

Social Functions of Emotions in Life and Imaginative Culture

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Abstract

One chapter in the science of emotion has focused, largely through an individualist lens, on just a few emotions: the Ekman Six. Considerable debate has occurred and entrenched positions have ensued. In this essay we offer evidence and argument revealing that there are not only six emotions, nor states measured as valence and arousal, but upwards of 20 discrete emotions that contribute to our subjective and social lives. These emotions enable the rich fabric of relationships, from caregiving interactions to collective activities, that are vital to cooperation. Grounded in advances in cultural evolution, we detail how emotions and culture co-evolved, highlighting how emotions are building blocks of cultural forms such as ceremonies, dance, narratives, music, and visual art.

Keywords: discrete emotions, cultural evolution, cooperation, narrative, art

Introduction

In the early 1960s Paul Ekman asked people from the Fore group in New Guinea to label photos of six facial expressions (Ekman 1972). He found a degree of universality and helped to advance the study of emotion. He also stirred considerable debate that persists to this day (Ekman 1992; Russell 1994; Barrett et al. 2019; Cowen et al. 2019; Keltner et al. 2019).

This study had a deeper legacy—one that has shaped a chapter in the science of emotion. Ekman's research oriented the field to six emotions—anger, disgust, fear, sadness, surprise, and happiness—that were hypothesized to be universal. We will call these the Ekman Six. The theorizing that followed assumed that emotions at their core are intra-personal; they happen to individuals, and largely take place within an individual's brain, mind, and body.

In this article, we propose a different view that we have been developing in *Understanding Emotions*, first published in 1996 (Keltner, Oatley, and Jenkins 2019). We call this the Social Functional Theory. Emotions serve many needs, including those related to individual

survival: avoiding toxins and predators, for example, or finding nutrition-rich foods. Perhaps yet more important, our theory highlights how emotions serve social needs that have been vital to human evolution and are at the center of culture. These include forming attachments, making commitments, gaining status, preserving fairness, and belonging to social collectives (e.g., Addessi et al. 2021; Keltner et al. 2021). This framework reveals 20 or more emotions as basic constituents of subjective and social life. This thinking shifts the focus from emotions as endpoints, such as how a feeling of disgust is tracked by bodily sensations and facial muscle movements, to how emotions shape thought and social interaction in systematic ways.

To advance this thinking, we first consider the legacy of Ekman's research in New Guinea and the rather narrow study of emotion that followed: a product of an early methodological decision. We then review new studies and shift the conceptual focus from emotions as outcomes, to emotions as dynamic causes of the interpretation of social contexts, social interaction, and the creation of cultural forms such as music, literature, and visual art.

The Ekman Six, an Individualist Bias, and a Current Debate

As psychological science embraced emotion in the recent rise of “affectivism” (Dukes et al. 2021), Basic Emotion Theory (Ekman 1992), has become central in this field. According to this theory, emotions are states that last just a few seconds, or perhaps minutes, and are defined by distinct feelings, expressive behavior, and physiological patterning in the central and peripheral nervous systems. Grounded in this definition, hundreds of peer-reviewed studies have charted emotion-specific appraisals, expressions, autonomic patterning, and central nervous system activation (for reviews see Matsumoto et al. 2008; Brosch, Pourtois, and Sander 2010; Keltner and Lerner 2010; Kreibig 2010; Lench et al. 2011; Tracy 2014; Keltner, Oatley, and Jenkins 2019).

Constructivism arose as a critique of this view, offering an alternative account of emotional experience in particular. James Russell (2003) and Lisa Feldman Barrett (2017) propose that how we feel about events, what we might do about our feelings, and how we describe them to others and to ourselves, derive from culture with its language and knowledge structures, which we learn as we develop from childhood through adolescence to adulthood. In constructivist accounts, only culture-based interpretations give emotions any specificity. Here, constituents of emotion are not feelings of distinct emotions, such as anger, disgust, fear, or joy. Nor do distinct emotional experiences track emotion-specific expressive actions of the body or our physiology, for those are presumed not to exist. Instead, the proposal is that what ordinary people think of as emotion is based on “core affect,” which has two dimensions: “valence” or pleasantness, which ranges from feeling good to feeling bad, and “arousal,” which ranges from energization to lassitude (Barrett 2017). Barrett (2016) says that “Valence and arousal are descriptive properties, not mechanisms that cause anything” (33). She claims that when one observes or measures

certain aspects of emotions some differences that occur within a so-called discrete emotion such as fear or anger are larger than those between two supposedly separate emotions (see Barrett 2016a; 2016b), and that there are no specific “fingerprints” of discrete emotions (Barrett 2017, chapter 1). Both she and Russell offer other kinds of evidence that run contrary to some of Ekman’s claims. Central to the varieties of constructivism is the idea that, with the influence of culture, emotions derive from core affect—mixtures of valence and arousal—through “conceptual acts” in the form of culturally specific verbal labels, attributions, and interpretations of bodily sensations (e.g., Russell 2003; Lindquist et al. 2012; Barrett 2017).

The title of Barrett’s book on this issue is *How Emotions Are Made* (2017). She means that emotions are made by descriptions offered in particular cultures—not simply “You look as if you’re feeling bad [unpleasant], a bit wound up [aroused],” but “Of course you’re afraid of him, who wouldn’t be?” or “It makes sense that you’re angry.” Differences among our experiences of emotion are proposed to arise only in this kind of way. They derive from what we learn in our family and society, growing up with a certain gender, social class, religion, system of values, and ethnicity.

