions. I am less certain now about whether or not two basic emotions can occur simultaneously, although that may well depend upon what aspect of emotion is considered. In any case, I will not consider further this meaning of the term "basic", since no-one (other than Plutchik, 1962), who currently works from a basic emotion framework, has been much concerned with this meaning.

## THE CHARACTERISTICS THAT DISTINGUISH BASIC EMOTIONS

I will describe a number of characteristics which are useful in distinguishing one emotion from another. I will also describe other characteristics shared by all emotions, but which are helpful in distinguishing emotions from other affective phenomena, such as moods or emotional traits.

### Distinctive Universal Signals

I have gone back and forth on the question of whether or not a universal signal is the *sine qua non* for emotion (Ekman, 1984; 1992a, 1992b). Once again I will set out that claim, as a challenge for someone to identify states which have all the other characteristics I describe below but which have no signal. To date there is no such evidence, and I doubt it will be found. I believe it was central to the evolution of emotions that they inform conspecifics, without choice or consideration, about what is occurring: inside the person (plans, memories, physiological changes), what most likely occurred before to bring about that expression (antecedents), and what is most likely to occur next (immediate consequences, regulatory attempts, coping). For example, when we see a person with a disgust expression, we know that the person is responding to something offensive to taste or smell, literally or metaphorically, that the person is likely to make sounds such as "yuck" rather than "yum", and is likely to turn away from the source of stimulation. Elsewhere (Ekman, 1993; 1997) I have described seven classes of information that emotional signals may provide, and the research necessary to establish that this is so.

Emotional expressions are crucial to the development and regulation of interpersonal relationships. To mention just three examples, facial expressions should be involved in the formation of attachments (in infancy as well as in courtship), and in the regulation, acceleration or deceleration of aggression. People I have studied who have congenital facial paralysis (Mobius syndrome) report great difficulty in developing and maintaining even casual relationships, since they have no capability for facial expressiveness. Ross (1981) also found that stroke patients who can not properly identify the prosody that accompanies speech, or

who cannot generate the prosody that accompanies emotion utterances, have severe interpersonal difficulties.

Moods and emotional traits do not own their own distinctive signals, but instead we infer these affective phenomena, in part at least, from the fact that they are saturated with the signals of one or another emotion. A high incidence of anger-related signals can suggest an irritable mood or a hostile trait, for example.

To say that it was crucial to the evolution of emotions that they inform conspecifics about matters of import, does not mean that in each and every instance in which emotions occur a signal will be present. Emotions obviously do occur without any evident signal, because we can, to a very large extent, inhibit the appearance of a signal. Also, a threshold may need to be crossed to bring about an expressive signal, and that threshold may vary across individuals. If we could measure the brain areas which send information to the facial nucleus during spontaneous emotional experience, I expect we would find that there is some distinctive activity, even in low threshold states or when an individual is attempting to inhibit emotion. This remains an empirical question.

Not only can there be emotion without expression, there can be what appears to be expression without emotion. Humans can deliberately or habitually fabricate a facsimile of an emotional expression, facially and vocally. This may happen for many reasons; for example, to mislead or to refer to an emotion that is not currently experienced. There is quite robust evidence (for a summary, see Ekman & Davidson, 1990) that facial expressions differ in subtle ways when a smile occurs involuntarily as part of one or another enjoyment experiences, as compared to either social smiling or deliberately made false smiles. If the research was done I expect it would also be possible to distinguish fabricated signs of emotion from actual emotional expressions for other emotions, and in the voice as well as the face (for a further discussion of when there is emotion without expression and expression without emotion, see Ekman 1993; 1997).

### Emotion-specific Physiology

If basic emotions evolved to deal with fundamental life tasks, they should not only provide information through expressions to conspecifics about what is occurring, but there should also be physiological changes preparing the organism to respond differently in different emotional states.

