

Human Emotions

Humans are the most emotional animals on earth. Almost every aspect of human cognition, behavior, and social organization is driven by emotions. Emotions are the force behind social commitments to others in face-to-face interactions and groups. But they are much more; they are also the driving force responsible for the formation of social structures, and conversely, they are the fuel driving collective actions that tear down social structures and transform cultures.

Because emotions are so central to human affairs, it should be possible to develop a general theory explaining why particular emotions are aroused in individuals and groups of individuals, with particular attention to the consequences of emotions for social relations and larger sociocultural patterns in societies. As a general theory diverse manifestations of emotions can be explained; emotions drive, for example, the friendships that people develop with each other, the commitments they make to social structures, or the acts of terrorism that are designed to strike collective fear. There is a common set of forces that can be theorized and, hence, that can explain all dimensions of emotions in human affairs. The goal of *Human Emotions* is to begin the process of developing a general theory that can be tested with data from diverse sources, ranging from the experimental laboratory through case studies in natural settings to historical accounts of how emotions affect key historical events.

This book is essential reading for undergraduate and postgraduate students researching sociology of emotions, social psychology, and contemporary social theory and is also relevant for students and researchers working in the fields of psychology and cultural studies.

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Human Emotions

A sociological theory

Jonathan H. Turner



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To Professor Dr. med. Beat Hintermann and the staff of Kantonsspital Liestal, Liestal, Switzerland

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Preface

This book represents the culmination of thinking that began when I was an undergraduate at the Riverside and Santa Barbara branches of the University of California. I began as a psychology major at UC Riverside because I wanted to become a clinical psychologist. After a year of running rats in the laboratory, I began to have doubts that the discipline of psychology was right for me, and when I transferred to Santa Barbara, I fell under the spell of Tamotsu Shibutani in his social psychology class. At last, here was a discipline that studied the relationship among emotions, social structure, and culture. During my undergraduate years at Santa Barbara, I read widely in a special program for students who planned to become college instructors; and over a several-year period, I read not only George Herbert Mead, who had little to say about emotions, and Charles Horton Cooley, who had more to say, but I also read Freud and many more contemporary psychiatrists such as Harry Stack Sullivan. Even though my major area in graduate school at Cornell was social psychology, my heart was in theory; and moreover, I became fascinated by macro-level social processes during my three years at Cornell. Thus, for two decades I was a dedicated theorist with mostly macro interests, but that was to change in the late 1980s when, under the influence of my then colleague at Riverside, Randall Collins, I was re-introduced to the topic of emotions which once again sparked my interest in psychology and sociology. I was never quite happy with Collins's notion of "emotional energy," not because it was wrong but because it seemed incomplete. While the positive or negative valence of emotional energy is critical, the dynamics of specific emotions are also important in theorizing about human emotions.

As I moved back into the study of emotions in particular, and interpersonal processes more generally, I brought with me my early training in the psychoanalytic tradition – a training that was reinforced not only by Shibutani but others, such as Talcott Parsons, who also used ideas from this tradition. In my view, the standard symbolic interactionist model – for all of its other strengths – does not adequately address powerful emotions that are often repressed and transformed into new kinds of emotions. The standard approach is too cognitive, too gestalt-based. Emotions about self are

powerful, and if sociocultural conditions generate intense negative feelings, repression and other defense mechanisms change the emotional dynamics. These changes, in turn, have different effects on meso- and, potentially, macro-level social structures. Thus, a sociological theory of emotions must explain how emotions are generated under sociocultural conditions operating at micro-, meso-, and macro-level levels of social reality, how these emotions target self, others, and structures at each level of social reality, how these emotions can, when negative, be transmuted by the operation of defense mechanisms, and how the emerging emotions come back and have effects on the very sociocultural conditions that generated them. The theory developed in these pages tries to address all of these issues.