Central to the constructivist enterprise have been challenges to claims that the Ekman Six are accompanied by distinct patterns of expression and physiology (e.g., Lindquist et al. 2012; Siegel et al. 2018; Barrett et al. 2019). These reviews suggest that there are no distinct patterns, no discrete emotions. Equally extensive reviews, often of the same literature, speak to the distinctions between discrete emotions within the Ekman Six (e.g., Cowen et al. 2019; Elfenbein and Ambady 2001; Kreibig 2010; Lench et al. 2011). On occasion, the same findings are said to reach opposing conclusions (see Cordaro et al. 2016; and critique, Barrett and Gendron 2016).

In the several decades of such empirical advance and debate, a more basic question has

yet to be addressed. Its answer, we believe, opens the field to new lines of inquiry, and requires new layers of theory. What are the basic constituents of the functions of emotion, and our experience of emotion? How do we perceive emotion in the social context, in other people's behavior, or in a piece of music or visual art? Does our emotional experience reduce either to the Ekman Six or to verbal descriptions of states measured on dimensions of valence and arousal? Or is something more complex to be found?

Emotional Life beyond the Ekman Six: The Rise of Social Functionalism

Intuition suggests that human emotional life involves more than just six emotions. What about amusement? Or awe? Or embarrassment (Keltner and Buswell 1997)? Or compassion (Goetz et al. 2010)? Or positive emotions more generally (e.g., Shiota et al. 2017)? Social Functionalist Theory arose out of these kinds of questions, and the sense that we experience more than the Ekman Six or dimensions of valence and arousal, and that emotions are not only rich in their intrapersonal processes, but also extend beyond what happens within an individual to the dynamics of social living (Frijda and Mesquita 1994; Keltner and Haidt 1999).

Grounded in sociology, anthropology, and developmental psychology, Social Functional Theory highlights how emotions generally occur between and among people within social interactions. Emotions enable the embodiment of social roles and identities and are represented in cultural forms like poetry, laws, fairy tales, music, and ceremony (e.g., Lutz and White 1986). Aligning with evolutionary approaches, Social Functional Theory assumes that emotions are proximal causes of how humans accomplished survival-related tasks, from the raising of vulnerable offspring to the provision of food, in interdependent, emotionally rich relationships (Darwin 1871; Tooby and Cosmides 1990; Wilson and Sober 1998; Hrdy 1999; Tomasello 2019). Emotions were critical adaptations in our

hominid evolution. Emotions occur within the social and symbolic dynamics of culture. They are always constructed by both evolution and culture.

The central idea of Social Functional Theory is that emotions enable the formation and negotiation of relationships—attachments, romantic partnerships, friendships, hierarchies, collectives—central to human social life (Averill 1985; Parkinson 1996; Keltner and Haidt 1999; Algoe 2012; Boiger and Mesquita 2012; Niedenthal and Brauer 2012; Sznycer and van Kleef 2016; van Kleef et al. 2016; Cohen 2021). Yes, emotions involve the interpretation of bodily sensations and intrapsychic processes like memory. Emotions also structure social life. They are principal components of parent-child bonds, the dynamics of romantic relations, of friendships and places within hierarchies, and our sense of belonging, or alienation, in collectives of different kinds from sports teams to religions.

Inspired by this broadening conceptualization of what emotions are, two empirical traditions find that human emotion is much richer than the Ekman Six or dimensions of valence and arousal. One line of studies proceeded in a top-down fashion and asked questions like: What emotions help humans form attachments with caregivers? How does emotion play out in the status moves of social hierarchies? What emotions animate an individual's sense of collective identity? Relevant studies have characterized the experience, expression, and physiology of attachment-related emotions, in particular love, sexual desire, and sympathy (Gonzaga et al. 2001; Diamond 2003; Goetz, Simon-Thomas, and Keltner 2010; Edelman and Chin 2018; Impett and Muise 2019). Studies have examined pride and triumph and their relationship to signaling status and group strength (Tracy and Matsumoto 2008; Tracy and Robins 2008; Cheng, Tracy, and Henrich 2010). A turn to the collective emotions has led to explorations of ecstasy and awe in religion, ceremony, music, and dance (Van Cappellen 2017; Cowen, Fang,

Sauter, and Keltner 2020). In *Understanding Emotions* (Keltner, Oatley, and Jenkins 2019) we offer a review of these advances.

This top-down approach is limited in being guided by scientists' a priori assumptions about what emotions are (e.g., Russell 1994; Cowen et al. 2019). Recent open-ended, data-driven studies, from the bottom up, speak as well to the richness of emotion beyond the Ekman Six and valence and arousal (for summary, see Cowen and Keltner 2021). This approach departs considerably from the contested methods of the past. Participants have rated their experiences in response to vast arrays of evocative stimuli, and on dozens of emotion words and appraisal terms. Rather than studying judgments of actors' portrayals of prototypical expressions, participants have offered interpretations of more naturalistic, spontaneous facial, vocal, and full-bodied expressions captured outside of the laboratory (Cowen and Keltner 2019; Cowen et al. 2021).

Consider the results of two illustrative studies. In a first, participants rated 2180 short, evocative videos in terms of 34 distinct emotions and a full array of appraisal dimensions, including valence and arousal (Cowen and Keltner 2017). In a second, participants rated over 1500 spontaneous facial bodily expressions. Figures 1 and 2 present visualizations of these results, with distinct emotions represented in separate colors and located in a multidimensional "semantic space" according to their relatedness to other emotions.

What we learn is that the *dimensionality* of emotion—the distinct kinds of emotions that make up experience and perceived emotion—is rich, and far more complex than the Ekman Six or low dimensional spaces implied by constructivist theories. We learn in terms of the *distribution* of emotions that the boundaries between emotions are not discrete, but fuzzy (Barrett 2006). Blends of emotions are common. And finally, in terms of *conceptualization* of emotion, distinct emotion categories emerge such as "amusement," "awe," "embarrassment," and "fear," and these categories drive emotional

experience and perception far more than valence and arousal (for summary, see Cowen and Keltner 2021).

