Social Functionalism and the Evolution of Emotions

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Which of these animals is not like the others: ants, bees, naked mole rats, chimpanzees, or human beings? Each is unique in many ways, and *Homo sapiens* is certainly a remarkable organism. For our purposes, however, the outlier is actually the chimpanzee. All of the other species, including humans, are “ultrasocial” (Campbell, 1983)—they live in highly cooperative groups of hundreds or thousands of individuals with a pronounced division of labor. The insects and mole rats accomplish this miraculous degree of interdependence by a trick of genetics: They are all siblings, so from a genetic standpoint helping another is not much different from helping one’s self. Humans, clearly, lack this particular motivation to cooperate. How have we managed to maintain such an extreme degree of social complexity?

How humans became an ultrasocial species is not yet fully understood, but many roads lead through the emotions. From Darwin’s (1872/1965) original speculations about emotional expression, through Robert Trivers’ (1971) account of the emotions that make reciprocal altruism possible, to Robert Frank’s (1988) “commitment” model of moral emotions, most attempts to explain humanity’s extraordinary sociality are really accounts of humanity’s extraordinary emotionality. Emotions evolved because they facilitate behaviors that are adaptive for the individual (or the gene), given certain contexts. For human beings this primarily means playing the game of complex social interaction well.

In this chapter we will present a social functionalist framework for the study of emotion. We take it for granted that emotions are products of evolution (though influenced considerably by cultural learning), and we suggest that emotion-related physiological, cognitive, and motivational mechanisms are best understood in the context of the functions they serve. In the first section of this chapter we discuss the emergence and emphases of evolutionary accounts of emotion, and introduce the social functionalist approach. Emotions, from this perspective, serve survival
and reproductive functions that are best understood at four levels simultaneously—intra-individual, dyadic, group, and cultural. Whereas functions at the individual level typically involve basic survival, functions at the other levels involve the facilitation of social bonding and collaboration.

In the second section, we review some of the central insights generated by a social functional approach to emotions in empirical research over the last 20 years. For example, studies have illuminated the role of emotional experience in social-moral judgments about right and wrong. New studies of emotional communication show how emotions help to coordinate social interaction. Individual differences in emotional dispositions also involve strategic expressions of emotion, in ways that reflect social functions. Thus, a social functional approach has served to guide emotion research into new and societally significant domains.

In the third section, we address the question of continuity between humans and other primates. An evolutionary approach implies a great deal of continuity between closely related species, yet we opened this paper with the claim that human beings are ultrasocial, whereas chimpanzees, our closest primate relatives, are not. We resolve this conflict by stating that the basic elements of emotionality are almost entirely conserved among humans and other primates, but that a few changes in the human mind lead to enormous differences in the emotional lives of humans. These are the very differences that make ultrasociality possible.

In the fourth section, we address one central controversy that must be resolved before an evolutionary approach to emotions can be embraced: the question of cultural variation. We conclude that the available evidence on facial expressions and emotion-specific physiology supports a universalist position (e.g., Ekman, 1992; Elfenbein & Ambady, 2002; Keltner, Gruenfeld, & Anderson 2003) at the individual and dyadic levels of analysis. However, our social functionalist approach holds that universality at the two lower levels is fully compatible with variation at the group and cultural level.

WHAT IS AN EVOLUTIONARY APPROACH TO EMOTIONS?

In 1872 Charles Darwin published *The Expression of the Emotions in Man and Animals*, a book that would have a profound impact upon both emotion research and our understanding of human origins. He wrote this book in 4 months, taking on creationist claims that humans were endowed with unique emotions setting them apart from "lower" species. To support his claims about the evolution of the human race, Darwin drew parallels between human expressions and those of other species. He offered functional arguments about the origins of particular facial displays, such as the furrowed brow, tears, and the eyebrow flash. He even queried missionaries living in other cultures about whether they had observed expressions not seen in Victorian England, to bolster his claims about the universality of emotional expressions.

Although *The Expression of the Emotions in Man and Animals* was a best seller in its day, it would be largely ignored by psychologists for nearly a century
afterwards. In the early 1960s, however, several theorists revived evolutionary accounts of emotion and extended Darwin's rich observations about facial expression to controlled studies of the universality of expression (Ekman, 1972; Izard, 1977; Plutchik, 1962; Tomkins, 1962, 1963). These early evolutionary accounts were soon complemented by updated theories (Barrett & Campos, 1987; Ekman & Davidson, 1994; Tooby & Cosmides, 1990), ethological studies (e.g., Eibl-Eibesfeldt, 1989; Krebs & Davies, 1993), and philosophical analysis (Wright, 1973), which, together, have given shape to an evolutionary approach to emotion. This new evolutionist view of emotion is guided by a few general principles.

**Emotions have Functions**

The first thing an evolutionary approach did for the study of emotion was to help redefine what an emotion is. Emotions had been typically depicted as disruptive and debased, to be mastered by rational thought whenever possible (Calhoun & Solomon, 1984; Keltner & Gross, 1999). Among scientists, emotions were most often defined, implicitly or explicitly, in terms of specific response components—appraisal themes, action tendencies, nonverbal displays, particular subjective states or feelings, or autonomic nervous system profiles (Calhoun & Solomon, 1984). Evolutionary accounts, in contrast, define emotions in terms of functions that enable the individual to respond effectively to environmental challenges and opportunities. Anger is more than just a specific family of facial expressions or patterns of neural activation; it is a set of coordinated responses that help restore just relations. Embarrassment is more than the blush or the pronounced desire to hide; it is a form of appeasement. Emotions have the hallmarks of adaptations: They are efficient, coordinated responses that help organisms to reproduce, to protect offspring, to maintain cooperative alliances, and to avoid physical threats (Ekman, 1992; Levenson, 1999; Oatley & Jenkins, 1992; Oatley & Johnson-Laird, 1987; Simpson & Kenrick, 1998; Tooby & Cosmides, 1990).

