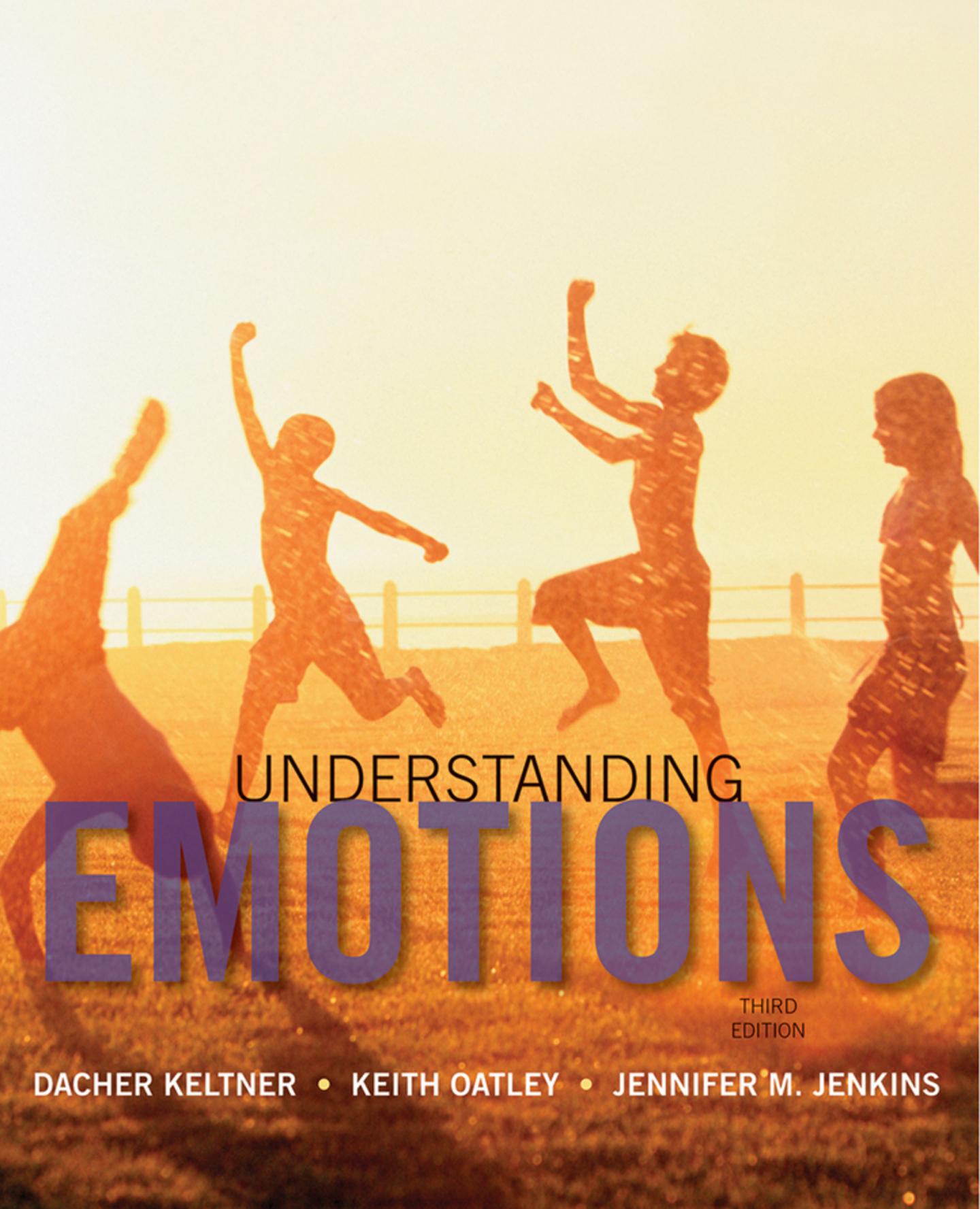
UNDERSTANDING
EMOTIONS
THIRD
EDITION
DACHER KELTNER • KEITH OATLEY • JENNIFER M. JENKINS