There is evidence (Ekman, Levenson & Friesen, 1983; Levenson, Ekman & Friesen, 1990) for distinctive patterns of autonomic nervous system (ANS) activity for anger, fear and disgust, and it appears that there may also be a distinctive pattern for sadness (Levenson et al., 1991). These findings have now been replicated in four separate experiments, in two different age groups. Although there are some inconsistencies between the ANS patterns they found and the findings of other investigators, there are many consistencies with the results of Schwartz,

Weinberger & Singer (1981), Ax (1953), Roberts & Weerts (1982) and Graham (1962).

The only recent challenge to our findings was Stemmler's (1989) report that ANS patterning was specific to how the emotion was elicited. However, this may be due to a number of methodological problems, including measuring physiology a considerable period after the induction was over, studying very low emotional intensities, and including a substantial number of subjects who reported not experiencing the emotion. We have preliminary evidence in two different studies (Levenson et al., 1991; Ekman & Davidson, 1991) of the same emotion-specific pattern when emotion was elicited in very different ways.

Boiten (1996) also claims to have disproved our findings of emotion-specific ANS changes as a result of assembling different patterns of facial muscular movement. We (Levenson & Ekman, in preparation) believe he did not produce such evidence, but instead that his data further supports our findings. However, we acknowledge that the matter is far from being completely settled. Noting that qualification, I will further consider what the implications are if further research strengthens and supports our findings to date of emotion-specific physiology.

Such evidence would be a challenge to those who view emotion as a social construction with no important biological contribution. Social constructionists might dismiss our findings by claiming that these different patterns of ANS activity were socially learned, not the product of evolution. Their argument would be that people are taught to engage in different types of behavior when experiencing different emotions. Over time this will establish different patterns of ANS activity, subserving these different actions patterns. If people show the same emotion-specific ANS activity, that may simply reflect common, culturally-based socialization practices. Presumably those who advocate such a view should expect different behavioral patterns to be taught for each emotion, and therefore different patterns of ANS activity should come to be established with each emotion in cultures which are known to differ in their attitudes about emotion.

Most simply put, the social constructionist emphasizes the past history of the individual, while the evolutionary theorist emphasizes the past history of the species in explaining why there is emotion-specific ANS activity. If it is only ontogeny, then to the extent to which different people learn different ways of behaving when experiencing one or another emotion, there should be different patterns of ANS activity observed for the emotions we have studied. Levenson et al. (1992) recently repeated their experiments in a non-Western culture. They studied the Minangkabau of Western Sumatra, a fundamentalist Moslem, matrilineal society. They replicated Ekman, Levenson & Friesen's (1983) original findings of emotion-specific ANS activity in this very different culture. This provides important support consistent with an evolutionary view that these are basic emotions.

Does the failure to find emotion-specific ANS activity for enjoyment and surprise mean that these are not basic emotions? Kemper (1978) would make that argument, for he views differentiated ANS activity as the *sine qua non* for

basic emotions. But consider why we expect emotion-specific ANS activity in the first place. Our presumption is that these ANS patterns evolved because they subserved patterns of motor behavior which were adaptive for each of these emotions, preparing the organism for quite different actions. For example, fighting might well have been the adaptive action in anger, which is consistent with the finding that blood goes to the hands in anger. Fleeing from a predator might well have been the adaptive action in fear, which is consistent with the finding that blood goes to large skeletal muscles (for a more elaborate discussion of this reasoning, see Levenson, Ekman & Friesen, 1990).

Freezing in fear might seem to create a problem for this line of reasoning, but not if freezing is interpreted as a fearful state in which the organism is nevertheless still prepared, autonomically, for fast flight if the freezing action does not provide concealment. Not every fearful experience involves a threat from which one can flee. The doctor's report, that more tests are necessary to confirm whether the preliminary results are correct in indicating a terminal illness, arouses fear but the event is not one the person can flee from. The ANS pattern of activity which subserves flight might still occur in this example, if the evolved motor program for this emotion is flight. It is a question which awaits research.

Öhman's (1986) analysis of fear is relevant to these complexities. He distinguishes fear of animals, fear of people, and fear of inanimate objects, suggesting that different actions may have evolved for fear of a predator as compared to social fears. It is not clear whether he views predator fear as including fear of other aggressive humans, or whether it is strictly limited to fear of other animals. Neither is it certain from his writings whether he would consider the fear of the doctor's news about terminal illness to be a predator or social fear.