Across separate studies of emotions elicited by music and dramatic videos, emotions perceived in facial expression, vocalization, and prosody, 18 states have distinct profiles: AMUSEMENT, ANGER, ANXIETY, AWE, CONFUSION, CONTENTMENT, DESIRE, DISGUST, ELATION, EMBARRASSMENT, FEAR, INTEREST, LOVE, PAIN, RELIEF, SADNESS, SURPRISE, and TRIUMPH. These findings converge with recent summaries of emotion-related physiology and experience (Shiota et al. 2017; Weidman and Tracy 2020) and have been extended with similar results to emotion-specific brain activation associated with over 30 states (Tomoyasu et al. 2020). The Ekman Six and valence and arousal account for only 30% of emotion. Studies and debates that restrict themselves to the Ekman Six (e.g., Lindquist et al. 2012; Barrett et al. 2021) are limited in the inferences they allow and say nothing about rich domains of emotion, like the positive and self-conscious emotions, rich mediums of emotional expression such as touch, and compelling bodily responses like blushing, feeling the chills, laughing, or crying (for fuller argument, see Cowen et al. 2021).

Human Cooperation and Interpersonal Emotion

As Social Functional Theory emerged, it interacted with dramatic developments in evolutionary thinking over the past 25 years, which has witnessed a shift from a focus on the selfish gene as the unit of analysis to the focus on dyads, groups, and cultures as dynamic evolutionary forces (Sober and Wilson 1998; Henrich 2017). Illustrative of this shift is that in evolutionary psychology, it seems likely that the most important psychological-evolutionary research of the twenty-first century has been that of Michael Tomasello and his group. They have discovered that although the characteristic that is usually taken to distinguish humans from other animals is language, a more fundamental



FIGURE 1. Map of varieties of emotional experience evoked by 2185 videos. Each color refers to a distinct kind of emotional experience elicited by short video. At least 27 dimensions, or kinds of emotion, were required to capture participants' emotional experiences. We visualized the approximate distribution of videos along all 27 dimensions using a technique called t-distributed stochastic neighbor embedding (t-SNE). The varieties of emotional experience are high-dimensional and bridged by continuous gradients, found to correspond to smooth transitions in meaning (Cowen and Keltner 2017).

issue—a prerequisite for language—is that we humans are able to cooperate with each other. Tomasello (2014, 2019) proposes that cooperation emerged in two phases. The first was the ability to make arrangements with each other, and then carry them out. A version of this was that early humans gathered food and ate together (Wadley et al. 2020). By comparison, when

groups of our closest primate cousins, chimpanzees, find a source of food, each takes what he or she can, with those who are higher in the hierarchy being the first to pick. They then go off to eat it by themselves (Goodall 1986).

Warneken and Tomasello (2006) set up situations in which human children observed adults trying to do tasks that they could not complete.

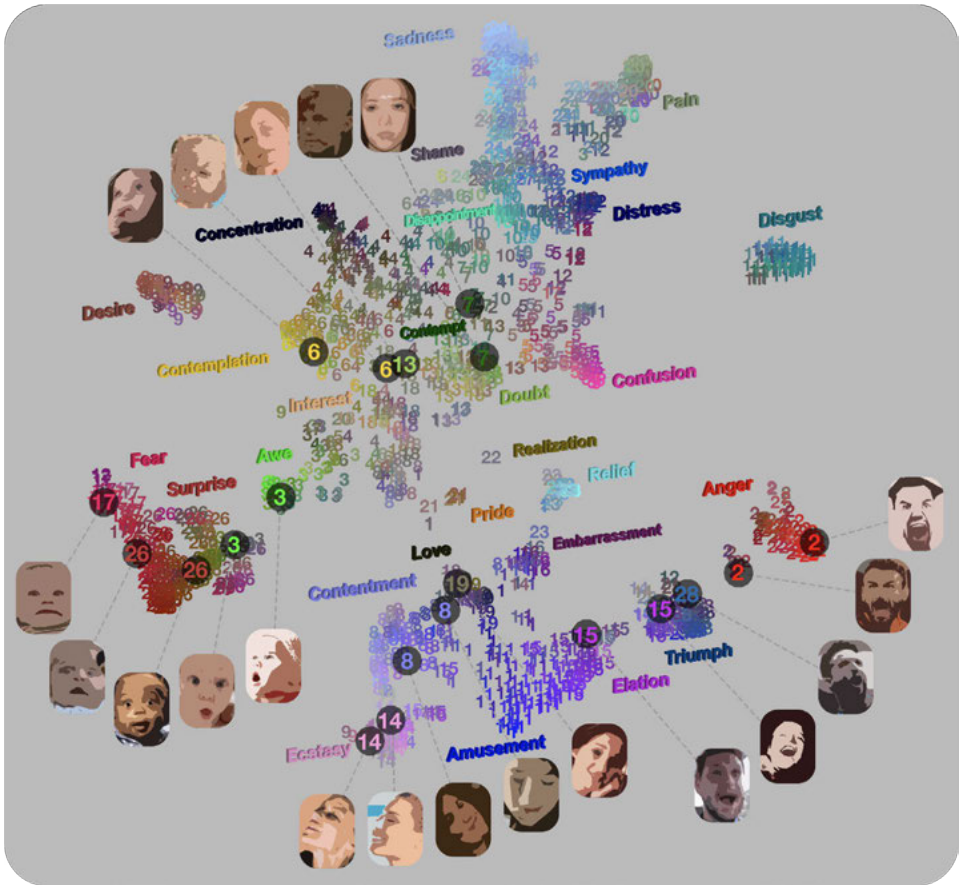


Figure 2. Map of emotion recognized in 1500 facial-bodily expressions (Cowen and Keltner 2019). Twenty-eight categories were required to capture participants' judgments of facial-bodily expression. As with the emotions evoked by video (figure 1), these emotions were most accurately conceptualized in terms of the emotion categories, and we can see that emotion categories often treated as discrete are bridged by continuous gradients. Many of these gradients traversed both positive and negative emotions—triumph and anger, interest and doubt, awe, surprise, and fear—further suggesting that the distinction between positive and negative emotion may be fuzzier than commonly assumed. See <https://s3-us-west-1.amazonaws.com/face28/map.html> for interactive map.