This emphasis on function has shaped the field of emotion in several ways. It has broadened existing taxonomies of emotion, in particular directing researchers to the systematic study of several more "social" emotions such as compassion, gratitude, love, and awe (e.g., Eisenberg et al., 1989; Hazan & Shaver, 1987; Keltner & Haidt, 2003; McCullough, Kilpatrick, Emmons, & Larson, 2001). It has led appraisal researchers to engage in problem analyses for the different emotions (e.g., Tooby & Cosmides, 1990), articulating how each emotion is tailored to a prototypical challenge for survival or reproduction (e.g., Barrett & Campos, 1987; Ekman, 1992; Frijda, 1988; Keltner & Haidt, 2001; Lazarus, 1991). A functional emphasis also sheds light on an array of specific findings by linking particular components of an emotional response to particular evolutionary problems and opportunities. For example, anger is associated with enhanced distribution of blood to the hands, whereas fear involves less blood flow to the periphery (Levenson, 1992). This finding only makes sense when one considers what is needed to fight an enemy vs. escaping an attack with minimal loss of blood.

Not every instance of an emotion will reveal the functions it evolved to serve. Particular occurrences of fear, embarrassment, or anger may lead to maladaptive
behavior, poorly tailored to the demands of the immediate context, and false positives (e.g., chronic shame for a disability; attachment to a security blanket) are quite common. An evolutionary approach does not demand that every emotional response be explained in terms of survival and reproductive fitness. Indeed, many evolved behaviors, functional in the appropriate context, can be elicited as a false positive by a similar but inappropriate stimulus, or can be dysfunctional in certain situations (Rose, 1998; Tomkins, 1984). Thus, it is not necessary to articulate the fitness value of human responses to kittens and puppies in order to demonstrate the evolutionary value of compassion. It is more likely that nurturant responses toward one’s own young and young kin are selected for, and that biological kin recognition systems are far from perfect (Rose, 1998; Tomkins, 1984). An evolutionary approach looks for ways that, on average, emotions brought individuals reliable, specific benefits within the Environment of Evolutionary Adaptedness (EEA; Tooby & Cosmides, 1990).

**Emotions Ultimately Enhance Reproductive Fitness**

A second effect of an evolutionary approach has been to highlight a certain kind of answer to the question, “why do we have emotions?” The question “why?” is not exclusive to evolutionary theory—social constructivists also agree that emotions are best understood in terms of function in a given society (Oatley, 1993). From an evolutionary perspective, however, the question “why?” does not ask about the reasons a person has for a particular emotion at a specific moment in time, or even in a specific culture. Instead, evolutionary approaches ask about the systematic, beneficial consequences of emotion, in terms of enhanced survival and reproduction rates of the individual, offspring, and related kin, given the physical and social conditions of the EEA (Darwin, 1872/1965; Eibl-Eibesfeldt, 1989; Ekman, 1992; Krebs & Davies, 1993; Öhman, 1986; Plutchik, 1980; Tooby & Cosmides, 1992).

Social functionalist approaches to emotion look closely at opportunities to enhance reproductive fitness. In the last 30 years, evolutionary theorists have uncovered the profoundly social nature of human gene replication and individual survival (Cosmides & Tooby, 1992; Cronin, 1991; Eibl-Eibesfeldt, 1989; Hrdy, 1999; Sober & Wilson, 1998; de Waal, 1996). As we shall see, ultrascociality introduces a host of new opportunities and challenges for fitness, and emotions help us respond to many of these in ways that enhance reproductive success. People select mates, reproduce, raise offspring, avoid predation, gather food, and stay warm in complex, long-term relationships (Buss, 1989, 1994; Hrdy, 1999). Emotions are a critical part of developing and maintaining these bonds.

A social functional approach recognizes that certain emotions, such as fear, embarrassment, or guilt, help the individual respond adaptively to threats in the social environment. At the same time, the social functional approach helps remedy a long-standing bias in the emotion literature—the emphasis on negative emotions and inadequate specification of the emergence of positive emotions in the course of evolution (Shiota, Keltner, & John, in press). The assumption that environmental opportunities are less important than threats in determining fitness is
common, but most likely a misguided assumption. The immediate costs of missing an opportunity may not be as great as the immediate costs of ignoring a threat to life and limb. Still, small differences in reproductive performance, such as those caused by differential response to opportunities, have great impact over time—fitness differentials of 1% can account for all of evolution throughout Earth’s history (Ehrlich, 2000). In our more detailed analysis below, we shall see that a social functional approach to emotion identifies the evolutionary functions of several positive emotions.

**Emotions Enable Social Commitments**

Exactly how do emotions contribute to the array of human relationships that make up human ultrasociality? We have found a useful answer in commitment-based analyses of emotion and relationships (Frank, 1988; Gonzaga, Keltner, Lundahl, & Smith, 2001, 2001; Nesse, 1990). The long-term relationships so crucial to our survival—pair bonding, parent–child bonds, cooperative alliances, group memberships—often require that individuals devote costly resources to others, and avoid self-interested behaviors that could harm social partners. Emotions help solve these commitment-related problems in two critical ways. First, emotions motivate courses of action that enhance long-term bonds, such as spousal commitment and reciprocal kindness. Emotions also serve as signals to others of long-term commitment. For example, displays of love and gratitude are reliable, sought after indicators of commitment to marital bonds and cooperative alliances, respectively.

In Table 6.1, we summarize some key social functions served by several emotions within significant relationships. In reviewing this table, it is important to keep in mind that it does not summarize all the adaptive problems humans faced in the EEA, but only some problems theorists have identified in considering emotion from an evolutionary perspective. It is also important to note that emotions most certainly have served other functions than those presented in Table 6.1. For example, anger most clearly serves important functions within reproductive relations and hierarchical relations. Compassion no doubt plays an important role in promoting cooperative relations among nonkin (e.g., Frank, 1988). The table simply lists single functions for the different emotions for illustrative purposes.

