Emotions as Bio-cultural Processes
Emotions as Bio-cultural Processes
In memory of Dr. Johannes Roggenhofer (1962–2008)
Preface

The present volume emerged from discussions in the research group “Emotions as Bio-cultural Processes” (April 1, 2004 to March 31, 2005), which was generously funded and hosted by the Center for Interdisciplinary Research (ZIF), Bielefeld University.

A central figure in the ZiF organization was Johannes Roggenhofer, the exceptionally skilful and tactful executive secretary of the Center. His calmly objective style combined with kind and warm-hearted humor and the way he always had a sympathetic ear for the major and minor troubles of colleagues and research fellows decisively shaped the harmonious atmosphere that we have come to appreciate so much at the ZiF. His sudden death on January 24, 2008 at the age of 45 was a shock for all of us and left a great gap in the lives of many. We dedicate this volume to his memory.

Our special thanks go to the permanent fellows of this research group and simultaneously contributors to this volume with whom we shared an exciting year of stimulating and fruitful discussions, workshops, and conferences. Owing to both their profound interest in this research topic and their enthusiasm for interdisciplinary communication, the year became a highly rewarding experience for us as organizers—not only scientifically but in interpersonal terms. One person of utmost importance for the smooth running of all research group affairs was our special assistant, Henrik Bollermann, to whom we owe many thanks.

The task of translating the German and/or correcting the English of contributions written by nonnative speakers has been accomplished meticulously by Jonathan Harrow, who displayed not only an outstanding sensitivity to the various disciplinary languages but also extraordinary patience with the sometimes chaotic text and time management of several contributors. Especially with regard to this last aspect, the book would still be unfinished without the unflinching commitment of Mo Tschache, who undertook the painstaking labor of formatting and finishing the text, fitting in new versions, and entering more corrections. She always knew exactly where things stood and never failed to exert her rigorous charm when chasing up authors for their mistakes and omissions.
We highly appreciate the readiness of Springer Science+Business Media to publish such a broadly interdisciplinary work.

Halle, Germany                        Birgitt Röttger-Rössler
Bielefeld, Germany                    Hans J. Markowitsch
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Prologue
Introduction

Birgitt Röttger-Rössler and Hans J. Markowitsch

Gut feelings, or intuitions, are considered to be more dominant than rational thought (Gigerenzer, 2007); and particularly in situations not totally under our control and with unpredictable outcome, it is our emotional self that guides our behavior. Antonio Damasio (1999), in the subtitle of his book The Feeling of What Happens, stated that body and emotion make up our consciousness. We are bound to our body; and when it comes to our brain, we are bound much more closely to those parts that are phylogenetically old and guide our emotions—the limbic system—than the recent additions so important for organization and planning—the frontal lobes.

This book follows quite divergent perspectives—from philosophy, psychology, physiology and the neurosciences, ethnology, and sociology—to pursue the common goal of elucidating why emotions function as a bridge between our social and cognitive beings. In contrast to the usual, more limited approaches, it encompasses views extending from our evolutionary history to our cultural present—from the isolated emotional outbursts of an individual to the similarly uncontrolled emotional eruptions of social communities as described by Sigmund Freud (1921/1951).

The articles collected here are an outcome of the work of a research group organized jointly by the editors and running for a full year from April 2004 to March 2005 at a well known German institute of advanced study, the Center of Interdisciplinary Research, located at the University of Bielefeld. Throughout that fruitful year, the contributors to this book worked together to promote our understanding of emotions from their biological background to their cultural refinements. Despite many discipline-specific differences, the fellows of the research group agreed from the outset that the emotions felt by an individual in a given situation depend on several factors: the particular social context and the corresponding cultural models of interpretation and behavior, the biography and psychological structures of the single individual, and innate physiological...
processes anchored in human biology ("bodily reactions") and their subjective perception ("feeling"). The latter, in turn, is partly shaped by culture, just as the expression of emotions is molded by culture-specific display rules. In short, the researchers shared the view that emotions should be conceptualized as highly complex bio-cultural interaction systems that develop and change over the course of time. Thus, the main goal of the group was to lay down the foundations for the development of an interdisciplinary model of emotions while paying special attention to the bio-cultural dialectics of emotional processes.

Nonetheless, while pursuing this goal, we were immediately confronted by the enormous heterogeneity of underlying assumptions, theoretical approaches, specialized terminologies, and research methods applied by the representatives of the various disciplines. To overcome these differences so that a truly interdisciplinary dialogue could emerge, our first task was to develop a common language, including a common terminology—not the easiest endeavor with scientists from such different backgrounds who are used to working with their discipline-specific methodologies and concepts.