For example, a man with a big pile of books in his hands tried to put the books into a cupboard. Because the cupboard was closed and he had his hands full, he could not open the cupboard door. Children as young as two could understand what the man was trying to do and opened the cupboard door for him: inferring a plan and cooperating to help. (There is a photograph of this in Oatley 2018, 194). Esther

Herrmann, Tomasello, and colleagues (2007) compared the abilities of 105 human children who were two and one-half years old with 106 chimpanzees up to the age of 21, and 32 orangutans up to the age of 10, on sets of two types of task. One of these sets was physical, for instance trying to find a reward that had been hidden. The other set was social, of the kind described (above) by Warneken and Tomasello.

Children, chimpanzees, and orangutans were similar in being able to solve the physical tasks, but only the human children could do the social tasks.

Tomasello calls this first phase of the human ability to make cooperative arrangements “joint intentionality,” in which goals that involve “we” become more important than goals that involve only “I.” Tomasello calls the second phase “group intentionality.” It involves the formation of cultures and living within the roles, modes, and conventions of societies.

Our proposal here is that human emotions have a central function of enabling cooperation. In the study by Warneken and Tomasello (2006), the inference is that even young children can feel empathically with the failure of the man’s plan to put the books into a cupboard, and are emotionally moved to help him, often with no benefit to themselves. With their success in the cooperative endeavor, both the man and the children feel happy, perhaps accompanied by other emotions such as gratitude and pride. Human cooperation occurs even when there is also competition between individuals or groups, for instance in games, but sometimes also in wars.

These discoveries about early tendencies towards cooperation converge with other recent findings: humans share reflexively with strangers, will sacrifice for those in need, cooperate in economic games, routinely mimic others’ behavior, synchronize in feeling and physiology, and empathize and theorize about others’ minds, all forms of cooperation served by prosocial physiological systems (e.g., Keltner et al. 2014). Evolution and the array of emotions we are considering here have given rise to much of what is “bad” about human nature: genocide, ethnocentrism, sexual violence, and honor killings. At the same time, our highly social evolution gave rise to emotions that are building blocks of relationships that enable cooperation, including attachments between caregiver and vulnerable children, sharing among non-kin, fairness in trading relations, the stable formation

of friendships and hierarchies, and membership in collectives (e.g., Keltner et al. 2021).

Buoyed by this new understanding of the cooperative tendencies of humans, Social Functional Theory yields new insights into how emotions function to shape perception, moral framing, and attribution and meaning making, as well as social processes between and among people. These insights have intellectual origins in Lazarus’s (1991) theorizing about core-relational themes, dimensional and componential accounts of appraisal (the focus on fairness in Smith and Ellsworth 1985; the focus on justice and power in Scherer 2005), and the theorizing of Herbert Simon (1967).

The core of Simon’s proposal is this. Imagine a simple animal, adapted to a single environmental niche. When an event occurs that will affect it, the animal responds in a way that, during evolution, has been selected for. No emotions are needed. Now imagine a being at the other end of the scale, a god who is omniscient and omnipotent. When something happens, knowing everything and with unlimited resources, this god will know what to do. Again, no need for emotions. We humans are in between. In a complex environment that includes other beings who act in it, we can know only a tiny amount. When an event occurs that we have not anticipated, or that we do not fully understand, and which affects a want or need, we will often not know what to do. Because our resources are also very limited, a way in which we could act may have an effect that is insufficient. What is required, says Simon, is a rough categorization of the unanticipated event followed by an urge in a particular direction: a priority. For humans this set of rough categories with their accompanying urges has been selected for and bequeathed to us by evolution. When, for instance, a threat occurs, it is recognized and the urge is to avoid or escape. We call the emotion “fear.” When one is given less than a fair share of a resource, the priority is to try to modify the other’s thinking or actions. The emotion is “anger.” As Nico Frijda (1988, 2007)

has put it, an unanticipated event which affects a “concern”—a matter of importance to us—prompts us towards a certain emotion with an underlying state of “action readiness.” The emotion gives a priority and prepares the body and mind for it. This is unlikely to solve everything about the problem, but it is better than doing nothing or acting in a way that is irrelevant.

Simon’s proposal (not mentioned by Barrett 2017) arrives at a central insight: that specific emotions prioritize feeling, thought, and action to meet concerns within the environment. We suggest that upwards of 20 emotions are central to this system in humans: they orient people towards meeting their physical and social needs, so often enabled by cooperation. This claim translates to new understandings of emotional experience, which has long focused on how self-reports of subjective feeling track intrapsychic processes, such as sensations in the body (Reisenzein et al. 2013; Nummenmaa, Glerean, Hari, and Hietanen 2014; Garfinkel and Critchley 2016) or configurations of facial muscle movements (Matsumoto et al. 2008). Social Functional Theory suggests that emotional experience focuses on specific concerns within ongoing relationships. A recent review (Keltner et al. 2021) found evidence for this view—that a range of distinct emotions enables people to categorize dynamic contexts in terms of important social concerns to attend to, from the sense of security to the sense of fairness to feelings of belonging.