In our classification outlined in Table 6.1, emotions help to solve two kinds of social problems. On the level of intimate social interaction, evolutionary and attachment theorists have proposed that emotions address problems of reproduction, which include procreation and the raising of offspring to the age of reproduction (Bowlby, 1979; Shaver, Morgan, & Wu, 1996). Sexual desire facilitates the identification of promising sexual partners and the establishment of reproductive relations, while love is one component of psychological attachment between romantic partners, or pair bonding (Buss & Schmidt, 1993; Diamond, 2003; Ellis & Malamuth, 2004; Gonzaga et al., 2001; Hazan & Shaver, 1987; Shioti et al., in press). These emotions involve sensitivities to cues related to potential mate value, including beauty, fertility, chastity, social status, and character (Buss, 1994), expressive behaviors that signal interest and commitment (Frank, 1988; Gonzaga
TABLE 6.1 A Taxonomy of Opportunities and Problems, and the Functional Systems and Emotions that Solve Them

<table>
<thead>
<tr>
<th>Problem</th>
<th>Functional Systems</th>
<th>Emotions</th>
<th>Specific Functions</th>
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<tbody>
<tr>
<td>Problems of Reproduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding a mate</td>
<td>Sex</td>
<td>Desire</td>
<td>Increase likelihood of sexual contact</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Commit to long-term bond</td>
</tr>
<tr>
<td></td>
<td>Attachment</td>
<td>Love</td>
<td></td>
</tr>
<tr>
<td>Keeping mate</td>
<td>Mate protection</td>
<td>Jealousy</td>
<td>Protect mate from rivals</td>
</tr>
<tr>
<td>Protecting offspring</td>
<td>attachment</td>
<td>Love</td>
<td>Increase bond between parent, offspring</td>
</tr>
<tr>
<td></td>
<td>Caregiving</td>
<td>Compassion</td>
<td>Reduce distress of vulnerable individuals</td>
</tr>
<tr>
<td>Problems of Group Governance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperation</td>
<td>Reciprocal altruism</td>
<td>Gratitude</td>
<td>Signal, reward cooperative bond</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Guilt</td>
<td>Repair own transgression of reciprocity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anger</td>
<td>Motivate other to repair transgression</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Envy</td>
<td>Reduce unfair differences in equality</td>
</tr>
<tr>
<td>Group organization</td>
<td>Dominance hierarchy</td>
<td>Pride</td>
<td>Display high status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shame</td>
<td>Display reduced status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Embarrassment</td>
<td>Pacify likely aggressor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contempt</td>
<td>Reduce another's status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Awe</td>
<td>Endow entity greater than self with status</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disgust</td>
<td>Avoidance of group members who violate cultural values</td>
</tr>
</tbody>
</table>

et al., 2001), and hormonal and autonomic responses that facilitate sexual behavior (Diamond, 2003). Jealousy motivates one to protect a mate from poaching, preserving both the mate’s investment in current offspring and the opportunity to reproduce with the mate in the future (Buss & Schmidt, 1993). Love, as one component of psychological attachment, also motivates young and vulnerable offspring to stay close to protective adults. A complementary emotion, compassion, motivates parents to nurture and protect offspring (Shiota, Campos, Keltner, & Hertenstein, 2004).

The problem of cooperation lies at the heart of ultrasociality. There are many evolutionary advantages to cooperation, including reducing chance-based variance in finding food, and massive increases in productivity due to division of labor and specialization. Gratitude at others’ altruistic acts is a signal that one recognizes the value of a benefit received and intends to repay in some form in the
future (Trivers, 1971). However, unconditional cooperation is readily exploited, so humans do best when they reciprocate both cooperative and aggressive acts (Trivers, 1971). Several emotions signal when cooperative reciprocity has been violated, and motivate reparative behavior (de Waal, 1996; Frank, 1988; Nesse, 1990; Trivers, 1971). Guilt occurs following one’s own violations of reciprocity and is expressed in apologetic, remedial behavior (Keltner & Buswell, 1996; Tangney, 1992). Anger motivates one to punish other individuals who have violated rules of reciprocity (Lerner, Goldberg, & Tetlock, 1998). Envy motivates individuals to derogate others whose favorable status is unjustified, thus preserving equal relations (Fiske, 1991).

Cooperation at the large group level requires complex distribution of labor and resources, such as food, territory, and mating opportunities; the social hierarchy provides a useful heuristic for this process (de Waal, 1986, 1988; Fiske, 1991; Keltner et al., 2003). The establishment and negotiation of status hierarchies is in part accomplished by emotions related to dominance and submission (de Waal, 1996; Öhman, 1986). Pride is experienced and displayed by individuals who have accomplished some socially valued task, and it projects the expectation of increased social status (Tiedens, Ellsworth, & Mesquita, 2000; Tracy & Robins, 2004). Embarrassment and shame appease dominant individuals and signal submissiveness (Keltner & Buswell, 1996; Miller & Leary, 1992). Contempt is defined by feelings of superiority and dominance vis-à-vis inferior others. Awe is experienced when one senses the presence of an entity greater than the self; it can be elicited by others who have displayed remarkable power or ability, and it endows these individuals with respect and authority (Fiske, 1991; Keltner & Haidt, 2003; Weber, 1957).

This social functional approach, rooted in recent evolutionary insights, reveals the ultrasocial nature of emotions. Once thought to be largely intrapsychic phenomena—patterns of autonomic response, or subjective experiences expressed in language—emotions are now widely studied in terms of their social functions.