If no specific pattern of motor activity had survival value for an emotion, then there would be no reason to expect a specific pattern of ANS activity to have been established for that emotion. That is why I think we have not found an emotion-specific pattern, a pattern which differs from each of the other emotions, for either surprise or enjoyment.

However, it is necessary to posit emotion-specific central nervous system (CNS) activity in my account of basic emotions. The distinctive features of each emotion, including the changes not just in expression but in memories, imagery, expectations and other cognitive activities, could not occur without central nervous system organization and direction. There must be *unique* physiological patterns for each emotion, and these CNS patterns should be specific to these emotions not found in other mental activity. Here I am reaching far beyond the data, but not far beyond what the new techniques for measuring brain activity may allow us to discover in this decade of the brain.

My contention is consistent with the findings of those who have used EEG measures of regional brain activity to study emotion (for reviews of this literature, see Davidson, 1984, 1987). Davidson et al.'s (1990) recent findings of different patterns of regional brain activity coincident with enjoyment and disgust facial expressions can be explained as reflecting *either* differences in approach vs.

withdrawal, or positive vs. negative emotions. More critical for my argument are new findings of LeDoux (1992).

### Automatic Appraisal Mechanism

Many years ago I (Ekman, 1977) proposed two appraisal mechanisms, one automatic and the other extended:

There must be an appraiser mechanism which selectively attends to those stimuli (external or internal) which are the occasion for . . . [one or another emotion]. Since the interval between stimulus and emotional response is sometimes extraordinarily short, the appraisal mechanism must be capable of operating with great speed. Often the appraisal is not only quick but it happens without awareness, so I must postulate that the appraisal mechanism is able to operate automatically. It must be constructed so that it quickly attends to some stimuli, determining not only that they pertain to emotion, but to which emotion . . . Appraisal is not always automatic. Sometimes the evaluation of what is happening is slow, deliberate and conscious. With such a more extended appraisal there may be some autonomic arousal, but perhaps not of a kind which is differentiated. The person could be said to be aroused or alerted, but no specific emotion is operative. Cognition plays the important role in determining what will transpire. During such extended appraisal the evaluation may match to the selective filters of the automatic appraiser. . . . It need not be, however; the experience may be diffuse rather than specific to one emotion" (pp. 58-59).

Similar views have since been described by Zajonc (1985), Öhman (1986), Leventhal & Scherer (1987) and Buck (1985). LeDoux's (1991) study of the anatomy of emotion has led him also to take a view nearly identical to what I proposed:

Emotional processing systems . . . tend to use the minimal stimulus representation possible to activate emotional response control systems, which characteristically involve relatively hard-wired, species-typical behaviors and physiological reactions. Emotional reactions . . . need to be executed with speed, and the use of the highest level of stimulus processing is maladaptive when a lower level will do . . . However, not all emotional reactions can be mediated by primitive sensory events and subcortical neural circuits (p. 50).

In a major shift in his own position to incorporate the evidence on basic emotions, Lazarus (1991) recently adopted my position on this issue: "I distinguish between two modes of appraisal: one automatic, unreflective, and unconscious or preconscious, the other deliberate and conscious" (p. 3, Chapter 5). Lazarus succinctly described what he called a "psychobiological principle" which, he said, "provides for universals in the emotion process. Once the appraisals have been made, the emotional response is a foregone conclusion, a consequence of biology" (pp. 191-192). Lazarus here goes further than I do, as I believe that the responses reflect not just biology but social learning as well. Stein & Trabasso's

(1992) analysis of appraisal, while based on very different data, is very similar, as they point out, to Lazarus's position.

It is not known exactly how a biological contribution to appraisal operates; what it is that is given, which is then operated on automatically. It seems reasonable to presume that that which is biologically given must be related to the universal antecedents of emotion described below. How does this occur, by what mechanism?