Along the way over the last fifteen years, I increasingly realized that a theory of emotions must also address the biology of emotions. Indeed, I became fascinated with the brain and how emotions are generated by various subcortical systems in the brain; and the more I studied the brain, the more I wanted to understand the selection pressures that wired the human brain for emotions during the course of hominid and human evolution. Indeed, I became so fascinated that I wrote a book on the topic (Turner, 2000a).

While I became for a time somewhat obsessed with the evolution of emotions, I was still working away on a more purely sociological theory, one that emphasized the sociocultural conditions that activate these brain systems to produce specific emotions in face-to-face encounters, with an eye to understanding how variations in emotional arousal in encounters have effects on different levels of social structure and culture. I brought with me—to my critics' dismay—both my interest in the biology of emotions and the psychoanalytic emphasis on repression as a key force. And so, the theory that appears in these pages is a composite not only of various lines of purely sociological thinking but also of ideas from other intellectual traditions that, I believe, are important and that, too often, are ignored or underemphasized by sociologists.

The theory that emerges in chapters 4, 5, 6, 7, and 8 is collapsed with some pushing and shoving into seventeen abstract principles (for a preview, they are summarized in Chapter 9), but there are many dozens of additional hypotheses offered throughout the book. I have also brought to this analysis of emotions the general conceptual scheme that I now use to analyze all sociological phenomena; and while this scheme is about as minimal as it can be, the propositions only make sense by understanding some of the vocabulary and concepts in this scheme, which is summarized in Chapter 3.

I have written the book so that the topic of biology can be ignored, if the reader so desires. All that is necessary is to skip Chapter 2 where the evolutionary story of why humans became so emotional is told and where, in the appendix to this chapter, the basic neuroanatomy of emotional arousal in humans is summarized. Thus, the theory that I develop is purely sociological,

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but I place it in a broader context provided by evolutionary biology. This theory is still a work in progress, but it is now sufficiently developed that I feel it is time to let others see it and make suggestions for how I can improve upon the principles developed in these pages.

Jonathan H. Turner

Acknowledgments

Like all of my research at the University of California, Riverside, the research for this book has been funded by grants from the Academic Senate at the University. I am most grateful for the Senate's continued support of my work. Also, this manuscript has been prepared by my typist and friend, Clara Dean, who for almost forty years has worked with me in preparing books and articles. My only fear is that she is older than I and may retire before I do.

1 Human emotions

Humans are, to say the least, highly emotional animals. We love and hate; we fall into suicidal depressions or experience moments of joy and ecstasy; we feel shame, guilt, and alienation; we are righteous; we seek vengeance. Indeed, as distinctive as capacities for language and culture make us, humans are also unique in their propensity to be so emotional. Other animals can, of course, be highly emotional, but during the course of hominid and human evolution, natural selection rewired our ancestors' neuroanatomy to make *Homo sapiens* more emotional than any other animal on earth. Humans can emit and interpret a wide array of emotional states; and in fact, a moment of thought reveals that emotions are used to forge social bonds, to create and sustain commitments to social structures and cultures, and to tear sociocultural creations down. Just about every dimension of society is thus held together or ripped apart by emotional arousal.

These observations seem so obvious that it is amazing that for most of sociology's history as a discipline, the topic of emotions was hardly mentioned. In recent decades, however, theory and research on emotions have accelerated in sociology and now represent one of the leading edges of inquiry in the discipline (see Turner and Stets, 2005; Stets and Turner, 2006, 2007 for reviews). There are now many theories, supported by research findings, that seek to explain emotional dynamics; and my goal in this book is to present yet another theory, although my approach attempts to integrate existing theories and research findings into a more global analysis of human emotionality.

What are emotions?