Understanding Emotions

To Natalie, Serafina, Simon,
Grant, and Hannah

UNDERSTANDING EMOTIONS

THIRD EDITION

Dacher Keltner

Keith Oatley

Jennifer M. Jenkins

WILEY

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Preface

> The strange thing about life is that though the nature of it must have been apparent to everyone for hundreds of years, no one has left any adequate account of it. The streets of London have their map; but our passions are uncharted.
>
> Virginia Woolf, Jacob's Room

As we present the third edition of *Understanding Emotions*, we are aware and grateful that this has become the standard undergraduate textbook on emotions and are glad to be part of this growing scientific field. Dacher, Keith, and Jenny have continued to enjoy working together, and we thought it was Dacher's turn to take the lead.

According to written and oral traditions, people have been interested in emotions for thousands of years. In most societies emotions are at the center of people's understandings of themselves and others and their relationships, rituals, and public life. In the era of scientific research in psychology, we present here an approach to understanding that can enter ordinary conversation and that takes seriously the rapidly growing body of scientific evidence.

In psychology, emotions have now moved into their proper place, at the center of our understandings of the human mind and of relationships in the social world. Our book, and we would claim the whole topic of emotions, is not just psychology. It extends, too, across neuroscience, psychiatry, biology, anthropology, sociology, literature, and philosophy.

In this edition, we reflect the growing realization that although emotions occur in individuals' brains and bodies, they also mediate our relationships with each other, in both intimate and public ways. They provide a grammar of social life. In fact, in the third edition of this book, honoring developments in the field, we arrive at the organizing thesis that emotions are social to their core.

We hope you will like the third edition, which continues the traditions of the earlier editions, but with new features that we hope will make it easier and more pleasurable for both instructors and students to use. In this edition we have collaborated with some graduate students in particular chapters: Mark Wade in Chapter 8, Heather Prime in Chapter 11, Dillon Browne and Mark Wade in Chapter 12, and Hannah Oatley in Chapter 13. We are very grateful to these people; they have improved on what we would have been able to do on our own. We are also very grateful to colleagues who read and sent us feedback and suggestions on chapters: Gerald Cupchik, James Gross, June Gruber, Terry Maroney, Batja Mesquita, Randolph Nesse, Ira Roseman, David DeSteno, Emiliana Simon-Thomas, and Jessica Tracy.

Exciting advances continue to be made in the field of emotions, and we have done our best to reflect the new currents. We have also responded to colleagues' suggestions for updating this book. Changes in the third edition include the following:

- Updated references throughout, including recent research and data in psychology, psychiatry, the social sciences, and the humanities, as well as in neuroscience.
- Increased emphasis on the interpersonal and social functions of emotions, with stimulating discussions of how emotions work between people in different kinds of relationships.
- New discussions of contemporary research on evolution, and on genes in interaction with the environment, as well as on the neuroscience of empathy, pleasure, caregiving, and social rejection.
- New sections on: social and antisocial motivations, emotions and morality, law and emotions, consciousness, emotion regulation (including a discussion of free will), well-being, and the physiology of the stress response.
- Four kinds of boxes have been included, to depict *Significant Figures (in understanding emotions), Individual Emotions, Novels and Films,* and *Reflection and Cultivation*.
- End-of-chapter *Summaries* are now accompanied by *Suggestions to Think About and Discuss.*

Science and the humanities both depend on entering the tradition of earlier writers. Bernard of Chartres, a scholar of the 12th century, seems to have been the first to remark that if we can see further now, it is because we stand on the shoulders of giants, that is to say of those who have come before us. Our job as writers is to present some of what can be seen from this position, and to evaluate theories and evidence. You as a reader can then evaluate what we say in relation to what else you know, and can take part in the debate that is the social process of science and discussion, by means of which understanding is increased.