Automatic appraisal does not simply and solely operate on what is given biologically, dealing only with stimulus events that exactly fit what is given. In all likelihood, not enough is given for automatic appraisal to ever operate without considerable amplification and detailing through social learning (see, especially, Öhman, 1986 on this point). An exception might be the appraisal which occurs to a sudden loss of support, or when an object is perceived to be moving very quickly directly into one's visual field. But such examples are probably rare. Perhaps they act as metaphors for many other events to become associated through experience with emotion.

Automatic appraisal operates also on a variety of stimulus events that we have repeatedly encountered or with events which though rare were extraordinarily intense. Lazarus notes how differences in our experience allows for enormous variations in the specifics of what calls forth emotion which are attributable to personality, family and culture. And yet it is not totally malleable. There are some commonalities in what calls forth an emotion for anyone:

The ancestrally recurrent structured situation that the organism categorizes itself as being in is the "meaning" of the situation for that organism. It "sees", i.e. is organized to respond to, previous fitness contingencies, not present ones . . . Emotions . . . lead organisms to act as if certain things were true about the present circumstances, whether or not they are, because they were true of past circumstances . . . In this lies their strength and their weakness . . . [The automatic appraisal] cannot detect when the invariances that held true ancestrally no longer obtain (Tooby & Cosmides, 1990, pp. 418-419).

Often in civilized life, our emotions occur in response to words, not actions, to events which are complex and indirect, and it is an extended appraisal process which operates with consciousness and deliberation. Then the person is quite aware of what Lazarus calls the "meaning analysis" which occurs. Here is another entry place for social learning to generate large differences between cultural groups, and major individual differences within a culture.

A number of theorists (see reviews by Ellsworth, 1991; Scherer, 1991) have developed models of how appraisal processes may operate. Reading their descriptions and considering most of their data sources, it appears that they are considering only extended appraisal, but I think that they believe their models to characterize automatic appraisal as well. Their models are not contradictory with a basic emotions position, but they apparently do see a contradiction. Lazarus, I believe, is the only appraisal theorist who also incorporates basic emotions in his framework. Lazarus differs from the other appraisal theorists in not offering a



model of how the appraisal process works. Instead, he more abstractly describes the relevant principal and the prototypic events (core relational themes) for each emotion.

### Universal Antecedent Events

If emotions are viewed as having evolved to deal with fundamental life tasks in ways which have been adaptive phylogenetically, then it is logically consistent to expect that there will be some common elements in the contexts in which emotions are found to occur. This is not to presume that every social context which calls forth an emotion will be the same for all people within or across cultures. Clearly, there must be major differences attributable to social learning experiences. Öhman (1986) describes how both evolution and social learning contribute to the establishment of those events which call forth one or another emotion.

... evolutionary economy has left to environmental influences to inscribe the exact characteristics of dangerous predators ... learning is critically involved in selecting which stimuli activate the predatory defense system. But this learning is likely to be biologically primed or constrained in the sense that the responses are much more easily attached to some types of stimuli than to others. In other words, it is appropriate to speak about biologically prepared learning. Thus it is likely to require only minimal input in terms of training, and to result in very persistent responses that are not easily extinguished (pp. 128-129).

Öhman cites research by Mineka et al. (1984) showing that limited exposure is sufficient for establishing snake fears in monkeys which are very difficult to extinguish. Lazarus (1991) cites this same study to argue his rather similar view. Although he emphasizes what he calls "meaning analysis", Lazarus also describes common antecedent events. Johnson-Laird & Oatley's (1992) view is also similar.

My view on this matter, which is in agreement with Öhman, Lazarus, Johnson-Laird & Oatley, and Stein and her colleagues, developed in the 1970s when I learned of the findings of Boucher & Brant, which they did not publish until some years later (1981). They found commonalities in emotion antecedents in the many non-Western cultures they examined. It was not in the specific details but on a more abstract level that universality in antecedent events was found. The loss of a significant other, they found, is "... an antecedent to sadness in many, perhaps all, cultures. But who a significant other is or can be will differ from culture to culture" (Boucher, 1983, p. 407).

