

## The Emotional Brain Mysterious Underpinnings Of Life Joseph E Ledoux

“A rigorous, in-depth guide to the history, philosophy, and scientific exploration of this widespread emotional state . . . [LeDoux] offers a magisterial review of the role of mind and brain in the generation of unconscious defense responses and consciously expressed anxiety. . . . [His] charming personal asides give an impression of having a conversation with a world expert.” —Nature A comprehensive and accessible exploration of anxiety, from a leading neuroscientist and the author of *Synaptic Self* Collectively, anxiety disorders are our most prevalent psychiatric problem, affecting about forty million adults in the United States. In *Anxious*, Joseph LeDoux, whose NYU lab has been at the forefront of research efforts to understand and treat fear and anxiety, explains the range of these disorders, their origins, and discoveries that can restore sufferers to normalcy. LeDoux’s groundbreaking premise is that we’ve been thinking about fear and anxiety in the wrong way. These are not innate states waiting to be unleashed from the brain, but experiences that we assemble cognitively. Treatment of these problems must address both their conscious manifestations and underlying non-conscious processes. While knowledge about how the brain works will help us discover new drugs, LeDoux argues that the greatest breakthroughs may come from using brain research to help reshape psychotherapy. A major work on one of our most pressing mental health issues, *Anxious* explains the science behind fear and anxiety disorders. Praise for *Anxious*: “[*Anxious*] helps to explain and prevent the kinds of debilitating anxieties all of us face in this increasingly stressful world.” —Daniel J. Levitin, author of *The Organized Mind* and *This Is Your Brain on Music* “A careful tour through the current neuroscience of fear and anxiety . . . [*Anxious*] will reward the informed reader.” —The Wall Street Journal “An extraordinarily ambitious, provocative, challenging, and important book. Drawing on the latest research in neuroscience (including work in his own laboratory), LeDoux provides explanations of the origins, nature, and impact of fear and anxiety disorders.” —Psychology Today

### Publisher Description

An exploration of anxiety and fear from a leading neuroscientist and the author of *Synaptic self*.

The evolution of cognitive psychology, traced from the beginnings of a rigorous experimental psychology at the end of the nineteenth century to the "cognitive revolution" at the end of the twentieth, and the social and cultural contexts of its theoretical developments. Modern psychology began with the adoption of experimental methods at the end of the nineteenth century: Wilhelm Wundt established the first formal laboratory in 1879; universities created independent chairs in psychology shortly thereafter; and William James published the landmark work *Principles of Psychology* in 1890. In *A History of Modern Experimental Psychology*, George Mandler traces the evolution of modern experimental and

theoretical psychology from these beginnings to the "cognitive revolution" of the late twentieth century. Throughout, he emphasizes the social and cultural context, showing how different theoretical developments reflect the characteristics and values of the society in which they occurred. Thus, Gestalt psychology can be seen to mirror the changes in visual and intellectual culture at the turn of the century, behaviorism to embody the parochial and puritanical concerns of early twentieth-century America, and contemporary cognitive psychology as a product of the postwar revolution in information and communication. After discussing the meaning and history of the concept of mind, Mandler treats the history of the psychology of thought and memory from the late nineteenth century to the end of the twentieth, exploring, among other topics, the discovery of the unconscious, the destruction of psychology in Germany in the 1930s, and the relocation of the field's "center of gravity" to the United States. He then examines a more neglected part of the history of psychology—the emergence of a new and robust cognitive psychology under the umbrella of cognitive science.

The Emotional Brain Revisited tackles various issues at play in the current neuroscientific, psychological, and philosophical research on emotions. The book discusses such topics as the role of amygdala in the emergence of emotions, the place of the affect within the psychological construction of the agent, insights from the research on emotions in animals, and the relation between emotions, rationality, morality, and law. Furthermore, various conceptual controversies underlying the empirical studies on emotions are considered. [Subject: Philosophy, Psychology, Cognitive Science]

This book draws on fields as diverse as biochemistry, physiology, pharmacology, psychology, psychiatry, and ethology, to form a fascinating synthesis of information on the nature of fear and of panic and anxiety disorders. Dr. Marks offers both a detailed discussion of the clinical aspects of fear-related syndromes and a broad exploration of the sources and mechanisms of fear and defensive behavior. Dealing first with normal fear, he establishes a firm, scientific basis for understanding it. He then presents a thorough analysis of the development, symptoms and treatment of fear-related syndromes. Phobic and obsessive-compulsive disorders are examined in detail. The book is illustrated with examples of fear and defensive behavior in other living organisms. By drawing provocative analogies between animal and human behavior, it sheds new light on the origins of fears, phobias, and obsessive-compulsive problems, as well as on their treatment by drugs and psychological means. Clinical psychologists, ethologists, and anyone interested in the mechanisms of behavior will be fascinated by this authoritative study. The text is intriguing and informative, and the bibliography of over 2,100 entries makes it an invaluable reference.