It took several months to build a framework that satisfied all of us. On the one hand, this framework provided a basis for distinguishing between emotions common to us as humans and our relatives from the animal kingdom, those emotions apparently found only in our own species, and finally those few complex emotions that may not be universal to humankind but perhaps limited to certain cultures. On the other hand, it provided the parameters for consistently conceiving emotions as bio-cultural processes while simultaneously taking account of their dynamic nature—their continuous development and change over and within time.

During the course of these conceptual discussions and gatherings, the need emerged to apply our theoretical considerations and models in an exemplary analysis of prototypical emotions. Therefore, a subgroup was set up to specialize in a refined analysis of two emotions that seem to appear in the human species alone: shame and pride. These emotions, often referred to in the literature as the higher, or "social," emotions, are considered to reflect the complex shaping processes inherent in our existence as social beings dependent on the recognition and judgments of our fellows.

In line with these specializations and divisions of labor, the book is organized into two sections. The first part is oriented primarily toward theoretical issues, and the second is oriented primarily toward empirical applications in concrete case studies of pride and shame as well as honor and dishonor.

Before presenting the contents and goals of each part, as well as the individual chapters in more detail, we emphasize once again the unusual context in which this book emerged. The individual chapters were preceded by discussions undertaken by a research group of unparalleled scientific heterogeneity. The discussions served two purposes: (1) to gain an understanding across disciplines, that is, to outline and explain discipline-specific concepts, findings, and assumptions; and (2) to formulate interdisciplinary research questions, postulates, and interfaces. To come to the point, the goal of this book is to inform the reader about the variety
of disciplinary perspectives and then go on to develop new perspectives that go beyond the borders of these disciplines. It is of a highly explorative nature; it offers food for thought and triggers questions that we hope will stimulate interdisciplinary cooperation. Our goal is no more than this but also no less.

This introduction is immediately followed by a consideration of emotions from the philosophical perspective: What are human beings? What distinguishes them from other living creatures, and what do they have in common with them? What is specifically human, and how can it be defined? The cognitive philosopher Achim Stephan considered the major attempts to define what is human that have evolved and continue to dominate the history of ideas in the Western world. He shows that emotionality has not been treated as an ability that is particularly human. Even in modern philosophy, it is not one of the generally recognized “topologies of being human.” Stephan drew on findings from modern brain research that show how strongly rational action and social interactions depend on and are controlled by emotional evaluation processes, and he called for a reformulation of our view of the human being for an understanding of *Homo sapiens* as an *animal emotionale*.

The first part of the main book then starts off with “Emotions as Bio-cultural Processes: Disciplinary Debates and an Interdisciplinary Outlook,” a chapter written jointly by several members of the research group, with the philosopher Eva-Maria Engelen at the helm. This chapter is the outcome of joint discussions among the fellows on the classic question “What are emotions?” aimed at formulating a common terminology and an interdisciplinary understanding of emotion. It can be understood as the key not just to Part I but to the entire book.

In one way or another, all subsequent chapters illuminate various aspects addressed or problematized here. For example, in the next chapter, “On the Origin and Evolution of Affective Capacities in Lower Vertebrates,” social anthropologist and biologist Michael Casimir sets out the fundamentals of emotional development from a phylogenetic perspective. He emphasizes how certain basic forms of emotions can be seen in animals such as reptiles that evolved long before the first mammal appeared on earth. Based on the notion that emotions are elicited through sensing or perceiving specific environmental stimuli, he shows how increasingly complex emotional capacities have evolved in line with the growing complexity of the neural structures intertwined with the various senses.

Carrying on from here, the physiological psychologist and brain researcher Hans Markowitsch focuses on the brain—but this time with an emphasis on higher animals, including humans, and on the interdependence of emotion and intellect at both the behavioral and neural levels.

Irene Daum, Hans Markowitsch, and Marie Vandekerckhove then stress how the brain controls and guides our emotional behavior. In doing so, they specify the brain regions and circuits important for the expression of emotions. Furthermore, they refer to common errors in relating emotions to the brain and emphasize the roles of the amygdala, septum, and diencephalic nuclei in emotional processing by providing case examples that give a particularly clear demonstration.
of the contribution of individual brain structures to emotional processing. They also address the involvement of the “expanded limbic system” in emotional-cognitive control, the brain’s biochemistry (transmitter systems), and laterality effects.

Whereas these chapters are generally committed to an evolutionary time scale, the next three contributions address the formation and change of emotions during the individual’s life course and try to grasp the social and cultural modeling of emotional development processes. The chapter “Milestones and Mechanisms of Emotional Development” by developmental psychologist Manfred Holodynski takes us from the evolutionary to the individual perspective by studying the development of emotions during the course of childhood. He describes interactions between the child and the caregiver as the decisive mediators in the process “through which culture enters into emotion.”