Surprisingly, a definition of our topic is elusive. Terms such as affect, sentiment, feeling, mood, expressiveness, and emotion are sometimes used interchangeably and at other times, to denote a specific affective state. For my purposes, the core concept is *emotion*, with other terms denoting varying aspects of emotions. What I propose, then, is a theory of human emotional arousal that seeks to provide answers to one fundamental, though complex, question: *What sociocultural conditions arouse what emotions to what effects on*

2. Human emotions

human behavior, interaction, and social organization? Clearly, this one question is really a number of separate questions, each of which will be given a provisional answer in a series of abstract principles (see Chapter 9 for a summary). Still, I have not clearly defined by topic - emotions - nor will I be able to offer a general definition because depending upon the vantage point, the definition will vary. From a biological perspective, emotions involve changes in body systems - autonomic nervous system (ANS), musculoskeletal system, endocrine system, and neurotransmitter and neuroactive peptide systems - that mobilize and dispose an organism to behave in particular ways (Turner, 1996a, 1999a, and 2000a; as well as the appendix to Chapter 2). From a cognitive perspective, emotions are conscious feelings about self and objects in the environment. From a cultural perspective, emotions are the words and labels that humans give to particular physiological states of arousal. As Figure 1.1 outlines, Peggy Thoits (1990) sought to get around this vagueness by isolating four elements of emotions: situational cues, physiological changes, cultural labels for these changes, and expressive gestures. All of these are interrelated, mutually influencing each other, but simply denoting "elements" of emotions does not really provide a clear definition of our topic. For the present, then, a precise definition will have to elude us. We can get a better sense for the topic by outlining the varieties and types of emotions that are aroused among humans and that, as a consequence, lead them to think and act in particular ways.

Primary emotions

Primary emotions are those states of affective arousal that are presumed to be hard-wired in human neuroanatomy. There are several candidates for

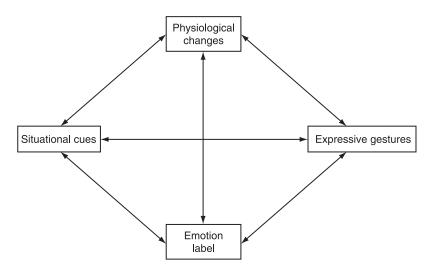


Figure 1.1 Thoits's elements of emotions.

such primary emotions, as outlined in Table 1.1 where the lists of primary emotions posited by researchers from diverse disciplines are summarized (Turner, 2000a:68–9). Despite somewhat different labels, there is clear consensus that anger, fear, sadness, and happiness are primary; and indeed, humans probably inherited these not only from our primate ancestors but from all mammals as well. Disgust and surprise can be found on many lists, and we might consider these as primary as well. Shame and guilt can be found on several lists but, as I will argue shortly, these are not primary but, instead, elaborations of primary emotions. Other emotions like interest, anticipation, curiosity, boredom, and expectancy are less likely to be primary, and in fact, they may not even be emotions at all but, rather, cognitive states.

Humans have the capacity to arouse primary emotions at varying levels of intensity, from low- through medium- to high-intensity states. Table 1.2 summarizes my conceptualization of four primary emotions and their varying levels of intensity. As I will argue in Chapter 2, natural selection probably worked on the neuroanatomy of hominids and humans to increase the range of expression of these primary emotions. With this wider range, it becomes possible to expand further the subtlety and complexity of emotional feelings and expressions which, in turn, increase the attunement of individuals to each other. The terms in Table 1.2 are, of course, cultural labels and, as such, are part of an emotion culture, but in my view, these linguistic labels for variations in primary emotions are a surface manifestation of a basic neurological capacity. They are a kind of emotional superstructure to an underlying biological substructure; and what is true of variations in primary emotions is doubly true for combinations of these emotions.

Elaborations of primary emotions

First-order elaborations of primary emotions

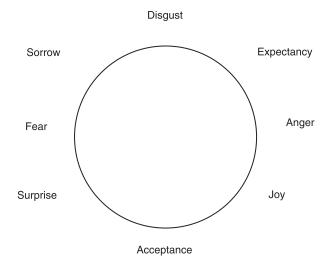
At some point in hominid and human evolution, natural selection worked on our ancestors' neuroanatomy to create a new level of emotionality: the capacity to *combine* primary emotions. Plutchik (1962, 1980) was one of the first researchers to posit a way to conceptualize how emotions are "mixed" to produce new emotions. For Plutchik, primary emotions are much like primary colors and can be conceptualized on an "emotion wheel," with the mixing of relatively few primary emotions generating many new kinds of emotions. The basic elements of his scheme are portrayed in Figure 1.2.