On the basis of Boucher & Brant's findings, Ekman & Friesen (1975) formulated prototypic interpersonal events which would universally call forth each of this set of emotions. For example, the antecedent event for fear is physical or psychological harm. Lazarus (1991), has a similar but in some ways different account, describing what he calls the "core relational theme" unique to the appraisal of each emotion. Neither of us has evidence, but what we each have

proposed is consistent with Boucher & Brant's findings, and with those of Scherer and his group (Scherer, Summerfield & Wallbott, 1983) in their study of the antecedents of emotion in Western cultures.

Unfortunately there is little ethological description of the commonalities in the naturally occurring antecedent events for emotions within and across cultures. There is questionnaire and also interview data in which subjects are asked to describe emotional events. However, we do not yet know the extent to which such data resembles what actually occurs during emotion, how much idealization, and stereotyping may occur when subjects coldly describe what they think about their emotional experience.

So far I have discussed a number of characteristics which distinguish one emotion from another—universal signals, distinctive physiology, automatic appraisal influenced by both ontogenetic and phylogenetic past, and commonalities in the antecedents events which call forth the emotion. Now I will much more briefly describe a number of other characteristics.

I do *not* maintain that if biology has played an important role in emotion, then emotions must appear, fully differentiated, at birth or early in life before much opportunity for learning has occurred. Izard (1977) disagrees and has reported evidence which he believes shows the early appearance of each emotion. His position and evidence has been convincingly challenged by Camras (1992) and also by Oster, Hegley & Nagel (1992). When this matter is settled, regularities in the first appearance of each emotion may be useful in differentiating one emotion from another.

Emotions are likely to be observable in other primates. Darwin considered that to be crucial, and it was the chief focus of his book *The Expression of the Emotions in Man and Animals* (1872/1998). In modern times, Plutchik was the first (1962) to make this a defining characteristic of emotions. A number of those studying animal behavior have resisted emotion terminology, much like the Skinnerians of times past, but some (Chevalier-Skolnikoff, 1973; Redican, 1982) have pointed to similarities in expression between humans and other primates. It is possible that there might be some emotions which are unique to humans, but there is no convincing evidence that is so. Of course, the capacity to represent emotional experience in words changes many aspects of emotional experience in ways which I can not describe here.

Emotions can have a very fast onset, beginning so quickly that they can happen before one is aware that they have begun. Quick onset is central to the adaptive value of emotions, mobilizing us quickly to respond to important events. It is also adaptive for the response changes which can occur so quickly not to last very long unless the emotion is evoked again. Here is not the place to argue about just how long an emotion typically lasts, but certainly it is not hours or days, but more in the realm of minutes and seconds. I believe those who claim that emotions endure for much longer time periods are summing what is actually a series of briefer emotion episodes. Because emotions can occur with a very rapid onset, through automatic appraisal, with little awareness, and with involuntary changes in expression and physiology, we often experience emotions as happening to us. Emotions are unbidden, not chosen by us.

I expect that specific emotions regulate the way in which we think, and that this will be evident in memories, imagery and expectations. I suspect that the relationship between emotions and thoughts is not solely a function of social learning because of biological constraints put on the cognitive system as well as the emotion system.

The subjective experience of emotion, how each emotion feels, is for some at the center of what an emotion is. This presumably includes physical sensations, and other feelings which are the consequence of feedback from the various response changes which occur uniquely for each emotion. Regrettably, most of what we know about subjective experience comes from questionnaires, filled out by people who are not having an emotion, trying to remember what it feels like. It is no easy matter to assess subjective experience, especially if what is wanted is something more than simply the amount of positive or negative emotion (see Rosenberg & Ekman, 1994).

Before turning to the question of how many emotions there are, let me mention the concept of emotion families, which may help to clear away some of the confusion and argument about this matter. Each emotion is not a single affective state but a family of related states. Each member of an emotion family shares the characteristics I have described. These shared characteristics within a family differ between emotion families, distinguishing one family from another. Put in other terms, each emotion family can be considered to constitute a theme and variations. The theme is composed of the characteristics unique to that family, the variations on that theme are the product of individual differences, and differences in the specific occasion in which an emotion occurs. The themes are the product of evolution, while the variations reflect learning.

