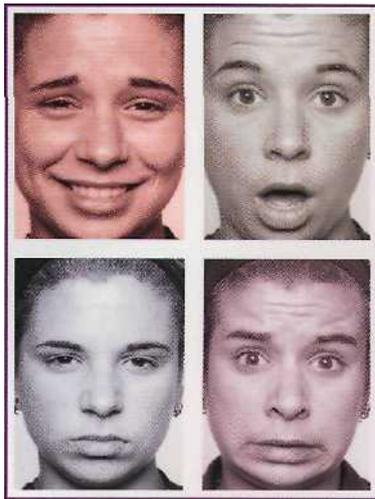


Emotions Revealed

Recognizing Faces and Feelings to
Improve Communication and Emotional Life



Paul Ekman

Author of TELLING LIES

Emotions Revealed

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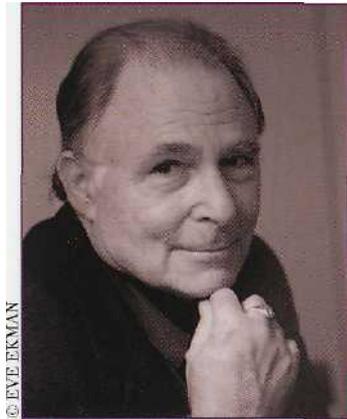
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Filled with groundbreaking research, illuminating anecdotes, and exercises, *Emotions Revealed* is a practical, mind-opening, and potentially life-changing exploration of science and self.



PAUL EKMAN is a professor of psychology in the department of psychiatry at the University of California Medical School, San Francisco. An expert on expression, the physiology of emotion, and interpersonal deception, he has received many honors, most notably the Distinguished Scientific Contribution Award of the American Psychological Association, and is the author or editor of thirteen previous books, including *Telling Lies*. He is a frequent consultant on emotional expression to government agencies such as the FBI, the CIA, and the ATF, to lawyers, judges, and police, and to corporations, including the animation studios Pixar and Industrial Light and Magic. He lives in northern California.

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TIMES BOOKS
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A fascinating exploration of how
we interpret and experience
emotions—and how we can improve
our emotional skills—by a
pioneering psychologist

What triggers emotions? How does our body signal to others whether we are a bit down or deeply anguished, peeved or enraged? Can we learn to distinguish between a polite smile and the genuine thing? Can we really ever control our emotions? Renowned expert in nonverbal communication Paul Ekman has led a renaissance in our scientific understanding of emotions, addressing just these questions. Now he assembles his research and theories in *Emotions Revealed*, a comprehensive look at human emotional life.

Drawing on Ekman's fieldwork investigating universal facial expressions in the United States, Japan, Brazil, and Papua New Guinea; his analysis of the prognosis of hospital patients based on their emotional attitude; and dozens of other studies, *Emotions Revealed* explores the evolutionary and behavioral essences of anger, sadness, fear, surprise, disgust, contempt, and happiness. For each emotion, Ekman describes the universal themes that undergird our feelings, the automatic reactions that unfold within microseconds, and the actions that are actually under our control.

Ekman then takes us on a visual tour of each emotion's unique signals, exploring some of the most subtle and easy-to-miss expressions that can signal when a person is just beginning to feel an emotion or may be trying to suppress it. Learning to identify emotions in their early stages or when they are masked can improve our communication with people in a variety of situations—both at home and at work—and help us to manage our own emotional responses.

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Face of Man

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Emotions Revealed

Emotions Revealed

RECOGNIZING FACES AND FEELINGS TO IMPROVE
COMMUNICATION AND EMOTIONAL LIFE

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To Bert Boothe, Steve Foote, Lynne Huffman, Steve Hyman,
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and

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Introduction

Emotions determine the quality of our lives. They occur in every relationship we care about—in the workplace, in our friendships, in dealings with family members, and in our most intimate relationships. They can save our lives, but they can also cause real damage. They may lead us to act in ways that we think are realistic and appropriate, but our emotions can also lead us to act in ways we regret terribly afterward.