This book is intended for anyone with an interest in emotions, to show how far conceptualization and research have progressed toward understanding. Although some have argued that emotions are too heterogeneous for systematic study, we believe that the fact that we can write a textbook shows that, from a complex field, order has emerged.

Any discussion of human emotions without a point of view would be dull and largely incomprehensible. The quantity of publications—now numbering in the thousands—in the field makes it impossible to be exhaustive. We have therefore chosen studies that we believe are representative, hoping to convey an image for you to think productively about this vast field. As well as an overall narrative arc in the book, there is a story line for each chapter, including pivotal characters, foundational ideas, and intellectual controversies and tensions. Where there are debates we discuss them, so that you can look at the field from different points of view. But we have also worked to produce a coherent book. Although ours is not the only point of view, we think that by seeing that there is a coherent perspective in this area, you will be able to agree or disagree or modify it. Knowing that any piece of evidence is not conclusive on its own but that each is a step in exploring an idea, we hope that an integrated picture will take shape for you with concepts and ideas you can modify and apply to your own interests.

We have done our best to be fair-minded in our treatment of evidence, but our knowledge is necessarily incomplete and our views are necessarily biased toward our own interests and

conceptualizations. Our interests are in thinking of emotions in cognitive, evolutionary, social, and developmental terms, in understanding their role in mediating everyday social interaction, and in comprehending what goes wrong in the states known as emotional disorders. We see emotions as based on biological processes, elaborated in our close relationships, and shaped by culture. Like the skilled action when you write your signature, an emotion has a biological basis of components and constraints. It also has a history of individual development. It is only fully understandable within an interpersonal and cultural context.

We write about emotions largely in the Western tradition. This does not imply universality of Euro-American assumptions; we present a lot of cross-cultural comparisons. At the same time, we imagine that most of our readers will be members of, or will be conversant with, the Western tradition. We believe that, by characterizing and identifying with this tradition, the ideas and findings about emotions that have substance within it can be seen clearly. We, and others, can then both form understandings based in that tradition and also better understand other culturally distinctive ways of thinking.

As well as a general introduction to the area, the book is designed for use as a textbook for a course on emotions for second- to fourth-year undergraduates, or for graduate students at the master's or PhD level. But it is a textbook of a particular kind. Most textbooks in psychology nowadays are compendia of many things to be remembered and a few to be conceptualized. By contrast, I. A. Richards (1925) said that a book is "a machine to think with" (p. 1). We have written our book to invite your thinking. Our conclusions make up our narrative thread. But by offering you sufficient detail of the evidence from which we draw our conclusions we hope to make it possible for you to draw your own conclusions.

The 14 chapters of this book can be covered in semester-long courses at the rate of one a week, perhaps with one or two chapters omitted according to the judgment of the instructor. For full-year courses, each chapter can be divided. Throughout, we keep in mind both the issue of prompting understandings of emotions and practical applications in clinical psychology, psychiatry, health care, education, and the issues of organizations. We envisage that many instructors who use the book will supplement it with other readings. At the end of each chapter we offer some suggestions for further reading, typically reviews and books.

We have tested our ideas and coverage by going to conferences, and attending to the currents of publications in the field, which has its own journals, its international society for research, its review volumes, and its handbooks. One of us (DK) continues to keep the material of this book in register with students in his undergraduate course of emotions at the University of California at Berkeley. All three of us use the material presented here in our courses and lectures.

An Instructor's Manual with lecture notes and teaching tips is available upon request.

Acknowledgments

As with any book, we, the authors, are not the only ones who brought this object into being. This text is a reflection of the work of many people: researchers and thinkers, our teachers, our students, and our colleagues. We would like to thank once more those who assisted with the first and second editions of this text.

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Perspectives on Emotions

PART I

Approaches to Understanding Emotions

1

Photo Credit: *The Expression of the Emotions in Man and Animals* by Charles Darwin, 1872

FIGURE 1.0 Young girl in hat, from Darwin (1872).