When emotions are combined, new kinds of emotions appear, just like mixing primary colors. I prefer to conceptualize this "mixing" as elaborations. Just how this elaboration is done neurologically is not so clear, but it probably involves the simultaneous activation of primary emotion centers in the subcortical parts of the brain in ways that produce new kinds of more complex emotions. In my conceptualization, a first-order elaboration of

Table 1.1 Representative examples of statements on primary emotions

Johnson-Laird/Oatley Emde (1992)	Emde (1980)	Panksepp (1982)	Sroufe (1979)	Turner (1996a)	Trevarthen (1984)	Arnold (1960)	Osgood (1966)	Darwin (1872)	Izard (1977, 1992b)
happiness	joy		pleasure	happiness	happiness		joy quiet pleasure	pleasure joy affection	enjoyment
fear	fear	fear panic	fear	fear	fear	fight	fear anxiety	terror	fear
anger	anger	rage	anger	anger	anger	fight defensive aggression	anger	anger	anger contempt
sadness	sadness	sorrow loneliness grief		sadness surprise	sadness		SOLTOW		
100000	surprise						amazement	astonishment	surprise
anggust	disgust shame shyness						anggust		ansgust shame shyness
	distress guilt	ı	ı	ı	ı	ı		ı	distress guilt
	interest	expectancy			approach		interest expectancy		interest
					inhibition		boredom	pain	

Ekman (1984)	Epstein (1984)	Arieti (1970)	Frommel/ O'Brien (1982)	Plutchik (1980)	Scott (1980)	Fehr/Russell Gray (1984)	Gray (1982)	Kemper (1987)	Malatesta/ Haviland (1982)
happiness	joy love	satisfaction	Joy elation satisfaction	joy	pleasure love	happiness Iove	hope	satisfaction	joy
fear	fear	fear tension	fear	fear	fear anxiety	fear	anxiety	fear	fear
anger	anger	rage	anger	anger	anger	anger	anger	anger	anger
sadness	sadness	unpleasure	grief resignation	sadness	loneliness	sadness	sadness	depression	sadness
surprise			shock	surprise					
disgust				disgust					
				anticipation	curiosity				interest
		appetite							pain
				acceptance					brownflash knitbrow



Examples of dyads

Primary

anger + joy = pride joy + acceptance = love, friendly acceptance + surprise = curiosity surprise + fear = alarm, awe sorrow + disgust = misery, remorse disgust + expectancy = cynicism expectancy + anger = revenge

Secondary

anger + acceptance = dominance joy + surprise = delight acceptance + fear = submission surprise + sorrow = disappointment fear + disgust = shame, prudishness sorrow + expectancy = pessimism disgust + anger = scorn, loathing expectancy + joy = optimism

Tertiary

anger + surprise = outrage, hate joy + fear = guilt acceptance + sorrow = resignation fear + expectancy = anxiety, dread sorrow + anger = envy, sullenness disgust + joy = morbidness expectancy + acceptance = fatalism

Figure 1.2 Plutchik's model of emotions.

Note

Primary, secondary, and tertiary emotions are created by "mixes" of emotions at varying distances from each other on the wheel above. A primary emotion is generated by mixing emotions that are adjacent to each other, a secondary by emotions once removed on the wheel, and a tertiary by emotions at least twice removed on the wheel.