In 1996 Joseph LeDoux's *The Emotional Brain* presented a revelatory examination of the biological bases of our emotions and memories. Now, the world-renowned expert on the brain has produced with a groundbreaking work that

tells a more profound story: how the little spaces between the neurons—the brain's synapses—are the channels through which we think, act, imagine, feel, and remember. Synapses encode the essence of personality, enabling each of us to function as a distinctive, integrated individual from moment to moment. Exploring the functioning of memory, the synaptic basis of mental illness and drug addiction, and the mechanism of self-awareness, *Synaptic Self* is a provocative and mind-expanding work that is destined to become a classic.

"Damasio undertakes nothing less than a reconstruction of the natural history of the universe. . . . [A] brave and honest book." --The New York Times Book Review

*The Strange Order of Things* is a pathbreaking investigation into homeostasis, the condition that regulates human physiology within the range that makes possible not only survival but also the flourishing of life. Antonio Damasio makes clear that we descend biologically, psychologically, and even socially from a long lineage that begins with single living cells; that our minds and cultures are linked by an invisible thread to the ways and means of ancient unicellular existence and other primitive life-forms; and that inherent in our very chemistry is a powerful force, a striving toward life maintenance that governs life in all its guises, including the development of genes that help regulate and transmit life. *The Strange Order of Things* is a landmark reflection that spans the biological and social sciences, offering a new way of understanding the origins of life, feeling, and culture. [www.antoniodamasio.com](http://www.antoniodamasio.com)

Paperback, print,

A pioneering neuroscientist argues that we are more than our brains To many, the brain is the seat of personal identity and autonomy. But the way we talk about the brain is often rooted more in mystical conceptions of the soul than in scientific fact. This blinds us to the physical realities of mental function. We ignore bodily influences on our psychology, from chemicals in the blood to bacteria in the gut, and overlook the ways that the environment affects our behavior, via factors varying from subconscious sights and sounds to the weather. As a result, we alternately overestimate our capacity for free will or equate brains to inorganic machines like computers. But a brain is neither a soul nor an electrical network: it is a bodily organ, and it cannot be separated from its surroundings. Our selves aren't just inside our heads--they're spread throughout our bodies and beyond. Only once we come to terms with this can we grasp the true nature of our humanity.

What is your emotional fingerprint? Why are some people so quick to recover from setbacks? Why are some so attuned to others that they seem psychic? Why are some people always up and others always down? In his thirty-year quest to answer these questions, pioneering neuroscientist Richard J. Davidson discovered that each of us has an Emotional Style, composed of Resilience, Outlook, Social Intuition, Self-Awareness, Sensitivity to Context, and Attention. Where we fall on these six continuums determines our own "emotional fingerprint." Sharing Dr. Davidson's fascinating case histories and experiments, *The Emotional Life of Your Brain* offers a new model for treating conditions like autism and depression as it empowers us all to better understand ourselves—and live more meaningful lives.

Since Descartes famously proclaimed, "I think, therefore I am," science has often overlooked emotions as the source of a person's true being. Even modern neuroscience has tended, until recently, to concentrate on the cognitive aspects of brain function, disregarding emotions. This attitude began to change with the publication of *Descartes' Error* in 1995. Antonio Damasio—"one of the world's leading neurologists"

(The New York Times)—challenged traditional ideas about the connection between emotions and rationality. In this wondrously engaging book, Damasio takes the reader on a journey of scientific discovery through a series of case studies, demonstrating what many of us have long suspected: emotions are not a luxury, they are essential to rational thinking and to normal social behavior.

A new theory of consciousness and the construction of identity focuses on the body's reaction to its world, postulating that a complex relationship between body, emotion, and mind is required to configure the self. Reprint. 50,000 first printing.