The Functions of Emotions Depend on the Level of Analysis

How does one ascertain the social functions of emotions? Do all outcomes of a particular emotion speak to the social functions of that emotion? No. We have proposed that the social functions of emotions can be classified at four levels of analysis, and offered a list of the kinds of functions characteristic of each level (Keltner & Haidt, 1999; see also Averill, 1980; Frijda & Mesquita, 1994 for other approaches). Evolutionary approaches to emotion have tended to focus on the two lower levels, at which the individual or the dyad is the unit of analysis, whereas social construction approaches have tended to focus on the two higher levels, at which the group or the culture is the unit of analysis. We believe that keeping these four levels in mind is the key to reconciling the conflicting conclusions of evolutionary theorists and social constructionists. In Table 6.2, we summarize various claims about the different functions of emotion, working at these four levels of analysis. As we will try to show, the characteristics that make emotions functional at the individual and dyadic levels appear to be fairly constant across cultures, whereas the social functions of emotions at the group and cultural levels seem to be quite variable. We also
TABLE 6.2 Functions of Emotion at Four Levels of Analysis

<table>
<thead>
<tr>
<th>Level</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>Inform individual of problems/opportunities</td>
</tr>
<tr>
<td></td>
<td>Prepare the individual for action</td>
</tr>
<tr>
<td>Dyadic</td>
<td>Knowledge of others’ mental states</td>
</tr>
<tr>
<td></td>
<td>Reward or punish prior action</td>
</tr>
<tr>
<td></td>
<td>Evoke complementary or reciprocal behavior</td>
</tr>
<tr>
<td>Group</td>
<td>Define group boundaries and members</td>
</tr>
<tr>
<td></td>
<td>Define group roles and identities</td>
</tr>
<tr>
<td></td>
<td>Motivate collective action</td>
</tr>
<tr>
<td>Culture</td>
<td>Define cultural identity</td>
</tr>
<tr>
<td></td>
<td>Identify norms and values</td>
</tr>
<tr>
<td></td>
<td>Reify cultural ideologies and power structures</td>
</tr>
</tbody>
</table>

assume, like others (e.g., Rozin, 1996), that emotions evolved by serving adaptive functions for individuals. Once in place, these emotion-related systems and their outputs may have been recruited to serve or facilitate other higher order functions, which may or may not have been relevant to evolution.

At the individual level of analysis, researchers focus on emotion-specific changes in experience, cognition, and physiology (Clore, 1992, 1994; Clore, Gasser, & Garvin, 2001; Davidson, Pizzagalli, Nitschke, & Kalin, 2003; LeDoux, 1996; Levenson, 1992; Schwarz, 1990). At this level of analysis, emotions are thought to inform the individual about specific social events or conditions, typically those presenting a significant opportunity or threat (Campos, Campos, & Barrett, 1989; Lerner & Keltner, 2001; Lowenstein & Lerner, 2003; Schwarz, 1990). Emotions, in particular their physiological and motivational components, are also thought to prepare the individual for action in his or her best interest (e.g., Frijda, Kuipers, & ter Schure, 1989; Levenson, 1999; Russell, 1995). As one illustration, anger-related changes in sympathetic activation (Levenson, Ekman, Heider, & Friesen, 1992) and frontal activation asymmetry (Harmon-Jones, Sigelman, Bohlig, & Harmon-Jones, 2003) enable the individual to engage in aggressive, approach-related behaviors that remove sources of injustice.

At the dyadic level of analysis, the focus is on communication of emotion through facial, vocal, and postural channels (Cohn & Tronick, 1983; Ekman, 1992; Juslin & Laukka, 2003; Keltner et al., 2003; Öhman & Dimberg, 1996; Scherer, 1986; Scherer, Johnstone, & Klasmeyer, 2003). At this level of analysis, emotions help solve the “other mind” problem, communicating information about current emotions, intentions, and dispositions to conspecifics (Ekman, 1993; Fridlund, 1992, Keltner et al., 2003). Emotional communication evokes complementary and reciprocal emotions in others that help individuals respond to significant social events (Dimberg & Öhman, 1996; Keltner & Kring, 1998).

At the group level of analysis, researchers ask how emotions help collectives of interacting individuals meet their shared goals (Clark, 1990; Collins, 1990;
de Waal, 1996; Durkheim, 1912/1954). By studying role-related implications of emotions, researchers have found that emotions help define group members and negotiate group-related roles and statuses (e.g., Clark, 1990; Collins, 1990). For example, several cultures have a word that describes both a feeling, related to shame, embarrassment, and gratitude, and a deferential action directed at high status individuals ("lajya" and "hasham"; see below). The experience and display of this emotion is embedded in the recognition of one's place in a social hierarchy. The individual experience of emotion is thought to help each group member engage in collective goal-directed behavior, thereby benefiting the entire group.

At the cultural level of analysis, researchers have focused on the shaping of emotions by historical factors, and on the embedding of emotions in cultural institutions, practices, norms, and discourse (Abu-Lughod & Lutz, 1990). Emotions at this level of analysis help individuals assume cultural identities. Embarrassment (Goffman, 1967) motivates conformity and the proper playing of one's roles, while socio-moral disgust motivates the avoidance and shunning of people who violate key values within a culture (Rozin, Haidt, & McCauley, 2000). Emotions embedded in family conflicts, parental reactions, and socialization practices help children learn the norms and values of their culture (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Dunn & Munn, 1985; Shweder, Mahapatra, & Miller, 1987; White, 1993). Emotions interpreted through the lens of cultural values may also reify cultural ideologies and power structures (e.g., Hochschild, 1990). Much as at the group level, the selective experience and expression of emotion for certain groups justifies their position within a culture. Drawing on stereotypes of the emotions of subordinated groups, for example, Lutz (1990) has argued that cultural discourses about female emotionality relegate women to positions of subordinate status.

Emotions, then, serve different kinds of functions at each of these four levels of analysis. They inform and orient the individual, coordinate dyadic interactions, signal group identities and values, and transmit culture-related practices, identities, and ideologies. A single emotion may have multiple functions, depending on the level of analysis one considers. A brief episode of embarrassment, for example, can inform the individual of transgressions to avoid, signal others a sense of remorse for the transgression, evoking forgiveness, communicate the individual's position within a group, and convey commitments to cultural mores and standards. This multi-level analysis of the functions of emotions helps address certain problems. Most notably, conflicts between evolutionary and cultural approaches to emotion have often arisen because of arguments over the "real" function of some emotion. From a social functional approach, this is unnecessary; for emotions are expected to serve multiple functions.