If your boss were to criticize the report you thought she would praise, would you react with fear and become submissive rather than defend your work? Would that protect you from further harm, or might you have misunderstood what she was up to? Could you hide what you were feeling and "act professional"? Why would your boss smile when she started to talk? Could she be relishing the prospect of chewing you out, or could that be the smile of embarrassment? Could her smile have been meant to reassure you? Are all smiles the same?

If you were to confront your spouse with the discovery of a big purchase that he had not discussed with you, would you know if it was fear or disgust he showed, or if he was pulling the face he shows when he is waiting out what he calls "your overly emotional behavior"? Do you feel emotions the same way he does, the same way other people do? Do you get angry or afraid or sad about matters that don't seem to bother others, and is there anything you can do about that?

Would you get angry if you were to hear your sixteen-year-old daughter coming home two hours after her curfew? What would trigger the anger: Would it be the fear you felt each time you checked the clock and realized that she hadn't called to say she would be late, or the sleep you lost waiting for her to come home? The next morning when you talked to her about it, would you control your anger so well that she would think you really didn't care about the curfew, or would she see your stifled anger and become defensive? Could you know from the look on her face if she was embarrassed, guilty, or a bit defiant?

I have written this book to provide answers to such questions. My goal is to help readers better understand and improve their emotional life. It still amazes me that up until very recently we—both scientists and laymen—knew so little about emotion, given its importance in our lives. But it is in the nature of emotion itself that we would not fully know how emotions influence us and how to recognize their signs in ourselves and others, all matters I explain in this book.

Emotions can, and often do, begin very quickly, so quickly, in fact, that our conscious self does not participate in or even witness what in our mind triggers an emotion at any particular moment. That speed can save our lives in an emergency, but it can also ruin our lives when we overreact. We don't have much control over what we become emotional about, but it is possible, though not easy, to make some changes in what triggers our emotions and how we behave when we are emotional.

I have been studying emotion for more than forty years, focusing primarily on the expression and more recently on the physiology of emotion. I have examined psychiatric patients, normal individuals, adults, and some children, in this country and many other countries, when they overreact, underreact, react inappropriately, lie, and tell the truth. Chapter 1, "Emotions Across Cultures," describes this research, the platform from which I speak.

In chapter 2, I ask the question: Why do we become emotional when we do? If we are to change what we become emotional about, we must know the answer to that question. What triggers each of our emotions? Can we remove a particular trigger? If our spouse tells us we are taking the long route to get to our destination, annoyance

or even anger may boil up within us at being directed and having our driving acumen criticized. Why couldn't we accept the information without getting emotional? Why does it get to us? Can we change so that such minor matters don't make us emotional? These issues are discussed in chapter 2, "When Do We Become Emotional?"

In chapter 3 I explain how and when we can change what we become emotional about. The first step is to identify the hot emotional triggers that lead us to act in ways we subsequently regret. We also need to be able to identify whether a particular trigger is going to resist change or be more easily weakened. We won't always succeed, but we can, through understanding how emotional triggers become established, have a better chance of changing what we become emotional about.

In chapter 4, I explain how our emotional responses—our expressions, actions, and thoughts—are organized. Can we manage irritation so it doesn't appear in our voice or show on our face? Why does it sometimes feel as though our emotions are a runaway train, and as though we have no control over them? We don't have a chance unless we can become more aware of when we are acting emotionally; very often we are not aware until someone objects to what we have done, or until we reflect later. Chapter 4 explains how we can become more attentive to our emotions as we have them so there is a possibility of behaving emotionally in constructive ways.