Once underway, distinct emotions orient thought to specific social concerns with others within what have been called “appraisal tendencies” (Lerner and Keltner 2001). These tendencies can direct attention to matters of harm, for example, in the case of sympathy, or fairness in the case of anger, or status in the case of embarrassment. These tendencies also shape emotion-specific perception, attribution, moral framing, and memory in systematic ways (Keltner and Horberg 2015; Lerner et al. 2015). As one of many well-studied examples, momentary experiences of sympathy orient attention to

vulnerability and need, reduce judgments of blameworthiness, and bring into focus the rewards of others’ gains (Oveis et al. 2010), all of which enable sacrifice and generosity (Keltner et al. 2014). More generally, emotions guide the construal of physical and social reality in ways that are in keeping with their core social themes (e.g., Lerner and Keltner 2001).

Social Functional Theory offers a new look at emotional expression. We now know that humans express more than the Ekman Six in the face, gaze, voice, and head and postural movements (e.g., Cordaro et al. 2016, 2018; Keltner et al. 2019; Cowen et al. 2021). To what end? Many expressions, from the startle reflex to the closing of eyes, protect the individual. At the same time, our theorizing suggests that emotional expression is not simply a readout of interior experience; its primary function is *to structure social interactions* like soothing, flirtation, resource exchange, as well as actions in rituals and ceremonies (Lutz and White 1986; Abu-Lughod 1990; Keltner and Kring 1998; Scarantino 2017; Van Kleef 2016). Many emotional expressions structure dyadic and collective social interactions, sometimes by evoking *mimetic responses* that take the form of shared laughter, smiling, blushing, crying, synchronized emotional responses to music, contagious emotion within sports teams and work units, and collective feeling in ritual (Barsade 2002; see Hess and Fischer 2014 for review). Emotional expressions also evoke *complementary responses*, orienting observers to meet others’ relational needs (e.g., Keltner and Kring 1998). For example, distress vocalizations of infants evoke in caregivers activation of the periaqueductal gray region of the midbrain, which initiates caring behavior (Parsons et al. 2014). Expressions of embarrassment evoke feelings of liking, amusement, and even forgiveness, stirring status-restoring actions directed towards the embarrassed individual (e.g., Feinberg et al. 2012).

These discoveries converge in intriguing ways with the early insights of anthropologists and sociologists, that emotions embed individuals within social interactions and relationships (e.g.,

Abu-Lughod 1990). Emotions, then, are a grammar of social life (Eibl-Eibesfeldt 1989). Human experience of emotion signals relational concerns for us to attend to. It frames our interpretation of the context in ways that enable us to meet those concerns. Relevant actions quickly follow, transforming dyadic, group-based, and collective interactions through the evocative power of emotional expression. These emotional interactions of social life, we shall now see, provide materials for the creation of imaginative culture.

Emotions and Imaginative Culture: Culture, Emotion, and their Co-Evolution

In this section we move from mainly discussing empirical studies to considering conjunctions among psychology, art, philosophy, literary theory, archaeology, and anthropology. Prior to the emergence of language, human social life was patterned on a range of emotions displayed in expressive patterns in the face, voice, and body, which drew our hominid predecessors into the social interactions vital to our signature strength of cooperation. At a certain point, in addition to language, symbols of different kinds started to be invented. The earliest that have been found are sea shells drilled with holes to make beads for necklaces, which date back to between 100,000 and 135,000 years ago (Vanhaeren et al. 2006). Following this, visual art emerged, in forms such as engraved patterns. Later came cave paintings as well as decorative sacred objects. Other forms, such as dance and performance are, however, not part of the archeological record, but very likely were also parts of our early history (see Pagel 2012). Emerging from evolutionarily derived emotions, imaginative acts of culture translated acts of social interaction into cultural forms. How might our rich palette of 20 or so emotions have given rise to such forms?

Since the time of Aristotle's *Poetics* (c. 330 BCE), the central idea in Western literary theory has been *mimesis*, often translated as "imitation" or "representation." An engaging

book on this is Erich Auerbach's 1946 book *Mimesis: The Representation of Reality in Western Literature*. In each of 20 chapters, Auerbach first gives a brief extract of one or more works, starting with Homer and the Bible, then going via Dante, Cervantes, and others, to end with Virginia Woolf. With each extract he invites readers mentally to enter the social world in which the works were written. In this way, art is seen to have a relationship with specific forms of social life.

An alternative approach, from India and Kashmir, was started by Bharata Muni (200 BCE) and extended by Abhinavagupta (Ingalls et al. 1990). Here the emphasis is also on relationship, not of the work to the world but of the writer with the person who engages with the work. This emphasis has two aspects. One is *dhvani* (suggestion). Here the writer offers forms of words with a purpose of inviting the audience member or reader to imagine. The other is emotion, *rasa*. This is not just day-to-day emotion, which is called *bhava*, which we humans do not always understand, because in ordinary circumstances, as Abhinavagupta says, we are often blinded by a thick crust of egoism. It is literary emotion, in which we can gather together, and understand its implications more deeply, deriving our insights from life, from plays we have watched, and from stories we have read. There are nine of these *rasas*, here they are listed with the corresponding *bhavas*.