Our analysis also draws attention to the ways that emotions can be put to new uses. Complex adaptations of morphology and behavior, such as bipedalism and altruism, often have been driven by multiple functions (Ehrlich, 2000). Selection does not identify a single function as the basis for preserving or eliminating a trait. Emotions that serve one function in one evolutionary context may serve a different fitness-enhancing function in a different context. The distaste humans have for noxious and potentially poisonous foods is put to use in our moral repulsion of
impure actions, presumably to help group members abide by moral principles (Rozin et al., 2000). Thus, "exaptation" or "preadaptation" should always be considered as a possible explanation when multiple functions are observed for a single emotion (Ehrlich, 2000; Gould, 1991).

EMPIRICAL INSIGHTS GENERATED BY A SOCIAL-FUNCTIONAL APPROACH TO EMOTIONS

The social-functional approach to emotion has facilitated a number of substantial theoretical developments in social, personality, and clinical psychology. Over the last 20 years, emotions and their social effects have attained a central position in the explanation of several important psychological phenomena. Here we describe three examples of this development.

Emotional Experience as Social-Moral Intuition

Early studies of emotion and cognition revealed that momentary affective states could profoundly influence all sorts of judgments, even regarding objects unrelated to the elicitor of the affect (Forgas, 1995). Momentary affect has been shown to influence judgments of overall life satisfaction (Schwarz & Clore, 1983), political satisfaction, marital satisfaction, punitive judgments (Lerner et al., 1998; Weiner, Graham, & Reyna, 1997), the sense of justice (Keltner et al., 1993), attributional processes (Forgas, 1998), stereotyping (Bodenhausen, Kramer, & Susser, 1994), and perceptions of risk and certainty (Lerner & Keltner, 2001). These studies have convincingly documented that evanescent and specific emotions can guide cognitive processes to a substantial degree (Clore et al., 2001; Forgas, 1995; Schwarz, 1990).

Evolutionary accounts of emotion have helped guide the interpretation of these findings and pushed the theory one step further, contending that many emotions act as social-moral intuitions (Haidt, 2001; McCullough et al., 2001). Fast, automatic, involuntary experiences of specific emotions, imbued with motivational energy, provide gut feelings about right and wrong, virtue, one's social station, and punishment, without the need for elaborate calculation at the conscious level (Campos et al., 1989; Greene & Haidt, 2002; Haidt, 2003; Rozin et al., 2000).

Guided by this view of emotional experience, empirical studies have documented that distinct emotions map onto different domains of moral judgment. The experience of anger correlates with judgments of violated rights, disgust with violations of purity, contempt with violations of duties and obligations, and sympathy with perception of harm to others (Eisenberg et al., 1989; Haidt, 2003; Rozin, Lowery, Imada, & Haidt, 1999; Vasquez, Keltner, Ebenbach, & Banaszynski, 2001). Emotions serve as guides to specific relationships: The experience of love correlates with other measures of long-term commitment (Gonzaga et al., 2001); and the experience of embarrassment is negatively correlated with social status (Keltner, Young, Oemig, Heerey, & Monarch, 1998). Within the realm of punitive judgment, anger and sympathy are powerful determinants of preferred forms of punishment toward criminal defendants (Weiner et al., 1997),
social actors (Lerner et al., 1998), and groups or nations in conflict with one's own group. Once thought to be disruptive and irrational, emotional experience is now viewed as a wellspring of social-moral intuitions. By this view, emotional experience guides moral judgment, assessments of current relationships, and preferences for punitive action in ways that contribute to the stability of the group.

**Emotions Coordinate Social Interaction**

Emotional expression was once viewed primarily as a readout of the individual's internal state. More recent theories, grounded in the social functional approach, have brought into focus how emotional expression coordinates social interactions—a perspective consistent with claims that communicative behaviors involved in sending messages have co-evolved with behaviors involved in receiving them (Eibl-Eibesfeldt, 1989; Hauser, 1996). Thus, one individual's emotional expression serves as a "social affordance," which evokes "prepared" responses in others (e.g., Öhman & Dimberg, 1978). Anger, for example, might have evolved to elicit fear-related responses and the inhibition of inappropriate action; distress calls might have evolved to elicit sympathetic responses in observers.

This evolutionary approach to emotional expression has facilitated several new insights into human emotional communication via facial muscle movements (Keltner et al., 2003), vocalization (Juslin & Laukka, 2003, Scherer et al., 2003), posture, and touch (Hertenstein, 2002). A first generalization to emerge from this work is that emotional expressions coordinate rapidly shifting social interactions. Emotional displays communicate information about the individual's emotional state (Ekman, 1993; Scherer, 1986), but in so doing they convey critical information about the individual's social intentions—whether to strike or flee, offer comfort or play (Fridlund, 1992). With this information, social partners can make better-informed choices about how to behave in the interaction.

Emotional expressions also communicate information about one's relational status vis-à-vis the target of the expression (Keltner, 1995; Tiedens, Ellsworth, & Mesquita, 2000). For example, emotional expressions serve as signals of commitment to important long-term relationships (see also Frank, 1988). Emotional expression conveys information about objects and events in the social environment as well (e.g., Mineka & Cook, 1993). Emotional displays evoke specific, complementary responses from observers—for example, anger evokes fear (Dimberg & Öhman, 1996), whereas distress evokes sympathy and aid (Eisenberg et al., 1989). When viewed as a unit, these exchanges of complementary emotions can enhance the stability and interdependence of the dyad. Through these processes, emotional communication helps individuals in relationships—parent and child, potential mates—respond to the demands and opportunities of their social environment. Thus, emotional expressions are basic elements of social interaction, from flirtatious exchanges to greeting rituals.

To the extent that emotional communication coordinates social interactions, individuals with deficits in the generation or perception of emotional messages should experience pronounced difficulties in social relationships. This claim, entirely in keeping with a social-functional view of emotion, has generated dozens
of studies on different emotional disorders (for partial review, see Keltner & Kring, 1998). Two generalizations are emerging in this new literature on emotion and psychopathology.