The co-discoverer of the "split brain" theory tells how science is recasting the age-old question of nature versus nurture to create a startling new view of human behavior. Recent discoveries suggest that natural selection affects not only physical characteristics but also mental processes, from learning to substance abuse.

In this sweeping synthesis, Neal J. Cohen and Howard Eichenbaum bring together converging findings from neuropsychology, neuroscience, and cognitive science that provide the critical clues and constraints for developing a more comprehensive understanding of memory. Specifically, they offer a cognitive neuroscience theory of memory that accounts for the nature of memory impairment exhibited in human amnesia and animal models of amnesia, that specifies the functional role played by the hippocampal system in memory, and that provides further understanding of the componential structure of memory. The authors' central thesis is that the hippocampal system mediates a capacity for declarative memory, the kind of memory that in humans supports conscious recollection and the explicit and flexible expression of memories. They argue that this capacity emerges from a representation of critical relations among items in memory, and that such a relational representation supports the ability to make inferences and generalizations from memory, and to manipulate and flexibly express memory in countless ways. In articulating such a description of the fundamental nature of declarative representation and of the mnemonic capabilities to which it gives rise, the authors' theory constitutes a major extension and elaboration of the earlier procedural-declarative account of memory. Support for this view is taken from a variety of experimental studies of amnesia in humans, nonhuman primates, and rodents.

Additional support is drawn from observations concerning the neuroanatomy and neurophysiology of the hippocampal system. The data taken from divergent literatures are shown to converge on the central theme of hippocampal involvement in declarative memory across species and across behavioral paradigms. Neal J. Cohen is Assistant Professor in the Amnesia Research Laboratory at Beckman Institute for Advanced Science and Technology, and in the Department of Psychology at the University of Illinois. Howard Eichenbaum is Professor of Psychology and Neurobiology at the University of North Carolina, Chapel Hill.

And he starts to become a writer, producing fantastic tales about talking dogs, fatal blood diseases, tornadoes, and the lady with the torch."--BOOK JACKET.

Anderson offers systematic and accessible presentation of the theoretical foundations of higher mental processes, with each important idea made concrete by specific examples and experiments. Focusing on knowledge representation as the central issue of cognition research, the book emphasizes an information processing approach to the field, but offers thorough coverage of the cognitive neuroscience approach as well (extensively updated for this edition). Reflecting the evolution of current research, the new Seventh Edition looks closely at the dramatic contributions of cognitive neuroscience to the understanding of cognitive functions. New coverage, new color insert, new pedagogy, and other

content and format innovations, make this definitive new edition the most student-friendly yet. Check out a preview [here](#). What happened along the evolutionary trail that made humans so unique? In his accessible style, Michael Gazzaniga pinpoints the change that made us thinking, sentient humans different from our predecessors. He explores what makes human brains special, the importance of language and art in defining the human condition, the nature of human consciousness, and even artificial intelligence.

"Do not be anxious about anything." When it comes to stress and worry, that's all we really need to say, right? Just repent of your anxiety, and everything will be fine. But emotional life is more complex than this. In *The Logic of the Body*, Matthew LaPine argues that Protestants must retrieve theological psychology in order to properly understand the emotional life of the human person. With classical and modern resources in tow, LaPine argues that one must not choose between viewing emotions exclusively as either cognitive and volitional on the one hand, or simply a feeling of bodily change on the other. The two "stories" can be reconciled through a robustly theological analysis. In a culture filled with worry and anxiety, *The Logic of the Body* offers a fresh path within the Reformed tradition.

A presentation of music and language within an integrative, embodied perspective of brain mechanisms for action, emotion, and social coordination. This book explores the relationships between language, music, and the brain by pursuing four key themes and the crosstalk among them: song and dance as a bridge between music and language; multiple levels of structure from brain to behavior to culture; the semantics of internal and external worlds and the role of emotion; and the evolution and development of language. The book offers specially commissioned expositions of current research accessible both to experts across disciplines and to non-experts. These chapters provide the background for reports by groups of specialists that chart current controversies and future directions of research on each theme. The book looks beyond mere auditory experience, probing the embodiment that links speech to gesture and music to dance. The study of the brains of monkeys and songbirds illuminates hypotheses on the evolution of brain mechanisms that support music and language, while the study of infants calibrates the developmental timetable of their capacities. The result is a unique book that will interest any reader seeking to learn more about language or music and will appeal especially to readers intrigued by the relationships of language and music with each other and with the brain.