Table 1.2 Variants of primary emotions

	Low intensity	Moderate intensity	High intensity
satisfaction-happiness	content sanguine serenity gratified	cheerful buoyant friendly amiable enjoyment	joy bliss rapture jubilant gaiety elation delight thrilled exhilarated
aversion-fear	concern hesitant reluctance shyness	misgivings trepidation anxiety scared alarmed unnerved panic	terror horror high anxiety
assertion-anger	annoyed agitated irritated vexed perturbed nettled rankled piqued	displeased frustrated belligerent contentious hostility ire animosity offended consternation	dislike loathing disgust hate despise detest hatred seething wrath furious inflamed incensed outrage
disappointment-sadness	discouraged downcast dispirited	dismayed disheartened glum resigned gloomy woeful pained dejected	sorrow heartsick despondent anguished crestfallen

Source: data from Turner, 1999a, b.

primary emotions involves a greater amount of one primary emotion "mixed" with a lesser amount of another primary emotion (in some unknown neurological way). The result is a new emotion that can further refine individuals' emotional feelings, expressions, and attunement.

Table 1.3 outlines the first-order elaborations for the four primary emotions outlined in Table 1.2 (Turner, 1996a, 1999a, 2000a). Thus, for example, a greater amount of satisfaction-happiness combined with a lesser amount

Table 1.3 First-order elaborations of primary emotions

Primary emotions		First-order elaborations
satisfaction-happiness		
satisfaction-happiness + aversion-fear	\rightarrow	wonder, hopeful, relief, gratitude, pride, reverence
satisfaction-happiness + assertion-anger	\rightarrow	vengeance, appeased, calmed, soothed, relish, triumphant, bemused
satisfaction-happiness + disappointment- sadness	\rightarrow	nostalgia, yearning, hope
aversion-fear		
aversion-fear + satisfaction-happiness	\rightarrow	awe, reverence, veneration
aversion-fear + assertion-anger	\rightarrow	revulsed, repulsed, antagonism, dislike, envy
aversion-fear + disappointment-sadness	\rightarrow	dread, wariness
assertion-anger		,
assertion-anger + satisfaction-happiness	\rightarrow	condescension, mollified, rudeness, placated, righteousness
assertion-anger + aversion-fear	\rightarrow	abhorrence, jealousy, suspiciousness
assertion-anger + disappointment-sadness	\rightarrow	bitterness, depression, betrayed
disappointment-sadness		
disappointment-sadness + satisfaction- happiness	\rightarrow	acceptance, moroseness, solace, melancholy
disappointment-sadness + aversion-fear	\rightarrow	regret, forlornness, remorseful, misery
disappointment-sadness + assertion-anger	\rightarrow	aggrieved, discontent, dissatisfied, unfulfilled, boredom, grief, envy, sullenness

of aversion-fear generates new emotions like wonder, hopeful, relief, gratitude, and pride (see top of Table 1.3), or a greater amount of aversion-fear mixed with a lesser amount of satisfaction-happiness generates emotions like awe, veneration, and reverence. Similar kinds of new emotions appear for all of the other combinations of primary emotions.

As I will argue in the next chapter, natural selection hit upon this solution to enhancing emotionality for two critical reasons. First, as evolved apes, humans do not have strong herding, pack, pod, or group "instincts" or behavioral propensities; tight-knit groups are *not* natural social formations for an ape (for monkeys, to be sure, but not apes; see Maryanski and Turner, 1992; Turner and Maryanski, 2005). Hence, by increasing hominids' and then humans' emotionality, a new way to generate stronger social bonds became possible; and once emotions proved to be a successful adaptation, natural selection continued to enhance this capacity.