First, individuals with deficits in emotional expression experience disrupted social relationships, because they provide others with less information about their mental states and fewer incentives for rewarding interactions. Thus, depressed individuals show fewer expressions of positive emotion, which produces difficulties in intimate relationships (Keltner & Kring, 1998). Depressed mothers, for example, show fewer rewarding smiles to their children, and their parent-child interactions are characterized by greater anxiety, conflict, and disorganization (Field, Healy, Goldstein, & Guthertz, 1990).

Second, deficits in the perception of emotion should likewise prove problematic to relationships. For example, several studies have found that high-functioning autistic children have difficulty reading the emotions of others (Howie & Keltner, 2003). This may in part contribute to their well-documented difficulties with close relationships.

Individual Differences in Emotion Reveal Functions of Emotion

Many individual differences in personality reflect differences in emotional character. Children vary, starting as early as 2 years of age, in how fearful, warm, or conductive they are (Caspi, Bem, & Elder, 1987; Kagan, Reznick, & Snidman, 1990). These personality traits, most notably extraversion, agreeableness, and neuroticism, have important emotional correlates (Gross, Sutton, & Keltner, 1998; Larsen & Ketelaar, 1999; Watson & Clark, 1992), suggesting that emotional dispositions are a core part of personality and identity (Keltner, 2000; Malatesta, 1990).

Within a social functionalist approach, individual differences in emotion can be thought of as variation in evolutionarily significant strategies for navigating the social environment (Buss, 1987). Individual differences in emotion shape individu- als' selective attention to features of complex situations, endowing them with particular diagnostic meaning. Anxious individuals, for example, perceive a greater threat and risk in situations, whereas anger-prone and cheerful individuals perceive less danger (Foa & Keltner, 2001). Characteristic emotional experiences and displays also shape one's environment, evoking consistent responses from others and creating or closing off various kinds of opportunities for the individual. For example, people prone to positive emotional expressivity evoke more positive reactions in others, with highly fitness-relevant implications for social and mate acquisition (Miller & Keltner, 2001). A social-functional approach to emotion attribution reveals specific links between dispositional experience of a given emotion, for example, to the extent that self-conscious emotions serve an appraisal function (Foa & Keltner, 2001).
EMOTIONS ARE SHARED WITH OTHER PRIMATES YET HUMAN EMOTIONALITY IS UNIQUE

We take as a premise the assumption that the foundation of human emotionality was laid down throughout the long course of primate and human evolution. This premise has had tremendous impact on the methods used to study emotion by opening the door to research with nonhuman models, e.g. de Waal, 1989; Van Hooff, 1972. For example, work with rhesus and primates has guided theory and research on human social and emotional processes, e.g. Noller, 1992; Schallert, 2004, on the role of emotion in attachment, caregiving, and separation distress, e.g. John, 1989, and on the neurological basis of fear, e.g. LeDoux, 1998.
Even more complex and subtle emotions, such as embarrassment, appear to have deep roots in adaptations to life in dominance hierarchies (Keltner & Buswell, 1997). Despite this overall pattern of conservatism, however, a hallmark of complex systems is that small changes in structure can trigger large and wide-ranging changes in functional phenotype. In this section we describe how three specific changes unique to the human species may have given rise to drastic transformation in emotional experience.

**Humans have Much Larger Frontal Cortexes than do Other Primates**

The most important difference between humans and other species, providing the foundation for all other differences, is that the human brain more than doubled in size over the last 2.5 million years (Leakey, 1994). Most of this growth occurred in the frontal cortex, and one of the most expanded areas is in areas of the prefrontal cortex, the orbito-frontal and ventro-medial cortex (Brodman areas 9 and 10; see Semendeferi, Armstrong, Schleicher, Zilles, & Van Hoesen, 2001). This region of the brain is profoundly involved in the interface between higher-level cognitive processes and more primitive emotion systems. The frontal cortex is heavily implicated in mental representation, theory of mind, inhibition of behavior, and the integration of planning and memory with affective reactions (Beer et al., 2003; Rolls, 2000). Humans are able to generate emotional responses to fantasies, memories, and abstract stimulus characteristics, respond emotionally to the perceived internal states of others, modulate and re-direct dominant emotional action tendencies, and use emotion as a source of information in complex social decision-making tasks, all because of processes that appear mediated by this newly developed region of the brain.

Growth in the prefrontal cortex may have enabled development of the moral emotions, which in turn made possible human ultrasociality. In fMRI studies, increased activity in the prefrontal cortex has been observed as participants complete moral judgment tasks, particularly those that involve emotion (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001), and these areas are less active in psychopaths, who lack moral emotions. When this region is damaged, patients lose the ability to integrate feeling information into their decision-making, or to take the emotional implications (to the self or others) of behaviors into account; massive impairment of professional competence and personal relationships typically follow (Damasio, 1994; for a review see Greene & Haidt, 2002).

**Humans have Language**

Another new cognitive ability that has shaped the way humans experience and express emotion is language. Language, combined with the frontally mediated representational abilities mentioned above, allows for the transmission of emotion in narrative processes like storytelling and gossip (Oatley, 2003). Whereas other animals can (presumably) only feel emotions linked to immediate, ongoing events, humans spend their days triggering in themselves and each other whatever emotions
they desire. This process allows emotions to be exploited for group- and cultural-level social functions, as when narratives about cultural heroes are crafted to trigger admiration, gratitude, and pride, thereby strengthening group loyalties and teaching core cultural values. Recent analyses of "urban legends" show that the most successful ones, those most widely transmitted, are those that trigger stronger emotions like disgust (Heath, Bell, & Sternberg, 2001).

Language also allows emotions to be applied to novel objects. Philosophers have long observed that the intentional object of an emotion—what the emotion is about—is quite specific compared to the object of moods. Emotions such as anger or compassion are prototypically reactions to specific individuals. But human linguistic and representational capacities make it easy to think about many different entities—one's self, family, school, ethnic group, or nation—as the intentional object of almost any emotion. This more flexible extensibility of human emotion allows for emotions to serve functions at the group and cultural level of analysis. Love for family, and the commitment behaviors and sense of obligation the emotion produces, can be extended to love of a larger collective.