To reduce destructive emotional episodes and enhance constructive emotional episodes, we need to know the story of each emotion, what each emotion is about. By learning the triggers for each emotion, the ones we share with others and those that are uniquely our own, we may be able to lessen their impact, or at least learn why some of the emotion triggers are so powerful that they resist any attempt to lessen their control over our lives. Each emotion also generates a unique pattern of sensations in our body. By becoming better acquainted with those sensations, we may become aware early enough in our emotional response that we have some chance to choose, if we like, whether to go along or interfere with the emotion.

Each emotion also has unique signals, the most identifiable being in the face and the voice. There's still much research to do on the vocal

emotional signals, but the photographs provided in the chapters on each emotion show the most subtle, easy-to-miss facial expressions that signal when an emotion is just beginning or when it is being suppressed. With the ability to identify emotions early on, we may be better able to deal with people in a variety of situations and to manage our own emotional responses to their feelings.

Separate chapters describe sadness and anguish (chapter 5), anger (chapter 6), surprise and fear (chapter 7), disgust and contempt (chapter 8), and the many kinds of enjoyment (chapter 9), with sections covering:

- the most common specific triggers for the emotion
- the function of the emotion, how it serves us, and how it can get us into trouble
 - how the emotion is involved in mental disorders
 - exercises that will improve the reader's awareness of the bodily sensations involved in the emotion, increasing the possibility that readers will be able to choose how they act when they are emotional
 - photographs of the subtlest sign of the emotion in others, so readers will be more aware of how others are feeling
 - an explanation of how to use this information about how others are feeling in your relationships in the workplace, in your family, and in friendships

The appendix provides a test you can take before reading the book to find out how well you are able to recognize subtle facial expressions. You might want to take that test again when you finish the book to see if you have improved.

You might wonder why one of the emotions you are curious about doesn't appear in this book. I have chosen to describe the emotions we know are universal, experienced by all human beings. Embarrassment, guilt, shame, and envy are probably universal, but I have focused instead on the emotions that have clear universal expressions. I discuss love in the chapter on enjoyable emotions; violence, hate, and jealousy in the chapter on anger.

Science is still delving into the ways each of us experiences the emotions—why some of us have more intense emotional experi-

ences, or tend to become emotional quickly—and I conclude the book with what we are learning, what we might learn, and how you can use this information in your own life.

It is hard to overestimate the importance of emotions in our lives. My mentor, the late Silvan Tomkins, said emotions are what motivate our lives. We organize our lives to maximize the experience of positive emotions and minimize the experience of negative emotions. We do not always succeed, but that is what we try to do. He claimed that emotion motivates all the important choices we make. Writing in 1962, a time when emotions were completely neglected in the behavioral sciences, Silvan overstated the matter, for surely there can be other motives. But emotions are important, very important in our lives.

Emotions can override what most psychologists have rather simply considered the more powerful fundamental motives that drive our lives: hunger, sex, and the will to survive. People will not eat if they think the only food available is disgusting. They may even die, although other people might consider that same food palatable. Emotion triumphs over the hunger drive! The sex drive is notoriously vulnerable to the interference of emotions. A person may never attempt sexual contact because of the interference of fear or disgust, or may never be able to complete a sexual act. Emotion triumphs over the sex drive! And despair can overwhelm even the will to live, motivating a suicide. Emotions triumph over the will to live!

Put simply, people want to be happy, and most of us don't want to experience fear, anger, disgust, sadness, or anguish unless it is in the safe confines of a theater or between the covers of a novel. Yet, as I will explain later, we couldn't live without those emotions; the issue is how to live better with them.

1 Emotions Across Cultures

I have included in this book all that I have learned about emotion during the past forty years that I believe can be helpful in improving one's own emotional life. Most of what I have written is supported by my own scientific experiments or the research of other emotion scientists, but not everything. My own research specially was to develop expertise in reading and measuring facial expressions of emotions. So equipped, I have been able to see—on the faces of strangers, friends, and family members—subtleties that nearly everyone else misses, and by that means I have learned a great deal more than I have yet had the time to prove through experiments. When what I write is based just on my observations, I note that by phrases such as "I have observed," "I believe," "it seems to me. . . ." And when I write based on scientific experiments I cite in endnotes the specific research supporting what I say.