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Depending on your point of view the brain is an organ, a machine, a biological computer, or simply the most important component of the nervous system. How does it work as a whole? What are its major parts and how are they interconnected to generate thinking, feelings, and behavior? This book surveys 2,500 years of scientific thinking about these profoundly important questions from the perspective of fundamental architectural principles, and then proposes a new model for the basic plan of neural systems organization based on an explosion of structural data emerging from the neuroanatomy revolution of the 1970's. The importance of a balance between theoretical and experimental morphology is stressed throughout the book. Great advances in understanding the brain's basic plan have come especially from two traditional lines of biological thought-- evolution and embryology, because each begins with the simple and progresses to the more complex. Understanding the organization of brain circuits, which contain thousands of links or pathways, is much more difficult. It is argued here that a four-system network model can explain the structure-function organization of the brain. Possible relationships between neural networks and gene networks revealed by the human genome project are explored in the final chapter. The book is written in clear and sparkling prose, and it is profusely illustrated. It is designed to be read by anyone with an interest in the basic organization of the brain, from neuroscience to philosophy to computer science to molecular biology. It is suitable for use in neuroscience core courses because it presents basic principles of the structure of the nervous system in a systematic way.

This Fifth Edition of the underground classic *This Book Is Not Required: An Emotional and Intellectual Survival Manual for Students*, by Inge Bell, Bernard McCrane, John Gunderson, and Teri Anderson, breaks new ground in participatory education, offering insight and inspiration to help undergraduates make the most of their college years. This edition continues to teach about the college experience as a whole—looking at the personal, social, intellectual, technological, and spiritual demands and opportunities—while incorporating new material highly relevant to today's students. The material is presented in a personable and straightforward manner, maintaining Dr. Inge Bell's illuminating writing style throughout, and inviting students to take responsibility for, and make the most of, their educational experiences.

A reader-friendly exploration of the science of emotion. After years of neglect by both mainstream biology and psychology, the study of emotions has emerged as a central topic of scientific inquiry in the vibrant new discipline of affective neuroscience. Elizabeth Johnston and Leah Olson trace how work in this rapidly expanding field speaks to fundamental questions about the nature of emotion: What is the function of emotions? What is the role of the body in emotions? What are "feelings," and how do they relate to emotions? Why are emotions so difficult to control? Is there an emotional brain? The authors tackle these questions and more in this "tasting menu" of cutting-edge emotion research.

They build their story around the path-breaking 19th century works of biologist Charles Darwin and psychologist and philosopher William James. James's 1884 article "What Is an Emotion?" continues to guide contemporary debate about minds, brains, and emotions, while Darwin's treatise on "The Expression of Emotions in Animals and Humans" squarely located the study of emotions as a critical concern in biology. Throughout their study, Johnston and Olson focus on the key scientists whose work has shaped the field, zeroing in on the most brilliant threads in the emerging tapestry of affective neuroscience. Beginning with early work on the brain substrates of emotion by such workers such as James Papez and Paul MacLean, who helped define an emotional brain, they then examine the role of emotion in higher brain functions such as cognition and decision-making. They then investigate the complex interrelations of emotion and pleasure, introducing along the way the work of major researchers such as Antonio Damasio and Joseph LeDoux. In doing so, they braid diverse strands of inquiry into a lucid and concise introduction to this burgeoning field, and begin to answer some of the most compelling questions in the field today. How does the science of "normal" emotion inform our understanding of emotional disorders? To what extent can we regulate our emotions? When can we trust our emotions and when might they lead us astray? How do emotions affect our memories, and vice versa? How can we best describe the relationship between emotion and cognition? Johnston and Olson lay out the most salient questions of contemporary affective neuroscience in this study, expertly situating them in their biological, psychological, and philosophical contexts. They offer a compelling vision of an increasingly exciting and ambitious field for mental health professionals and the interested lay audience, as well as for undergraduate and graduate students.