<i>Rasa</i>	<i>Bhava</i>
The erotic mode of love	Sexual passion
The comic	Happiness or amusement
The compassionate or tragic	Sadness
The furious	Anger
The heroic	Perseverance
The terrible or horrific	Fear
The loathsome	Disillusionment or disgust
The wonderful	Awe
The peaceful	Serenity

Rasas can be compared to Western genres: love-story, comedy, tragedy, the heroic journey, and so on, but the deeper idea is that *rasa*-based works of literature enable us to understand important emotions, especially interpersonal ones, more deeply than we are often able to do in everyday life.

Abhinavagupta proposes that each story—in modern terms, each play, novel, film, television series, or video game—tends to be centered upon a single *rasa*. As well as this, however, there are often transitional emotions like discouragement or apprehension. But the focus on a single *rasa* enables audience members or readers more readily to take up suggestions, and imagine implications, interpret ambiguities. So in “The erotic mode of love,” a story in the *rasa* of *sringara*, when one character meets another, looks at her or him for two whole seconds, or says something that may appear meaningless like “Well,” we can more readily imagine the kind of thing that may happen.

We may notice also that the number of *rasas* is nine, not just six. Also, if we count two wherever there is an “or” in the list above, we are up to thirteen, and adding transitional emotions such as discouragement and apprehension, we are up to fifteen, maybe more.

When engaging with a literary work, a *rasa* carries with a *dhvani* (suggestion or invitation) to audience members or readers to make inferences of a certain kind. A literary writer does not describe—that is what an engineer or designer does with a blueprint. Also, the writer does not tell a reader what to think, or how to feel. Instead, in each sentence or paragraph, this kind of writer tends to offer a suggestion (*dhvani*), which invites the reader to make inferences, and perhaps engage empathically.

On the topic of how reading artistic fiction invites inference prompted by emotion-based suggestion, Maria Kotovych et al. (2011) studied participants’ engagement with Alice Munro’s (1988) short story “The Office,” the narrator of which is a writer who has little support in her work from her family or friends. To help cope

with this she decides to rent an office in which she can write. She finds that the office’s landlord makes difficulties for her.

Half of Kotovych et al.’s participants read Munro’s original version of the story, which is based on suggestion. Here is a quotation from this version:

But here comes the disclosure which is not easy for me: I am a writer. That does not sound right. Too presumptuous; phony, or at least unconvincing. Try again. I write. Is that better? I try to write. That makes it worse. Hypocritical humility. Well then? (Munro 1988, 59).

The other group was told explicitly how to think of the protagonist: that she is embarrassed when she tells others she is a writer, and that she has found that these others have often reacted to this with a mixture of sympathy and amusement, and so on.

Participants who read Munro’s original version attained a deeper, and more transparent, understanding of the protagonist than those who were told what to think. If we were to think in Abhinavagupta’s terms, this story would be situated in the *rasa* of “The loathsome,” which might prompt us to wonder how we ourselves have dealt with and may continue to deal with difficulties in our lives.

A fundamental issue here is that construction does indeed occur. It happens within the writer, within the person who engages with the work, and also between the writer and this person. In a work of literary narrative, the relative contributions of writer and the person who engages with the work are perhaps something like one-third to two-thirds. It is the reader’s imaginative construction which is the purpose and accomplishment of the story. But the construction is not just based on good versus bad, and arousal versus lassitude. It is based on distinct emotions, like desire, horror, sympathy, amusement, awe, and rage, so that from suggestions we might understand our emotions in relation to each other more deeply, and thoughtfully.

Contributing to this, each particular emotion may be meaningful, even fundamental, for both the writer and the person who engages with the artwork. With Alice Munro's "The Office," the author, the narrator, and we as readers, have experienced emotions—anxiety about what we are doing in this world, frustration about not being able to get on as we would like, loathing of some of the difficulties we face.

One reason why imaginative literature is important for understanding the evolution of emotions is that we enter works of literature using exactly the same cognitive means as those we use in everyday life to understand each other (Gerrig 1993). Jerome Bruner (1986) said that "Narrative deals with the vicissitudes of human intentions" (16). This is in contrast to what Bruner calls "paradigmatic" thought, the means by which we understand aspects of the physical world. Because of this, as we read works of literature and gain insights into human intentions, and how they meet vicissitudes, both story characters and readers experience emotions. But if emotions did not have commonalities among us, not just within cultures but across cultures, we would not be able to experience emotions that resonate empathetically with those of literary characters, from other cultures or from earlier periods in history.

Although theorists such as Lisa Feldman Barrett (2017) might argue that the emotions recognized by the narrator and readers of Alice Munro's "The Office" simply draw from within a culture, there are many examples of being able to understand emotion-based stories from widely different cultures. Patrick Hogan (2003) read stories that were created in societies from all around the world before the age of European colonization. He found that three of these modes—the love story, the anger-based story of conflict, and the story of the redemption of a society that was mired in suffering—were sufficiently common as to be almost human universals.

As an example, a European or American can fully engage in reading *The Tale of Genji*, written

a thousand years ago by Murasaki Shikibu (c. 1000), a lady in waiting in the imperial court in Japan, a place that was very different from anything that occurs in the present-day West. This story, perhaps the world's first proper novel, concerns the customs of aristocratic society at that time and Genji's sexual affairs with various women. It is not about whether he felt good or bad, aroused or bored, with these women, but about how his deepest love was for those who reminded him of his mother. Based on a resonance with this, we modern Western readers might recognize something of the same kind of emotion in ourselves; the experience of having been, or not having been, loved.

This kind of experience occurs not only in fictional stories, but in some accounts of anthropological engagements in which a researcher has lived in another society. A compelling example is *Unnatural Emotions* (1988) by Catherine Lutz, who went for nine months to the Micronesian atoll of Ifaluk. Her book is not just an exceptional piece of anthropological science: it's a narrative memoir of the best kind.