Much of what I have written in this book was influenced by my cross-cultural studies of facial expression. The evidence changed forever my view of psychology in general and of emotion in particular. Those findings, in places as varied as Papua New Guinea, the United States, Japan, Brazil, Argentina, Indonesia, and the former Soviet Union, led me to develop my ideas about the nature of emotion.

At the start of my research in the late 1950s, I wasn't even interested in facial expression. It was the movements of the hands that drew my interest. My method of classifying hand movements

distinguished neurotic from psychotically depressed patients, and indicated how much the patients improved from treatment.¹ In the early 1960s there wasn't even a tool for directly and precisely measuring the complex, often rapidly changing facial movements shown by the depressed patients. I had no idea where to begin, and so I didn't. Twenty-five years later, after I had developed a tool for measuring facial movement, I returned to those patient films and unearthed important findings, which I describe in chapter 5.

I don't think I would have shifted my research focus to facial expression and emotion in 1965 if it hadn't been for two strokes of luck. Through serendipity the Advanced Research Projects Agency (ARPA) of the Department of Defense gave me a grant to do cross-cultural studies of nonverbal behavior. I had not sought the grant, but because of a scandal—a research project being used to camouflage counter-insurgency activity—a major ARPA project was canceled and the money budgeted for it had to be spent during that fiscal year on overseas research, and on something noncontroversial. By accident I happened to walk into the office of the man who had to spend the funds. He was married to a woman from Thailand and was impressed by differences in their nonverbal communication. He wanted me to find out what was universal and what was culturally variable. I was reluctant at first, but I couldn't walk away from the challenge.

I began the project believing that expression and gesture were socially learned and culturally variable, and so did the initial group of people I asked for advice—Margaret Mead, Gregory Bateson, Edward Hall, Ray Birdwhistell, and Charles Osgood. I recalled that Charles Darwin had made the opposite claim, but I was so convinced that he was wrong that I didn't bother to read his book.

The second stroke of luck was meeting Silvan Tomkins. He had just written two books about emotion in which he claimed that facial expressions were innate and universal to our species, but he had no evidence to back up his claims. I don't think I would ever have read his books or met him if we hadn't both submitted articles on nonverbal behavior to the same journal at the same time—Silvan's a study of the face, mine a study of body movement.²

I was very impressed with the depth and breadth of Silvan's thinking, but I thought he was probably wrong in his belief, like

Darwin's, that expressions were innate and therefore universal. I was delighted that there were two sides to the argument, that it wasn't just Darwin, who had written a hundred years earlier, who opposed Mead, Bateson, Birdwhistell, and Hall. It wasn't a dead issue. There was a real argument between famous scientists, elder statesmen; and I, at the age of thirty, had the chance, and the funding, to try to settle it once and for all: Are expressions universal, or are they, like language, specific to each culture? Irresistible! I really didn't care who proved to be correct, although I didn't think it would be Silvan.*

In my first study I showed photographs to people in five cultures—Chile, Argentina, Brazil, Japan, and the United States—and asked them to judge what emotion was shown in each facial expression. The majority in every culture agreed, suggesting that expressions might really be universal.³ Carrol Izard, another psychologist who had been advised by Silvan, and was working in other cultures, did nearly the same experiment and got the same results.⁴ Tomkins had not told either of us about the other, something that we initially resented when we found out we were not doing this work alone, but it was better for science that two independent researchers found the same thing. It seemed that Darwin was right.