> Why is every critical moment in the fate of the adult or child so clearly colored by emotion?
>
> (*Vygotsky, 1987, p. 335*)

CONTENTS

Introduction

Imagine you could flip a switch that would shut off your emotions. No more tongue-tied embarrassment around a romantic interest. No more saying something in anger that you will regret. No more anxiety that interferes with your ability to do as well as you can. Would you flip this switch?

If so, you are in good company. For over two thousand years, many thinkers have argued that our emotions are base and destructive, and that the more noble reaches of human nature are attained when we control our passions with our reason. Others have warned of the perils of particular emotions: for instance, it has often been thought that anger is destructive.

In this book, you will read about a different view, one that has emerged in the recent study of human emotions, the view that emotions serve important functions, especially in our social lives. This does not mean that emotions are always rational. It does mean that we can now make sense of most facets of our emotions. In this book you will find answers to long-lasting questions, because after a slow start, research on emotions has moved rapidly and has yielded many discoveries. Where do emotions come from in our evolutionary history? How are emotions different in different cultures? How are our brains and bodies involved in emotions? What happens when we express our emotions? How can we cultivate emotions in our relationships, and through the life course? When are emotions dysfunctional? What is happiness?

In this introductory chapter, we lay foundations for answering these questions. We first look at how the study of emotion emerged in psychology and social science. But first: What is an emotion?

What Is an Emotion? First Ideas

We have all experienced emotions, and in this sense we know what they are. But some psychologists have worried that they are difficult to define. In fact, such difficulties are rather usual. We all know what a tree is, even though we don't know its proper definition. It's one of the wonderful properties of language to be able to refer to things even when we don't know exactly what we mean (Putnam, 1975). To have a good definition, you need a good theory. With the help of this book, we hope you will formulate your own good theory of emotion.

But we need to make a start so that we can agree upon roughly what we are talking about. An emotion is a psychological state or process that mediates between our concerns (or goals) and events of our world. As Sylvan Tomkins (whose work we discuss later in this chapter) has said: at any one time an emotion gives priority to one concern over others. It gives that concern urgency. If we are crossing the road and nearly get run over, our concern for self-preservation takes priority and we are motivated by fear. The urge is to jump back onto the curb. If someone demeans us, we are angry and it becomes urgent to concentrate on the wrong that's been done to us. So, rather than thinking that emotions are irrational, psychologists now tend to think of emotions as being locally rational: their rationality doesn't range over all possible considerations. Instead, emotions are rational in that they help us deal adaptively with concerns specific to our current context. They are local to the concern that has achieved priority, and the emotion makes it urgent.

Emotions, too, are the source of our values (Solomon, 2007), including our deepest values: whom and what we love, what we dislike, what we despise.

Most importantly, emotions help us form and engage in our relationships. Whom do we choose to spend our lives with? How do we feel about members of our family? Who are our friends? Why do we worry when separated from someone with whom we're very close? Why do we find it difficult to be in the same room with someone we don't like? How do others see us? Although emotions do occur to us individually, most of our important emotions don't just occur to us individually. They mediate our relationships. Think of love, anger, fear of certain people, or sadness at the loss of a friend.

Psychological researchers tend to focus on trying to discover what is going on in the individual mind and brain. Until recently, research on emotions was based on, for instance, the individual's perception of facial expressions, the individual's physiological responses, and the individual's responses to questions about his or her experience. But now research is catching up with what we know: that as well as happening to us individually, most of our important emotions happen between us and others. In this book we emphasize this aspect because we believe not only that it's the way research is going, but that it's the way it ought to go.

What's the interpersonal equivalent of an emotion giving priority to a concern? It's that an emotion is a kind of commitment to another (Aubé, 2009). When we love someone, even if the love is brief, and even if it is not spoken about as love, we commit ourselves to that other, at least for a while. We make the other's concerns our own, be it in sex, or in childrearing, or in cooperating as soldiers or firefighters do in situations of danger. When we are angry with someone, we commit ourselves to seeing the matter through, to a resolution, or to a parting.