**Humans have Culture**

The phrase "monkey see, monkey do" is charming, but misleading. Monkeys do very little true imitation, and even chimpanzees are bad at learning by direct copying (Richerson & Boyd, 2004). It is humans, with our cumulative and ever-developing cultures, who must learn the vast majority of our behavioral repertoire by emulating conspecifics (Richerson & Boyd, 2004). Only human beings have a hunger for role models, a motivation to seek out successful individuals, get close to them, and then copy their behavior.

This need to learn brings with it an opening for a new class of emotions. Henrich and Gil-White (2001) point out that prestige in human beings is not at all like dominance in other primates, which is regulated largely by feelings of fear and submission. Human beings may be unique in having the emotion of admiration, which makes people like and look up to an exemplary person, and want to maintain proximity to that person to maximize opportunities for learning (Algoe & Haidt, 2004; Henrich & Gil-White, 2001). Human beings are probably also unique in experiencing moral elevation, a pleasurable emotional response to virtuous acts, which motivates people to emulate the actor (Haidt, 2003). These positive moral emotions are unlikely to exist in animals that do not directly copy each other's behavior.

The central role of culture in human life also means that different societies may foster very different patterns of emotional experience and communication (Ekman, 1972; Russell, 1991; Shweder & Haidt, 2000). Societies typically "hyper-cognize" some emotions, giving them a central role in the social structure and encouraging their experience and display, while "hypocognizing" others, de-emphasizing or actively discouraging their experience and/or display (Levy, 1984). Hypercognized emotions are represented more often and in greater detail in a society's emotion lexicon, whereas the reverse is true for hypocognized emotions (Russell, 1991). As a result of these processes, emotions with largely universal characteristics at the individual and dyadic level of analysis may show tremendous
cross-cultural variation at the group and cultural levels of analysis. We discuss this distinction in greater detail in the next section.

EMOTIONS ARE BOTH UNIVERSAL AND CULTURALLY VARIABLE

The issue of culture and emotion is in some ways like an optical illusion. Looked at in one way, emotions are obviously universal. One need only read about Cain’s envy of Abel, or about Buddha’s descriptions of the specific effects of anger and desire upon cognition, to conclude that emotions are the same wherever you go. On the other hand, anthropologists routinely describe cultures that seem to have unique emotions and unique emotional reactions. Furthermore, many of our cultural stereotypes are, in part, claims about emotional differences between groups (e.g., hot-blooded Latins vs. stolid Scandinavians). We believe a social functionalist view can help to resolve the illusion of incompatible perspectives into a single integrated understanding. The key idea is that one must be very specific about the emotion or emotional process being addressed, and about the level of analysis on which one is focused. We offer three principles for navigating your way through the current jungle of literature on emotion.

Expect Little Variation in Links among Functional Elements at the Individual and Dyadic Levels of Analysis

At the individual level of analysis, one views emotions as ways of connecting significant environmental events with preparation for an appropriate behavioral response (Levenson, 1992). This implies consistent correlation among multiple components of emotion episodes, including appraisals of the situation, central and autonomic nervous system changes, cognitive biases, motivations, facial expressions, and other evidence of action tendencies. Facial expressions of emotion, in turn, have powerful, predictable, and specific effects on the qualities of dyadic interaction (as discussed earlier).

Most explicit cross-cultural research on emotion has examined relationships among components (e.g., appraisals, physiological changes, facial expressions) at these two lower levels of analysis. Such studies have provided strong evidence that these variables are connected in similar ways across cultures (e.g., Ekman et al., 1992; Frijda et al., 1989; Levenson et al., Mauro, Sato, & Tucker, 1992; Scherer & Walbott, 1994). The best-known research on emotion has examined how facial expressions are understood, by mapping them either to emotion words or to emotion-eliciting situations (e.g., Ekman, Friesen, & Ellsworth, 1982). These results have led many theorists to conclude that facial expressions of happiness, sadness, anger, fear, disgust, and surprise are rooted at least partly in human nature (Ekman, 1994; Ellsenbein & Ambady, 2002; Haidt & Keltner, 1999), although these results are open to some alternative interpretations (Russell, 1994).

In our own study (Haidt & Keltner, 1999) we set out to test whether facial expressions and situational elicitors would be matched up similarly in India and
the United States, bypassing many of the problems associated with the use of translated emotion words (Russell, 1994). We were surprised to find a very high degree of similarity, not just for the initial “Ekman 6” prototype displays (fear, anger, sadness, disgust, happiness, and surprise) but also for contempt and embarrassment expressions. We also found that, even though the Oriya language (of Eastern India) does not separate shame and embarrassment lexically, Oriya speakers in our study consistently described two different kinds of “lajya” when discussing two distinct facial expressions that Americans had labeled using these words. Two of our main conclusions from this study were that: (1) the understanding of facial expressions is perhaps the worst place to look for cultural differences; and (2) differences in the emotion lexicon across cultures may not necessarily reflect differences in emotional experience.

To the extent that cultures do appear to differ in the relationships among facial expressions, emotion language, and situational elicitors, we believe that Ekman’s (1972) Neuro-Cultural Theory of facial expressions of emotion accounts well for evidence of nonuniversality. This theory proposes that an innate “Facial Action Program” guides both the display and interpretation of prototypical emotional expressions, but also includes a role for cultural “display and feeling rules” for when certain emotions are encouraged or discouraged by a particular society. This distinction works quite well, provided that the analysis is limited to the main functional components discussed above, and to the individual and dyadic levels of analysis.

Distinguish Potential from Practice

To say that the connections among emotion episode components are for the most part universal does not mean that emotions are used and experienced in similar ways around the world. Mesquita (2001) recommends distinguishing between the “potential” for experience and the “practice” of emotional experience. Potential means asking this question: If you put people in a similar testing situation, are they capable of experiencing the hypothesized linkages among emotion components? Nearly all experimental work by psychologists has tested emotion potential, and has found a general picture of similarity, nearly always above chance levels and usually far above chance.