There was a problem: How could we have found that people from many different cultures agreed about what emotion was shown in an expression when so many smart people thought just the opposite? It wasn't just the travelers who claimed that the expressions of the Japanese or the Chinese or some other cultural group had very different meanings. Birdwhistell, a respected anthropologist who specialized in the study of expression and gesture (a protege of Margaret Mead), had written that he abandoned Darwin's ideas when he found that in many cultures people smiled when they were unhappy.⁵ Birdwhistell's claim fit the view that dominated cultural anthropology and most of

*I found just the opposite of what I thought I would discover. That's ideal. Behavioral science findings are more credible when they counter rather than confirm the scientist's expectations. In most fields of science it is just the opposite; findings are more trusted if they were predicted ahead of time. That is because the possibility of bias or error is checked by the tradition of scientists repeating one another's experiments to see if they will get the same results. Unfortunately, that tradition doesn't exist in the behavioral sciences. Experiments are rarely repeated, either by the scientist who originally did the work or by others. Without that safeguard, behavioral scientists are more vulnerable to finding unwittingly only what they want to find.

psychology—anything socially important, such as emotional expressions, must be the product of learning, and therefore different in each culture.

I reconciled our findings that expressions are universal with Birdwhistell's observation of how they differ from one culture to another by coming up with the idea of *display rules*. These, I proposed, are socially learned, often culturally different, rules about the management of expression, about who can show which emotion to whom and when they can do so. It is why in most public sporting contests the loser doesn't show the sadness and disappointment he or she feels. Display rules are embodied in the parent's admonition—"Get that smirk off your face." These rules may dictate that we diminish, exaggerate, hide completely, or mask the expression of emotion we are feeling.⁶

I tested this formulation in a series of studies that showed that when *alone* Japanese and Americans displayed the same facial expressions in response to seeing films of surgery and accidents, but when a scientist sat with them as they watched the films, the Japanese more than the Americans masked negative expressions with a smile. In private, innate expressions; in public, managed expressions.⁷ Since it is the public behavior that anthropologists and most travelers observe, I had my explanation and evidence of its operation. In contrast, symbolic gestures—such as the head nod yes, the head shake no, and the A-OK gesture—are indeed culture-specific.⁸ Here Birdwhistell, Mead, and most other behavioral scientists were right, though they were wrong about the facial expressions of emotion.

There was a loophole, and if I could see it, so might Birdwhistell and Mead, who I knew would search for any way to dismiss my findings. All the people I (and Izard) had studied might have learned the meaning of Western facial expressions by watching Charlie Chaplin and John Wayne on the movie screen and television tube. Learning from the media or having contact with people from other cultures could explain why people from different cultures had agreed about the emotions shown in my photographs of Caucasians. I needed a visually isolated culture where the people had seen no movies, no television, no magazines, and few, if any, outsiders. If they thought the same emotions were shown in my set of facial

expression photographs as the people in Chile, Argentina, Brazil, Japan, and the United States, I would have it nailed.

My entry to a Stone Age culture was Carleton Gajdusek, a neurologist who had been working for more than a decade in such isolated places in the highlands of Papua New Guinea. He was trying to find the cause of a strange disease, kuru, which was killing about half the people in one of these cultures. The people believed it was due to sorcery. When I arrived on the scene, Gajdusek already knew that it was due to a slow virus, a virus that incubates for many years before any symptoms become apparent (AIDS is such a virus). He didn't yet know how it was transmitted. (It turned out to be cannibalism. These people didn't eat their enemies, who would be more likely to be in good health if they died in combat. They ate only their friends who died of some kind of disease, many of them from kuru. They didn't cook them before eating, so diseases were readily passed on. Gajdusek some years later won the Nobel Prize for the discovery of slow viruses.)

Fortunately, Gajdusek had realized that Stone Age cultures would soon disappear, so he took more than one hundred thousand feet of motion picture films of the daily lives of the people in each of two cultures. He had never looked at the films; it would have taken nearly six weeks to look just once at his films of these people. That's when I came along.

Delighted that someone had a scientific reason for wanting to examine his films, he lent me copies, and my colleague Wally Friesen and I spent six months carefully examining them. The films contained two very convincing proofs of the universality of facial expressions of emotion. First, we never saw an unfamiliar expression. If facial expressions are completely learned, then these isolated people should have shown novel expressions, ones we had never seen before. There were none.