Lutz succeeds indeed in bringing alive for the reader the world of emotions and their significance in another culture. Here is an excerpt from a review of *Unnatural Emotions*:

[A]ware that it would be impossible to create for herself, or recreate for us, the actual experience of emotions among the Ifaluk . . . her aim is to bring us news not just about those distant others, but about ourselves; as members of the human race, as dwellers in industrialized society, as individuals. This she does by juxtaposing the ideas, understandings, prejudices—in short the culture—of one society with that of another. . . . Ifaluk has a population of 430 people nearly all of whom know each other, and many of whom are related biologically or by adoption. The island is an isolated piece of land about a half a square mile in extent. At its highest it is 15 feet above sea level. Typhoons can devastate the island, as they did in 1958 and 1975. They wipe out the taro gardens which are worked by the

women, and deplete the fish in the lagoon which are caught by the men. We in the West value independence, thinking ourselves secure in our own powers. The Ifaluk are aware of the precariousness of existence, and organise life around a close interdependence. (Oatley 1991, 65-66).

Here are four examples from Lutz's account of emotions on Ifaluk. The first is *ker*, with the English translation of "happiness." On the atoll, people are suspicious of it because although it is sometimes seen in men after they have been drinking, *ker* looks to most people like showing off, being rather pleased with oneself, not attending to other people's concerns. When Lutz realized this, as an American to whom the Constitution gave the right to pursue happiness, this came as a shock. In contrast, the highest emotional aim for dwellers on Ifaluk is to be *maluwelu*, gentle, calm, and quiet. The emotion here is concern that everyone in the immediate vicinity is alright. Then there occurs the emotion of *fago*, which means love and nurturance, mixed with compassion and sometimes even sadness. In this highly interdependent society, *fago* enables people to care for each other especially when ailing or needful. Next is *song*, which can be translated as "anger." But it is not anger in which an individual has been thwarted by another individual. It is a response to people who display a lack of concern for others. Lutz gives an example from when she sat with a woman and her five-year-old daughter. The girl was dancing and making silly faces: being *ker*. The woman told Lutz that she shouldn't smile because the girl would think that she was not *song*. The woman said that the girl was reaching an age at which she should be concerned for others.

Lutz's approach is social constructionist. She suggests that the culture of Ifaluk created emotions of the kind that she discusses, but she is not dogmatic. Rather, she makes suggestions and offers a dialogue.

Another example is that of Jean Briggs (1970) who lived in the Arctic within an Inuit family

for a year and a half and, in the summertime, also met other Inuit families. These people thought it was alright for children who were less than six years old to be angry, but after that it was utterly inappropriate among people who lived so close together in single enclosures such as igloos throughout long winters. Briggs did not observe any Inuit adult ever being angry

A different kind of cross-cultural approach has been reported by Biswas-Diener, Vittersø, and Diener (2005), who surveyed three groups of people who lead materially simple lives. These were some Inughuit people in Greenland, some Amish in the USA, and some Maasai in Kenya. People in all three groups were asked how much experience they had of several emotions during the previous month using a rating scale of "never" to "always." In all three groups ratings of affection, joy, and contentment, were above the neutral midpoint of the scale. Maasai people also reported experiences of pride above the midpoint of frequency. Among other emotions, in all three groups, were some that were recognizable but occurred with a frequency that was lower than the midpoint on the scale: anger, sadness, guilt, and worry.

In the work of Lutz and Briggs, readers recognize both what is unfamiliar in the emotions of other cultures and what is familiar. To us, the work of Lutz and Briggs suggests that emotions are best thought of as genetically inherited patterns of relating to our social world, but then modified and molded by culture, sometimes very deeply. It is not that certain emotions do not exist in different cultures, but that, as Biswas-Diener et al. show, several emotions are cross-culturally recognizable. If a Westerner were told that, on Ifaluk, one mode of emotion consists of people feeling rather pleased with themselves, a second is attentiveness to others in the group to try and ensure that they are alright, a third is feeling close to another and a yearning to care for them if necessary, and a fourth is disapproval of something that should not be done in that community, it would not be too difficult for a Westerner to know that the emotions being

referred to are pride, anxiety or concern, love and compassion, and anger, or emotion blends that are understandable because they also occur in our own experience. Although Barrett thinks that all that we inherit are valence and arousal, we suggest that it is far more likely that Lutz in her stay on Ifaluk, and we ourselves, are able to recognize emotions in other societies because we have experienced similar modes, which derive from evolution.

Since the waning of postmodernism, some scholars in the humanities have been turning to cognitive psychology and neuroscience to discuss literary works. Among these are Armstrong (2020), *Stories and the Brain* and Comer and Taggart (2021), *Brain, Mind, and the Narrative Imagination*. These books are reviewed in a forthcoming issue of the present journal by Carroll. He shows, in an extensive discussion, how the authors are drawn towards cultural constructionism and reject the idea of emotions being derived from evolution. Other works that adopt a constructionist stance include those of Frevert et al. (2014) and Bolens (2017). The difficulty that such authors face is that, according to Barrett, when one experiences a vicissitude, such as occurs in history, in life, or in literature, all that is there in the brain and mind is a state that can only be described as pleasant or unpleasant and exciting or boring. How much more convincing to suppose that emotional modes such as horror, love, anger, awe, pain, and sympathy, or desire, confusion, calm, and disgust do actually happen, but in ways that are deeply affected by culture. In the USA, where the culture is mostly individualist, happiness is to be aspired to and anger occurs when others interfere with a person's desires. In contrast, in societies in which people are closely interdependent, as with the Inuit and the people who live on Ifaluk, attentiveness and anxiety about whether one's family and friends are alright have become more important.