Second, three of the four primary emotions are decidedly negative and work against increased social solidarity (and, if we add other primary emotions from the list in Table 1.1, the proportion of negative primary emotions only increases). Fear, anger, and sadness are not, by themselves, emotions that

bind individuals together; and so, if emotions were to be used to forge social bonds among hominids and eventually humans, the roadblock presented by a bias of emotions toward the negative had to be overcome (Turner, 2000a). One "solution" hit upon by natural selection was to combine negative emotions with satisfaction-happiness to produce emotions that could work to create tighter-knit social bonds. For instance, wonder, hopeful, relief, gratitude, pride, appeased, calmed, soothed, relish, triumphant, bemused, nostalgia, hope, yearning, awe, reverence, veneration, placated, mollified, acceptance, and solace can all potentially forge social bonds and mitigate the dis-associative power in the negative emotions. However, other more dangerous emotions such as vengeance and righteousness are also generated by combinations of anger and happiness; and these emotions can fuel violence and disruption of social bonds. Another solution to the predominance of negative primary emotions was for natural selection to work on the neuroanatomy of hominids and humans to combine two negative primary emotions in ways that reduce the "negativity" of each of the two emotions alone and, as a result, produce new emotions that are less volatile. Still, as the combinations of two negative emotions in Table 1.3 reveal, many of these new kinds of emotions are also highly negative, although some call attention to another's plight. For example, dissatisfied, sullenness, forlornness, remorseful, and melancholy are generated by disappointment-sadness combined with a lesser amount of fear or anger, and, perhaps, these emotions would encourage supportive behaviors to re-establish social bonds. Other combinations can be used to sanction negatively those who have broken social bonds and/or violated the moral order, thus turning a negative combination into an emotional response that has some potential for reestablishing the social order. Yet, many of these emotions such as wariness, envy, repulsed, antagonism, bitterness, betrayal, jealousy, suspiciousness, and aggrieved can also work to disrupt bonds.

Second-order elaborations of primary emotions

First-order emotions alone, then, could not fully mitigate against the power of negative emotions to disrupt the social order, and so I believe that natural selection further rewired the human neuroanatomy (and perhaps our immediate hominid ancestor's) to generate what I term second-order elaborations that are a mix of *all three* negative emotions (Turner, 2000a). As Table 1.4 outlines, I see shame, guilt, and alienation as combinations of the three negative emotions. The dominant emotion is disappointment-sadness, with lesser amounts of anger and fear in different proportions. Shame is an emotion that makes self feel small and unworthy; and it generally emerges when a person feels that he or she has not behaved competently or met social norms for expected behaviors. Shame is mostly disappointment-sadness at self, followed in order of magnitude by anger at self, and fear about the consequences to self of incompetent behaviors. Shame is a powerful

Emotion	Rank-ordering of constituen	t primary emotions	
	1	2	3
shame	disappointment-sadness (at self)	assertion-anger (at self)	aversion-fear (at consequences for self)
guilt	disappointment-sadness (at self)	aversion-fear (at consequences for self)	assertion-anger (at self)
alienation	disappointment-sadness (at self, others, situation)	assertion-anger (at others, situation)	aversion-fear (at consequences for self)

Table 1.4 The structure of second-order emotions: shame, guilt, and alienation

emotion for social control because it is so devastating, with the result that people try to avoid behaving incompetently and violating norms. Thus, shame operates to sustain patterns of social organization and gives negative sanctions "teeth" because such sanctions activate shame, thereby motivating individuals to change their behaviors.

However, shame is so negative that it often activates defense mechanisms and repression (see Chapter 4), with the result that the repressed emotions transmute into one or more of their constituent emotions – most often anger (Tangney *et al.*, 1992) but at times deep sadness and high anxiety or fear. These transmutations of shame can, in turn, disrupt social bonds. Still, with shame as an emotional response, people will generally monitor their own behaviors and act in ways to avoid experiencing such devastation to self.

Guilt is an emotion that combines disappointment-sadness with fear about the consequences to self and anger at self for violating moral codes. Unlike shame, guilt tends to be confined to specific actions and, unless chronic, does not attack a person's whole self (Tangney and Dearing, 2002; Tangney et al., 1996a, b, 1998). People see that they have committed a "moral wrong" and are generally motivated to change their behavior so as to avoid experiencing guilt (Turner and Stets, 2005). Yet, if guilt is chronic and is activated in violation of powerful moral codes, such as the incest taboo, it too may be repressed, thereby making it more likely that one of its constituent primary emotions will surface – typically in the case of guilt, intense fear and anxiety but also depression. Still, guilt like shame mitigates the power of each of the three negative emotions from which it is built and, in fact, creates an emotion that makes people aware of moral codes and willing to abide by them in order to avoid experiencing guilt.