Elkhonon Goldberg's groundbreaking *The Executive Brain* was a classic of scientific writing, revealing how the frontal lobes command the most human parts of the mind. Now he offers a completely new book, providing fresh, iconoclastic ideas about the relationship between the brain and the mind. In *The New Executive Brain*, Goldberg paints a sweeping panorama of cutting-edge thinking in cognitive neuroscience and neuropsychology, one that ranges far beyond the frontal lobes. Drawing on the latest discoveries, and developing complex scientific ideas and relating them to real life through many fascinating case studies and anecdotes, the author explores how the brain engages in complex decision-making; how it deals with novelty and ambiguity; and how it addresses moral choices. At every step, Goldberg challenges entrenched assumptions. For example, we know that the left hemisphere of the brain is the seat of language--but Goldberg argues that language may not be the central adaptation of the left hemisphere. Apes lack language, yet many also show evidence of asymmetric hemispheric development. Goldberg also finds that a complex interaction between the frontal lobes and the amygdale--between a recently evolved and a much older part of the brain--controls emotion, as conscious thoughts meet automatic impulses. The author illustrates this observation with a personal example: the

difficulty he experienced when trying to pick up a baby alligator he knew to be harmless, as his amygdala battled his effort to extend his hand. In the years since the original *Executive Brain*, Goldberg has remained at the front of his field, constantly challenging orthodoxy. In this revised and expanded edition, he affirms his place as one of our most creative and insightful scientists, offering lucid writing and bold, paradigm-shifting ideas.

Following up his 1996 *"The Emotional Brain,"* the world-renowned brain expert presents a groundbreaking work that tells a more profound story: how the little spaces between the neurons--the brain's synapses--are the channels through which we think, feel, imagine, act, and remember.

What happens in our brains to make us feel fear, love, hate, anger, joy? Do we control our emotions, or do they control us? Do animals have emotions? How can traumatic experiences in early childhood influence adult behavior, even though we have no conscious memory of them? In *The Emotional Brain*, Joseph LeDoux investigates the origins of human emotions and explains that many exist as part of complex neural systems that evolved to enable us to survive. One of the principal researchers profiled in Daniel Goleman's *Emotional Intelligence*, LeDoux is a leading authority in the field of neural science. In this provocative book, he explores the brain mechanisms underlying our emotions -- mechanisms that are only now being revealed.

Neuroscientist V.S. Ramachandran is internationally renowned for uncovering answers to the deep and quirky questions of human nature that few scientists have dared to address. His bold insights about the brain are matched only by the stunning simplicity of his experiments -- using such low-tech tools as cotton swabs, glasses of water and dime-store mirrors. In *Phantoms in the Brain*, Dr. Ramachandran recounts how his work with patients who have bizarre neurological disorders has shed new light on the deep architecture of the brain, and what these findings tell us about who we are, how we construct our body image, why we laugh or become depressed, why we may believe in God, how we make decisions, deceive ourselves and dream, perhaps even why we're so clever at philosophy, music and art. Some of his most notable cases: A woman paralyzed on the left side of her body who believes she is lifting a tray of drinks with both hands offers a unique opportunity to test Freud's theory of denial. A man who insists he is talking with God challenges us to ask: Could we be "wired" for religious experience? A woman who hallucinates cartoon characters illustrates how, in a sense, we are all hallucinating, all the time. Dr. Ramachandran's inspired medical detective work pushes the boundaries of medicine's last great frontier -- the human mind -- yielding new and provocative insights into the "big questions" about consciousness and the self.

Two leading thinkers engage in a landmark conversation about human emotions and the pursuit of psychological fulfillment. At their first meeting, a remarkable bond was sparked between His Holiness the Dalai Lama, one of the world's

most revered spiritual leaders, and the psychologist Paul Ekman, whose groundbreaking work helped to define the science of emotions. Now these two luminaries share their thinking about science and spirituality, the bonds between East and West, and the nature and quality of our emotional lives. In this unparalleled series of conversations, the Dalai Lama and Ekman prod and push toward answers to the central questions of emotional experience. What are the sources of hate and compassion? Should a person extend her compassion to a torturer—and would that even be biologically possible? What does science reveal about the benefits of Buddhist meditation, and can Buddhism improve through engagement with the scientific method? As they come to grips with these issues, they invite us to join them in an unfiltered view of two great traditions and two great minds. Accompanied by commentaries on the findings of emotion research and the teachings of Buddhism, their interplay—amusing, challenging, eye-opening, and moving—guides us on a transformative journey in the understanding of emotions.