It was still possible that these familiar expressions might be signals of very different emotions. But while the films didn't always reveal what happened before or after an expression, when they did, they confirmed our interpretations. If expressions signal different emotions in each culture, then total outsiders, with no familiarity with the culture, should not have been able to interpret the expressions correctly.

I tried to think how Birdwhistell and Mead would dispute this claim. I imagined they would say, "It doesn't matter that there aren't any new expressions; the ones you did see really had different meanings. You got them right because you were tipped off by the social context in which they occurred. You never saw an expression removed from what was happening before, afterward, or at the same time. If you had, you wouldn't have known what the expressions meant." To close this loophole, we brought Silvan from the East Coast to spend a week at my lab.

Before he came we edited the films so he would see only the expression itself, removed from its social context, just close-up shots of a face. Silvan had no trouble at all. Every one of his interpretations fit the social context he hadn't seen. What's more, he knew exactly how he got the information. Wally and I could sense what emotional message was conveyed by each expression, but our judgments were intuitively based; we usually could not specify exactly what in the face carried the message unless it was a smile. Silvan walked up to the movie screen and pointed out exactly which specific muscular movements signaled the emotion.

We also asked him for his overall impression of these two cultures. One group he said seemed quite friendly. The other was explosive in their anger, highly suspicious if not paranoid in character, and homosexual. It was the Anga that he was describing. His account fit what we had been told by Gajdusek, who had worked with them. They had repeatedly attacked Australian officials who tried to maintain a government station there. They were known by their neighbors for their fierce suspiciousness. And the men led homosexual lives until the time of marriage. A few years later the ethologist Irenäus Eibl-Eibesfeldt literally had to run for his life when he attempted to work with them.

After that meeting I decided to devote myself to the study of facial expression. I would go to New Guinea and try to get evidence to support what I then knew to be true—that at least some facial expressions of emotion are universal. And I would work to develop an objective way to measure facial behavior so that any scientist could objectively derive from facial movement what Silvan could see so keenly.

Late in 1967 I went to the South East Highlands to do research on the Fore people, who lived in small scattered villages at an eleva-

tion of seven thousand feet. I did not know the Fore language, but with the help of a few boys who had learned Pidgin from a missionary school, I could go from English to Pidgin to Fore and back again. I brought with me pictures of facial expressions, mostly the pictures I had been given by Silvan for my studies of literate cultures. (Below on page 9 are three examples.) I also brought photographs of some Fore people I had selected from the motion picture film, thinking they might have trouble interpreting the expressions shown by Caucasians. I even worried that they might not be able to understand photographs at all, never having seen any before. Some anthropologists had earlier claimed that people who hadn't seen photographs had to learn how to interpret them. The Fore had no such problem, though; they immediately understood the photographs, and it didn't seem to make much of a difference what nationality the person was, Fore or American. The problem was what I asked them to do.

They had no written language, so I couldn't ask them to pick a word from a list that fit the emotion shown. If I were to read them a list of emotion words, I would have to worry about whether they remembered the list, and whether the order in which the words were read influenced their choice. Instead I asked them to make up a story about each facial expression. "Tell me what is happening now, what happened before to make this person show this expression, and what is going to happen next." It was like pulling teeth. I am not certain whether it was the translation process, or the fact that they had no idea what it was I wanted to hear or why I wanted them to do this. Perhaps making up stories about strangers was just something the Fore didn't do.

I did get my stories, but it took each person a lot of time to give me each story. They and I were exhausted after each session. Nevertheless, I had no shortage of volunteers, even though I suspect the word was out that what I was asking wasn't easy to do. There was a powerful incentive to look at my photographs: I gave each person either a bar of soap or a pack of cigarettes for helping me. They had no soap, so it was highly valued. They grew their own tobacco, which they smoked in pipes, but they seemed to like my cigarettes better.

Most of their stories fit the emotion each photograph supposedly

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