Alienation is the third of these second-order elaborations and is, once again, mostly disappointment-sadness, anger at a situation or social structure, and fear about the consequences of not meeting expectations in this structure. Alienation does not promote high sociality, but it does transform negative emotions into a withdrawal response, reducing the level of commitment to, and willingness to participate in, social structures. Such an emotion does

not promote solidarity, to be sure, but it does reduce the disruptive power of anger and, hence, is less disruptive than anger alone. Alienation is, as we will see, an important emotion in understanding how commitments to social structures and cultural codes are lowered.

Just when hominids could experience shame, guilt, and alienation is impossible to know. The evidence suggests that chimpanzees, with which we share 99 percent of our genes, do not experience guilt and shame as humans do (Boehm, n.d.(a)), and so these emotions may be relatively late evolutionary arrivals and, hence, may be uniquely human. These are particularly important emotional capacities for several reasons. First, as noted above, they mitigate against the power of any one of the three negative emotions to disrupt social relations and, in fact, transform these negative emotions in ways which, if not repressed, increase social solidarity. Second, they cause individuals to self-monitor and self-sanction themselves when they behave inappropriately and/or violate moral codes. Third, they operate as a motive force behind individuals' efforts to repair breaches of social relations or violations of moral codes. And, fourth, they plug individuals into the culture of groups – its norms and its moral codes – and thereby provide the emotional energy behind efforts to conform to these moral codes. Without shame and guilt, social control would be difficult for a weak-tie primate, but once shame and guilt emerge as emotional responses, individuals become more attuned to each other, to the demands of social structures, and to the dictates of culture (Turner, 2000a). Indeed, without guilt and shame, human sociopaths would be far more common, and the viability of social structure and culture to control human behavior would be reduced.

By reading across and down Tables 1.2, 1.3, and 1.4, the words denote the range of human emotions. While we cannot precisely define what an emotion is, at least in generic terms, we can be highly specific about the affective states that are aroused by human neuroanatomy. Humans can experience this complex of approximately one hundred emotions with relative ease. If you doubt this, turn off the sound on a movie or television drama and, in most cases, you will be able to read the emotions expressed in face as well as body countenance, movement, and juxtaposition to keep track of the story line. If you add to this the inflections, fillers, and pitch of voice (as would be the case if you watched a movie in a language that you did not know), you would do even better in understanding what was going on. As I will argue in Chapter 2, the first hominid language was that of emotions. Emotions reveal both phonemes and syntax, and like a spoken language, the "language of emotions" unfolds in terms of phonemes strung together by a grammar. Some of this grammar is hard-wired because certain emotional expressions seem universal, particularly those marking primary emotions

¹ For other classifications of the range and ndiversity of emotions by sociologisdts, see: Kemper (1987) and Thamm (1992, 2004, 2006).

(Ekman, 1973a, b, 1982, 1992a, b, c; Ekman and Friesen, 1975; Ekman *et al.*, 1972). Once we move to first-order and second-order elaborations, however, culture probably has a greater effect on the expression of emotions, just as it does for spoken language (since the vocabulary and grammar of languages differ). Yet, the earlier and more primal "language of emotions" is hardwired. We learn the language of emotions long before spoken language, and like spoken language, humans learn it within a window of neurological opportunity that passes by the age of 11 or 12. Once this window is closed, individuals will have difficulty reading the emotions of others or expressing their states of physiological arousal through auditory or body language.