In contrast, “practice” refers to what actually happens in people’s lives. Anthropologists tell us what happens on the ground, and people’s day-to-day emotional experience is often radically different across cultures. Some cultures seem to value or at least permit public expressions of anger (e.g., the Ilongot chronicled by Rosaldo, 1980), while others work hard to suppress all such expressions (e.g., the Utku Eskimos described by Briggs, 1970). In some cultures (such as ours) shame is seen as a bad emotion; it is frowned upon as a socializing tool in public schools, and people go to therapy to get free of it. In more interdependent and hierarchically structured societies there is often a hyperrecognized emotion, combining elements of what we call shame, embarrassment, shyness, and modesty, which is highly valued when displayed by the lower-status person in an interaction (Abu-Lughod, 1986; Doi, 1973; Menon & Shweder, 1994.). According to Mesquita, Frijda, & Scherer (1997), “people from different cultures appear to be
similar in their emotion potential, especially when this potential is described at a higher level of meaning. Yet, despite the similarities in basic elements of emotional life, concrete emotional realities in different cultures may widely vary."

A corollary of the "potential vs. practice" distinction is that the emotion lexicon of a language may be informative about practice, but not necessarily about potential. Cultures do vary substantially in how they carve up the domain of emotional experience into lexically encoded categories (Heider, 1991; Russell, 1991). But do these linguistic differences imply psychological differences? The old Sapir-Whorf hypothesis (Sapir, 1921; Whorf, 1956) was exciting because it suggested that the presence or absence of a word in a language was an externally measurable sign of psychological potential. People who lacked words to distinguish kinds of snow, or blue from green, or sadness from fear, might not perceive differences between such experiences.

However, current evidence suggests that the strong version of the Sapir-Whorf hypothesis is false (Hunt & Agnoli, 1991; Oatley, 1993). As a general rule, members of a society without a word for a particular emotional state readily understand the new term, once its context is explained. As Steven Pinker says about "schadenfreude," a German emotion word with no English translation: "When English-speakers hear the word Schadenfreude for the first time, their reaction is not, 'Let me see ... Pleasure in another's misfortunes ... What could that possibly be? I cannot grasp the concept; my language and culture have not provided me with such a category.' Their reaction is, 'You mean there's a word for it? Cool!'" (Pinker, 1997, p. 367).

**Expect Extensive Differences at the Group and Cultural Levels of Analysis**

The key to understanding—and even predicting—cultural differences in the practice of emotion is to move to the group and cultural levels of analysis. At these levels of analysis one examines the ways that emotions help to define social identity, identify norms and values, and negotiate and reinforce power structures—processes that differ dramatically from group to group and culture to culture. Many of these differences can be traced back to economic factors, so that agricultural societies, which require a high level of cooperation, organization, and interdependence, tend to be hierarchically organized, making extensive use of what Fiske (1992) calls "authority ranking" to structure social interactions. In contrast, hunter-gatherer societies that do not engage in agriculture (Boehm, 1999), and urban cultures built around trade tend to place a greater value on individual initiative and to make greater use of what Fiske (1992) calls "equality matching" to govern trades among equals.

Different emotions are recruited to reinforce these values and relational models, which find their clearest expression in group-level interactions. For example, hierarchically organized cultures seem to make extensive use of emotions related to shame/embarrassment and respect/dereference to structure group interactions (Abu-Lughod, 1986; Kitayama, Markus, & Kurokawa, 2000). Social interactions within such cultures are likely to be permeated with and guided by these feelings,
such as “lajya” in Orissa, India. These emotions help to foster a high degree of obedience to superiors, conformity to sex-role expectations, and interdependence with the other members of one’s family, clan, village, or other groups. In contrast, the central dynamic in egalitarian cultures is not one of respect vs. disrespect; it is vigilance against the usurpation of power or resources (Boehm, 1999). Emotions of anger and envy play a much larger role in egalitarian cultures, as they help to regulate cooperation among equals and the ever-present threat of free-riding.

CONCLUSION

Evolutionary theory has given rise to the scientific study of emotion. In this article, we have attempted to synthesize evolutionary insights concerning emotion, with an eye toward articulating new trends in the study of emotion and resolutions to questions regarding the universality and cultural variability in emotion.

In the most general sense, evolutionary approaches to emotion have led to a radical redefinition of what emotions are. For years emotions were largely thought of as intrapsychic phenomena, often disruptive or problematic in their outcomes. In contrast, an evolutionary approach highlights the functions that emotions serve for the individual, dyad and group. Evolutionary approaches trace the origins of emotions back to reproduction- and survival-related problems that defined the group living of humans. And evolutionary approaches of the past 15 years have made the case for a more general function of emotions—that they motivate survival- and reproduction-enhancing commitments to other individuals.

This general framework has revealed new insights into emotion-related processes, like experience, facial expression, and temperament. Once thought of as ineffable or beyond study, emotional experience is now thought, thanks to evolutionary insights, to play a critical role in social-moral judgments. Once largely viewed as a readout of internal states, emotion-related communication in the face, voice, and touch is now thought of in terms of how these expressive behaviors coordinate the interactions of individuals in significant relationships. And individual differences in emotions are now studied as biologically based, functional strategies that guide the individual in interacting with the environment over the course of life.

A final theme of our chapter has been to integrate the insights of evolutionary theorists, who largely focus on emotion-related processes within the individual and the dyad, and cultural approaches that focus on how emotions shape and are shaped by group- and culture-related processes, like morals, values, roles, and identity. We contend that evolution has endowed humans with emotion-related systems that solve many of the problems of social living. These aspects of emotion—expressive behavior, physiological process—have parallels in the emotion-like behaviors of other species. Yet human emotion is also unique, and shaped by language, the large cortex of the human brain, and our capacity for culture. These processes give rise to many new facets and uses of emotion, including the capacity for emotion to fold into social rituals and to become elicited by culturally specific events and objects.
Evolutionary and cultural approaches to emotion once stood in bitter opposition to one another. The synthesis of these rich traditions, however, has led to a new view of emotions, one that situates emotions at the center of human social life.

REFERENCES