Although the evidence is certainly not available now, I propose that the following list of emotions will be found to share the characteristics listed in Table 3.1, and to be distinguishable one from another: amusement, anger, contempt, contentment, disgust, embarrassment, excitement, fear, guilt, pride in achievement, relief, sadness/distress, satisfaction, sensory pleasure, and shame. When it is remembered that each of these words denotes a family of related emotions, then this list of 15 emotions is quite expanded. Clearly, it omits some affective phenomena which others have considered to be emotions. Guilt is a likely candidate, and I have no reason to make a guess one way or another. Interest, which Tomkins & Izard considered an emotion, I think may be better regarded as a cognitive state rather than an emotion, but see Reeve's (1993) relevant study. The decisions are not mine; they instead should be resolved by research, which will establish whether or not these candidates evidence the characteristics listed in Table 3.1.

More irksome to some may be my omission of romantic or parental love and hate, which are clearly affective, as is grief, and jealousy. Elsewhere (Ekman, 1984; 1992a, 1992b) I have more fully explained my view that these are emotional *plots*, more specific, more enduring than the basic emotions, specific contexts in which a number but not all of the basic emotions can be expected to occur. There is another set of affective phenomena, the moods, which have different causes and last much longer, and are highly saturated with emotions. And still

**Table 3.1** Characteristics which distinguish basic emotions from one another and from other affective phenomena

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1. Distinctive universal signals
  2. Distinctive physiology
  3. Automatic appraisal, tuned to:
  4. Distinctive universals in antecedent events
  5. Distinctive appearance developmentally
  6. Presence in other primates
  7. Quick onset
  8. Brief duration
  9. Unbidden occurrence
  10. Distinctive thoughts, memories images
  11. Distinctive subjective experience
- 

another set of affective phenomena are the affective personality traits, such as hostility.

Before leaving the struggle over the question as to how many emotions there are, it is worth considering the possibility that there are probably more emotional words than there are emotions, terms which refer not only to the emotion but features of the eliciting situation, of differential response to that situation, etc. Oatley & Johnson-Laird (1987) and Stein & Trabasso (1992) elaborate how this occurs, and how such variations in emotion terms can be dealt with from a basic emotions viewpoint.

## **DOES ANY ONE CHARACTERISTIC DISTINGUISH THE BASIC EMOTIONS?**

I do not think any of the characteristics should be regarded as the *sine qua non* for emotions, the hallmark which distinguishes emotions from other affective phenomena. What is unique is that when an emotion occurs we are dealing with current fundamental life tasks in ways which were adaptive in our evolutionary past. This is not to deny that our own individual past experience will also influence how we deal with these fundamental life tasks, but that is not what is unique to emotions. It is our past as a species in dealing with fundamental life tasks and how that organizes and at least initially influences how we appraise and respond to a current event which marks the emotions. I would add also the high probability that at least some of the time the occurrence of that emotion is signaled to others involuntarily.

## **THE VALUE OF THE BASIC EMOTIONS POSITION**

The basic emotions position which I have described does not dismiss the variety of affective phenomena, it attempts to organize those phenomena, highlighting

possible differences between basic emotions and other affective phenomena which can only be determined by further research. It should be clear by now that I do not allow for "non-basic" emotions. All the emotions which share the characteristics I have described are basic.

If all emotions are basic, what then is the value of using that term? It underlines the differences between this and other viewpoints and approaches to emotion, which do not consider emotions to be separate one from another and/or do not take an evolutionary viewpoint. It captures what is unique about emotion, and what emotions have in common which distinguish them from other phenomena. The basic emotions framework allows us to distinguish emotions from other affective phenomena in terms of the characteristics I have described. This framework serves us well in raising for empirical study a number of questions about other affective states which further research might show are also basic emotions. The adjective "basic" should not be the issue, however, but instead what questions this stance raises for research about emotion. The characteristics I have described are meant as challenges for more research. They point us to what we still need to learn about the emotions. They highlight the gaps in our knowledge. The utility of this approach will be evident 10 years from now by what research it generates to confirm or disconfirm the possibilities I have suggested, and new possibilities I have not conceived of.

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