These thoughts derive from modern research, but we can also relate them to our personal knowledge and intuitions. How do these ideas seem to you? Do they make sense?

Nineteenth-Century Founders

Modern ideas about emotions can be thought of as deriving from Charles Darwin, William James, and Sigmund Freud; here's how their ideas have been influential.

Charles Darwin: The Evolutionary Approach

> *Our descent, then, is the origin of our evil passions!!—*
> *The Devil under form of Baboon is our grandfather!*
>
> Charles Darwin, notebook, Gruber & Barrett, 1974, p. 289

In 1872, Charles Darwin, the central figure in modern biology, published the most important book on emotions yet written—*The Expression of the Emotions in Man and Animals* (1872). Earlier, in *The Origin of Species* (1859), he had described how all living things have evolved to be adapted to their environments. Knowing this, you might imagine that Darwin would have proposed that emotions had functions in our survival. Indeed, many psychologists and biologists assume that this is what he said. But he didn't. His argument was both closer to common sense, and more subtle than anything that we might commonsensically believe.

Darwin began writing notes on his observations of emotions in 1838. At that time, the accepted theory was that God had given humans special facial muscles that allowed them to express uniquely human sentiments. A central tenet of Darwin's theory, however, was that humans are descended from other species: we are not only closer to animals than had been

Table 1.1 Emotional expressions discussed by Darwin (1872), the bodily systems used, and the type of emotion that was expressed

Expression	Bodily system	Emotion example
Blushing	Blood vessels	Shame, modesty
Body contact	Somatic muscles	Affection
Clenching fists	Somatic muscles	Anger
Crying	Tear ducts	Sadness
Frowning	Facial muscles	Anger, frustration
Laughing	Breathing apparatus	Pleasure
Perspiration	Sweat glands	Pain
Hair standing on end	Dermal apparatus	Fear, anger
Screaming	Vocal apparatus	Pain
Shrugging	Somatic muscles	Resignation
Sneering	Facial muscles	Contempt
Trembling	Somatic muscles	Fear, anxiety

Source: Oatley (1992).

thought, but we ourselves are kinds of animals. Darwin gathered many observations that would have enduring effects on the contemporary study of emotion (Darwin 1872/1998).

In his book on emotions, Darwin asked two broad questions that still guide emotion researchers. First, how are emotions expressed in humans and other animals? Table 1.1 is a taxonomy of some of the expressions Darwin described.

The second question Darwin asked is: Where do our emotions come from? He proposed that emotional expressions derive largely from habits that in our evolutionary or individual past had once been useful. So, emotional expressions are based on reflex-like mechanisms, and some of them occur whether they are useful or not. They can be triggered involuntarily in circumstances analogous to those that had triggered the original habits. His book is full of examples of such actions: of tears that do not function to lubricate the eyes, of hair standing on end in fear and anger to no apparent purpose, and so on.

For Darwin, expressions showed the continuity of adult human emotions with those of lower animals and with those of infancy. Because these expressions occur in adults "though they may not . . . be of the least use," they had for Darwin a significance for evolutionary thinking rather like that of fossils that allow us to trace the evolutionary ancestry of species. More precisely, he thought emotional expressions were like the appendix, a small organ that is part of the gut but which seemingly has no function. Darwin proposed that this is evidence that we are descended from pre-human ancestors in whom this organ had a use. He argued that many emotional expressions have the same quality: for instance, that sneering, in which we partially uncover the teeth on one side, is a behavioral vestige of snarling and of preparing to bite. This preparation was functional in some distant ancestor, but is so no longer. Though we sometimes make mordant remarks, adult human beings do not now generally use the teeth to attack.