Longlisted for the PEN/E.O. Wilson Literary Science Writing Award A leading neuroscientist offers a history of the evolution of the brain from unicellular organisms to the complexity of animals and human beings today Renowned neuroscientist Joseph LeDoux digs into the natural history of life on earth to provide a new perspective on the similarities between us and our ancestors in deep time. This page-turning survey of the whole of terrestrial evolution sheds new light on how nervous systems evolved in animals, how the brain developed, and what it means to be human. In *The Deep History of Ourselves*, LeDoux argues that the key to understanding human behavior lies in viewing evolution through the prism of the first living organisms. By tracking the chain of the evolutionary timeline he shows how even the earliest single-cell organisms had to solve the same problems we and our cells have to solve each day. Along the way, LeDoux explores our place in nature, how the evolution of nervous systems enhanced the ability of organisms to survive and thrive, and how the emergence of what we humans understand as consciousness made our greatest and most horrendous achievements as a species possible.

A revolutionary new study of the origins of love based on physiological research probes the human brain for insights into the origins of the sex drive, romance, and attraction, while also offering practical advice on how to control and channel these desires into healthy pursuits. Reprint. 60,000 first printing.

Thirty-five chapters describe various judgmental heuristics and the biases they produce, not only in laboratory experiments, but in important social, medical, and political situations as well. Most review multiple studies or entire subareas rather than describing single experimental studies.

*Gut Reactions* is an interdisciplinary defense of the claim that emotions are perceptions in a double sense. First of all, they are perceptions of changes in the body, but, through the body, they also allow us to literally perceive danger, loss,

and other matters of concern. This proposal, which Prinz calls the embodied appraisal theory, reconciles the long standing debate between those who say emotions are cognitive and those who say they are noncognitive. The basic idea behind embodied appraisals is captured in the familiar notion of a "gut reaction," which has been overlooked by much emotion research. Prinz also addresses emotional valence, emotional consciousness, and the debate between evolutionary psychologists and social constructionists.

Winner of the Wolf Prize for his contribution to our understanding of the universe, Penrose takes on the question of whether artificial intelligence will ever approach the intricacy of the human mind. 144 illustrations.

In this book we are trying to illuminate the persistent and nagging questions of how mind, life, and the essence of being relate to brain mechanisms. We do that not because we have a commitment to bear witness to the boring issue of reductionism but because we want to know more about what it's all about. How, in deed, does the brain work? How does it allow us to love, hate, see, cry, suffer, and ultimately understand Kepler's laws? We try to uncover clues to these staggering questions by considering the results of our studies on the bisected brain. Several years back, one of us wrote a book with that title, and the approach was to describe how brain and behavior are affected when one takes the brain apart. In the present book, we are ready to put it back together, and go beyond, for we feel that split-brain studies are now at the point of contributing to an understanding of the workings of the integrated mind. We are grateful to Dr. Donald Wilson of the Dartmouth Medical School for allowing us to test his patients. We would also like to thank our past and present colleagues, including Richard Nakamura, Gail Risse, Pamela Greenwood, Andy Francis, Andrea Elberger, Nick Brecha, Lynn Bengston, and Sally Springer, who have been involved in various facets of the experimental studies on the bisected brain described in this book.

Focusing on the *Summa theologiae*, Nicholas Lombardo contributes to the recovery, reconstruction, and critique of Aquinas's account of emotion in dialogue with both the Thomist tradition and contemporary analytic philosophy

This book deals with the results of theoretical and experimental studies of the emotions which my colleagues and I carried out over the last two decades. An interest in the psychology of emotions prompted us to undertake an analysis of the creative legacy of K. S. Stanislavsky. A result of this analysis was the book, *The Method of K. s. StanisZavsky and the PhysioZogy of Emotions*, written in 1955-1956 and published by the Academy of Sciences of the USSR in 1962. I am grateful to the first reader and critic of the manuscript, Leon Abgarovich Orbeli. In 1960, having transferred to the Institute of Higher Nervous Activity and Neurophysiology of the Academy of Sciences of the USSR, I had the opportunity to conduct experiments on problems that had interested me for a long time. In close scientific association with Peter Mikhailovich Ershov, director and teacher of theater, I began a systematic study of the involuntary and electrophysiological shifts in actors during voluntary production of various emotional states. Here comparatively quickly we became convinced that the fruitfulness of such studies rests on an absence of any kind of developed, systematic, and sound general theory of the emotions of man and the higher mammals. We will illustrate our difficulties if only with one example. We had frequently read of the so-called "emotional memory.