Explaining human emotional responses

The study of the biology behind human emotions provides a means for exploring topics that are of interest to most sociologists – that is, the effects of culture and social structure on emotions and cognitions as these affect behavior and interaction among individuals (and, by extension, social structure and culture). Sociologists have an almost primal fear response to efforts seeking to bring biology into sociological explanations, soon followed by an anger response at those who would be willing to incorporate biology into sociology. The fear goes back to purported "racism" of earlier efforts to talk about biology and to misguided views that incorporating biology into sociology is inherently reductionist and would, therefore, reduce sociology to psychology or biology.

It is possible, of course, to explain emotions in purely sociological terms – that is, by emphasizing the relationships among interaction, social structure, culture, and emotions – but this analysis misses an important dynamic: the biological dimension of emotions. The Standard Social Science Model, as proposed by John Tooby and Leda Cosmides (1992), goes something like this: human behaviors are learned and hence are not innate; the biology of the brain endows humans with the capacity for culture which, more than anything else, determines behaviors; the human genome does not reveal sufficient variation to account for the variations in social behaviors and in diverse societies; culture, therefore, explains most variation in societies; and thus, emergent features of human societies cannot be understood by psychological and biological forces. Elements of this argument are often used to avoid examining the biology of humans, and while it is true that emergent phenomena of interest to sociologists cannot be wholly explained by psychology and biology, some understanding of biology as it affects cognition and emotions can add a great deal to sociological explanations.

In the sociology of emotions, the Standard Social Science Model often is expressed in social constructionist terms (see Turner and Stets, 2005:2–4). Emotions are social constructions, defined by culture through learned vocabularies of emotions. To some extent, this argument is true because the words that we use to denote emotions (as in tables 1.1 through 1.4 in this

chapter) are part of a culture in which English is the dominant language. But most social constructionist arguments go further: the biology of emotions is so diffuse and generalized that it cannot explain the nature of emotional arousal; only culture, social structure, and context can do so. In this book, I try to develop a theory that explains how specific emotions are aroused under generic social structural and cultural conditions, but this is not a social constructionist argument except in the weak sense that the specific language of emotional expression in a particular society is cultural, just as auditory or spoken language is. For, just as English and Spanish are different in their respective vocabularies and grammars, so are emotional languages. Yet, the capacity to naturally learn an emotional language at an early age is hardwired. In my view, then, the neurological capacity for emotions is much more specific and hard-wired than social constructionists would accept. More than primary emotions are hard-wired; over the next decades, ever more evidence will appear, I believe, documenting the specific neurosystems responsible for specific emotions, including first-order and second-order elaborations. Whether these are the "modules" posited by Cosmides and Tooby is not so much an issue as the biological fact that humans' emotional capacities evolved as natural selection rewired the human brain. True, while culture and social structure provide the conditions under which various types of emotions are aroused and, conversely, are reproduced or changed by emotional arousal, the biology of emotional responses cannot be ignored.

If we know more about the selection pressures that led to the rewiring of the primate brain to make humans so emotional, we will be able to develop more robust theories of human emotions. We do not need to be reductionists in exploring biology and evolution; we only need to be open-minded about what an evolutionary analysis of emotions can tell us about the topics that are of most interest to sociologists – interaction, social organization, and culture. Because it is so obvious, at least to me, that most emotions have a hard-wired basis that evolved over several million years during hominid and, then, human evolution (Turner, 2000a), the analysis of emotions can provide an opportunity to abandon our fears and anger about biology and see what a biological perspective can add to our sociological understandings. This is my goal in the next chapter and its appendix that reviews some of the key neurological details of the body systems generating human emotions. I have written this book so that it is easy to skip Chapter 2 and move on to more comfortable terrain for sociologists in Chapter 3, but I invite skeptics to see what biology might add to sociologists' understanding of human emotions.

As a sociological theorist, my goal is to provide abstract propositions on the cultural and social structural conditions under which specific emotions are aroused during the course of interaction with what effects on the sociocultural arrangements that generated them. Understanding the biology of human emotions does not obviate this sociological mode of analysis; on the contrary, it adds a great deal to our understanding of the sociology of emotions.