Darwin traced other expressions to infancy: crying, he argued, is the vestige of screaming in infancy, though in adulthood it is partly inhibited. He carefully described screaming in young

Photo Credit: *The Expression of the Emotions in Man and Animals* by Charles Darwin, 1872

(a)

Photo Credit: *The Expression of the Emotions in Man and Animals* by Charles Darwin, 1872

(b)

FIGURE 1.1 Two of Darwin's (1872) photographs, sneering and crying: (a) Plate IV No. 1; (b) Plate 1 No. 1.

babies, and gave an argument for the function of closing the eyes and the secretion of tears to help protect them when this occurred. When adults cry they still secrete tears, but adult tears no longer have a protective function. One of Darwin's most interesting suggestions is that patterns of adult affection, of taking those whom we love in our arms, are based on patterns of parents hugging young infants. (See Figure 1.1.)

For Darwin, our emotions link us to our past: to the past of our species and to our own infancy. He helped provide descriptions of facial expressions, and he argued for the universality of such expressions. It is a claim that has generated numerous studies, as we shall see in Chapter 4. He gave a perspective on the question of how beneficial emotions are that is reflected in the quotation at the head of this section. Might we be better off if we could rise above bestial passions, which emerged in a pre-human phase of our evolution? Indeed the bulk of his book is given over to examples in which emotional expressions occur whether or not they are of any use. Only toward the end of his book does he write:

> The movements of expression in the face and body, whatever their origin might have been, are in themselves of much importance for our welfare. They serve as the first means of communication between the mother and her infant; she smiles approval, and thus encourages her child on the right path, or frowns disapproval. We readily perceive sympathy in others by their expression. . . . The movements of expression give vividness and energy to our spoken words.
>
> (Darwin, 1872/1998, p. 359)

Despite his reservations, Darwin thought that emotions have useful functions; they help us navigate our social interactions. And that is a hypothesis we shall pursue in this book.

William James: The Physiological Approach

> *. . . bodily changes follow directly the perception of the exciting fact . . . and feeling of the same changes as they occur,* is *the emotion.*
>
> James, 1890, p. 449

Significant figure: Charles Darwin

Charles Darwin's mother died when he was eight. At the age of 16, Charles was sent by his father to Edinburgh University to study medicine, but he would skip classes to collect specimens along the shores of the Firth of Forth, developing his strong interest in natural history. In despair about the failure of his son's medical studies, his father next sent him to Cambridge to study theology. Again, young Darwin was not fully engaged with his courses: he was more interested in collecting beetles, and in hunting. He obtained an ordinary BA in 1831, and seemed headed for a life as a country parson with the hobby of natural history. He had not been idle at Cambridge, however. He had won the esteem of a number of scientists and, at the age of 22, he was appointed naturalist on the *Beagle*, a British Navy ship with a mission to chart coastlines in South America. Two years after his return from his five-year voyage, Darwin proposed to a cousin, Emma Wedgewood and, a few months later, they started a long and generally happy marriage. Darwin was a bit of a hypochondriac, and after he and his wife had settled in a house in a village outside London, he seldom went out, except to health spas to take cures.

The couple had ten children, two of whom died in infancy. Charles and Emma were devoted parents, and the death of their daughter Annie at age 10 was devastating for both of them. Although evolution is often seen as in conflict with religion, Charles did not see his discoveries and theory as incompatible with his Christian beliefs. But the death of Annie did make him doubt the existence of God.

From 1837, Charles's notebooks show him struggling to understand the change of one species into another. He proceeded slowly, and it wasn't until 1859 that his book, *On the Origin of Species*, appeared.

From 1838 onward, Charles's notebooks reflect a growing interest in emotional expressions in humans, as well as in nonhuman species, with many visits to the zoo. He enlisted others to make observations for him. He realized the importance of cross-cultural study. He was one of the first researchers to use questionnaires: he sent a set of printed questions to missionaries and others who could observe people all round the world, asking them to observe particular expressions. He received 36 replies. He was one of the first to use photographs for research. He used both naturalistic and posed expressions of emotion (such as the one at the head of this chapter) to make scientific arguments. Darwin's 1872 book on expression is the scientific study of emotions. His 1877 paper in the journal *Mind*, in which he describes observations of his infant son William's emotional and cognitive development, is one of the first contributions to developmental psychology. (Biographical information from Bowlby, 1991; Gruber & Barrett, 1974.)