Our examples thus far have been stories from literature and ethnography. In her influential books *Feeling and Form* (1953) and *Mind: An Essay on Human Feeling* (1988), the philosopher

Susanne Langer advanced the thesis that the arts' "purpose is to objectify feeling." Each art, she details, is a unique kind of representation of emotion. In making music or visual art within a culture and a moment of history, we archive our beliefs about what Langer called "life's patterns"—the great themes of social living or, in Frijda's language, "concerns," which are central to our experience of emotion. These themes include: what it means to suffer, experience loss, love, protest unfairness, be subordinated by forces more powerful than the self, be in relation to the divine, and what it means to live and die. These acts of representation evoke new kinds of feelings:

[I]t may be through manipulation of his created elements that [a person] discovers new possibilities of feeling, strange moods, perhaps greater concentrations of passion than [her or] his own temperament could ever produce, or that . . . fortunes have yet called forth.

Across cultural understandings of literature and the arts, then, acts of the imagination allow members of a culture to engage in aesthetic experiences that enable the understanding of emotion. Advances in the understanding of cultural evolution converge with this thinking. Within this school of thought, culture can be thought of as an ever-evolving repository of shared knowledge, experience, and practice (Boyd and Richerson 1995; Henrich et al. 2016; Henrich 2017). Culture is an accessible and shared intelligence, activated to enable individuals to adapt to the challenges and opportunities in the natural, human-designed, and social environment. Acts of imaginative culture are idealized, compressed, and evocative forms of knowledge about emotion-related experience, thought, and expression, that enable individuals to become sophisticated practitioners of culture-specific emotions (for relevant discussion of emotion in fiction, see Oatley 2016). Critically, we suggest, that the 20 or more emotions that we have charted here have been

bequeathed in the course of human evolution as building blocks of cultural forms, which in turn shape the meaning of emotion across cultures and historical periods. Culture shapes emotion differently in different societies, but still in modes that can be recognized by those whose culture is different.

With forms of *representation*, people describe emotions and emotionally rich interactions in words, metaphors, stories, legends, and myths (Pagel 2012). People create stories involving spiritual entities and supernatural forces to represent extraordinary experiences of awe, ecstatic love, and terror (e.g., Taves 2020). Parenting books archive culturally specific approaches to sympathetic and loving childcare. With visual techniques in paintings, figurines, and carvings (the first of which were made tens of thousands of years ago), people represented emotionally rich interactions like childbirth, sexual relations, power dynamics (e.g., enslavement), and combat (Cowen and Keltner 2019; Dutton 2009). Perhaps earlier, people began to dramatize the bodily expressions of emotion in singing, chanting, dance, dramatic performance, and instrumental music (Dissanayake 2000). These cultural representations served as memorable ways of eliciting shared experiences of specific emotions, inviting individuals into the emotional patterns of a culture.

Through *ritualization*, people transformed simple, emotion-related behaviors into collectively performed acts with shared significance. Awe-related bowing, thrusting arms into the air, and touching “the sacred” have been ritualized into elements of religious ceremony (e.g., van Cappellen 2017). Vocalizations of awe and sympathy have been ritualized into forms of sacred chanting found all over the world (Beck 2006). Exaggerated threat displays in the face and body have given rise to dramatic portrayals of emotion in masks, sculptures, and dance.

Institutionalized belief systems—laws, legends, fairy tales, or beliefs about the divine—share a core emotional similarity across cultures (e.g., Sznycer and Patrick 2020). In extensions

of this hypothesis, analyses of folk songs, lullabies, and cultural musical traditions from around the world reveal universals in the emotions expressed (Cowen et al. 2020; Mehr et al. 2019; Savage et al. 2020; Scherer and Coutinho 2013). One analysis of the ancient arts from Mesoamerica that predate contact with Western Europeans found eight emotions expressed in figures and sculptures that Western Europeans today can readily identify and associate with the appropriate context (Cowen and Keltner 2020). The rich tradition of Hindu dance expressed in the *Natyasastra*, over 2000 years old, contains detailed descriptions of how to perform more than 15 emotions in body movements in dance that have been found to be recognized by people from non-Hindu cultures unfamiliar with the tradition (Hejmadi, Davidson, and Rozin 2000).

Cultural practices, beliefs, arts, and narratives allow creators of such cultural forms and members of a culture who appreciate them to experience and develop a shared understanding of emotions, and form, maintain, and negotiate cooperative relationships so central to culture. Through such emotional enculturation, people learn how to engage in vital interactions, such as negotiating status hierarchies (Keltner et al. 1998) or tending to a new child, and embody their roles and identities within a culture’s pattern of relationships. Emotions and culture are always co-developing.

Summary and a Look Towards the Future

One chapter in the science of emotion largely focused on research by Ekman through an individualist lens, with emotions as endpoints of intrapersonal processes. This has been countered by constructivist proposals such as that of Barrett (2017). Considerable debate and entrenched positions have ensued.

Here we hope to have contributed to a next chapter of emotion science. We suggest that the constituents of emotion are not just the Ekman Six, nor states measured as valence and arousal,

but upwards of 20 discrete emotions, each with a distinct pattern of feeling, thought, and action (and expression and physiology—see Cowen and Keltner 2021). These emotions are most richly accounted for with the new consensus in the study of culture and evolution that we are a hypersocial species for whom cooperation is central. The ways we live now draw largely on the ways of our ancestors.

Distinct emotions are a grammar of the complex relations that enable cooperation. Here we suggest that emotions are building blocks of cultural forms such as narratives, music, and visual art, as well as ceremony and ritual. Emotions are constructed by evolution and culture, always co-evolving in ever changing and enduring relationships that enable us to be who we are.

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