In this well-known quotation from *The Principles of Psychology* (1890), William James argued against the commonsense idea that when we feel an emotion it impels us in a certain way, that if we were to meet a bear in the woods, we would feel frightened and run. Instead, James proposed that when we see the bear, "the exciting fact" as he put it, the emotion *is* the perception of changes of our body as we react to that fact. When we feel frightened, James thought, what we feel is our heart beating, our skin cold, our posture frozen, or our legs carrying us away as fast as possible. (In 1855, Carl Lange independently published the same idea, which thus is sometimes known as the James-Lange theory.)

James's idea is about the nature of emotional experience. He stressed the way in which emotions move us bodily. We may tremble or perspire, our heart may thump in our chest, our breathing may be taken over as we weep or laugh helplessly. The core of an emotion, James

contended, is the pattern of such bodily responses. This vital point about the embodied nature of emotion is captured in this observation of James: "If we fancy some strong emotion and then try to abstract from our consciousness of it all the feelings of its bodily symptoms, we find we have nothing left behind" (James, 1890, p. 451). This proposal has guided study of emotion in two important ways.

First, James concentrated on experience, and argued that this experience is embodied. He proposed that our experience of many emotions, from fear to joy, involves changes of the autonomic nervous system (that part of the nervous system that concerns inner organs, including the heart, the blood vessels, the stomach, and the sweat glands) as well as changes from movements of muscles and joints. James prompted modern interest in the physiological reactions associated with the different emotions. We discuss this in Chapters 5 and 6.

Second, James proposed that emotions give "color and warmth" to experience. Without these effects, he said, everything would be pale. Colloquially we speak of "rose-colored glasses" or a "jaundiced view of life" to indicate how our emotions affect our perceptions. In different parts of this book we will look at how scientists have studied this question. In Chapter 10 we see that emotions guide our judgments, from what is right and wrong, to what is fair and just.

Sigmund Freud: The Psychotherapeutic Approach

> *"I came away from the window at once, and leant up against the wall and couldn't get my breath . . . " (description given by Katharina, subject of one of Freud's early case histories).*
>
> Freud & Breuer, 1895

Sigmund Freud proposed that certain events can be so damaging that they leave emotional scars that can shape the rest of our lives. His principal exposition was in a series of case studies.

Freud was one of the first to argue that emotions are at the core of many mental illnesses. An early patient, Katharina—a quotation from whom is at the head of this section—described how she suffered from attacks in which she thought she would suffocate. Asked by Freud to give more details, she said: "I always see an awful face that looks at me in a dreadful way, so that I am frightened" (p. 192). She could not say whose face it was. Freud was clear that the attacks were of anxiety. Katharina would now be diagnosed as suffering from panic attacks (American Psychiatric Association, 2000).

Like Darwin, Freud thought that an emotion in the present could derive from one in the past, in the patient's early life. His aim in therapy for Katharina was to discover how her attacks had started, and who the feared person was. The method Freud developed was called psychoanalysis, and in Katharina's case we see elements of how this kind of therapy developed: the telling by a patient of her or his life story, which is found to have gaps (in this case the gap of having no idea whose was the awful face that appeared to her in her attacks), the filling of such gaps by "interpretations" of the therapist, and the insights of the person receiving the therapy, who realizes something of which he or she had been unconscious. Although in his original case history of 1895, Freud was able to elicit from Katherina parts of her story, which involved sexual molestation, he disguised his account. In a footnote to his case, which he added in 1924, he wrote: "I venture after the lapse of so many years to lift the veil of discretion and reveal the fact that Katharina . . . fell ill, therefore, as a result of sexual attempts on the part of her own father" (p. 210).