Social anthropologist Birgitt Röttger-Rössler then focuses attention on the problem of how the social and cultural emotional code has changed historically. Macrosocial changes frequently confront individuals with life situations of such novelty that they can no longer cope with them appropriately on the basis of given conventional feeling rules. It then becomes necessary for the members of a society to reformulate the feeling rules that have lost their validity. Röttger-Rössler analyzes such reformulation processes in terms of the changed meaning of pregnancy loss in contemporary Germany, and she describes the significant role of social communication and verbalization processes in the modification of handed-down social feeling rules.

The concept of social feeling rules (Hochschild, 1983), which are modified constantly within the context of macrosocietal processes of change, is the focus of the next chapter. Sociologist Sighard Neckel addresses the continuous growth of various programs for emotional self-management since the 1990s in Western societies, which have appeared in the form of advice books and training courses offering strategies for successful emotional self-regulation and optimizing the emotional experience and performance. He works out how these advice books and training programs relate to the principles and demands of a modern market society characterized by flexible “network capitalism,” and he shows how these discourses treat emotions as goods, or “marketable products.” They are seen as important strategic instruments for realizing goals that are subject to the rational calculation of how to increase one’s own skills, well-being, and effectiveness.

The chapter by social anthropologist Margot Lyon focuses on the search for meaningful theoretical approaches to the complex interactions between the bodily and the sociocultural dimensions of emotional processes. In this context, she points to a number of early approaches in German philosophical anthropology (e.g., Plessner, 1928; Gehlen, 1957/1980). These approaches have received little attention in recent emotion research even though they strove explicitly to (1) incorporate natural science explanations into the understanding of society and human nature and (2) include important ideas on the relation between social life and bodily processes. Lyon uses this work along with some older sociological approaches to develop a “social emotions” approach that aims at a deeper understanding of emotion’s central place in the mediation of bodily and sociocultural domains.
At the end of Part 1, Achim Stephan pursues the philosophical tradition of the thought experiment and asks whether artificial feelings can exist and, if so, what they would have to look like to distinguish them from “natural feelings.” From the perspective of classic philosophy, he reiterates the criteria for defining the various feelings, thereby not only improving our understanding of emotions but also furthering the Western traditions of thought that continue to shape both the popular and the scientific understanding of emotions—that is, are part of the cultural knowledge that also influences the approaches of modern emotion research.

As already mentioned, the second part of the book focuses on the specific emotions pride and shame. The social significance assigned to these emotions not only varies considerably among cultures; it reveals different emphases within a single society as well as over the course of ontogenesis. It should be stressed here that pride and shame are not viewed antagonistically but as interconnected emotional domains closely linked to processes of social inclusion and exclusion.

We start off with a comprehensive study from Michael Casimir in cooperation with Susanne Jung. This chapter focuses on the theoretically significant relation between the social emotions pride and shame as immediate, short-term, bodily felt phenomena versus the highly complex social and symbolic categories of honor and dishonor/shame. It also asks whether—and, if so, how far—the socially and culturally formulated honor and shame codes found in many societies shape the individual experience of pride and shame; in other words, how far these pan-human emotional dimensions are shaped by specific cultures. The first part of Casimir and Jung’s detailed analysis is a comprehensive anthropological overview of the facets of various “honor societies.” This provides the necessary introductory framework within which to address the interaction between cultural value systems, emotion models, and the emotional episodes of individual actors.

The next chapter, from Birgitt Röttger-Rössler, addresses change in culture-specific honor codes within a Southeast Asian context. The central issue is how cultural models of emotions, and thereby emotions themselves, are transformed within the context of changing societal conditions. Röttger-Rössler draws on empirical material from her field research in Indonesia and uses a micro level analysis of a social conflict to plot how individual actors modify the social structures and emotional codes of their society through their own emotionally motivated behaviors and decisions. In this context, she details the translocal and global connections and the potential orientations that play a role in these processes.

This analysis is followed by another chapter that focuses on empirical anthropological research in Indonesia: Thomas Stodulka’s analysis of the life situation of male street youths in the Javanese city of Yogyakarta. Stodulka is interested in the sociopsychological processes and strategies that groups on the fringe of society apply to cope with their marginalization. He postulates that one decisive determinant of whether such youths are able to cope with social exclusion and the hardships of living on the street is how far they succeed in
developing a collective identity and manage to transform their individual shame at being a society dropout into a collective pride in being a member of a street gang.

The next chapter, by Sven Ismer, deals with the development of emotions and emotion regulation during adolescence, a life phase confronting youths with a multitude of new challenges and an increasing shift in their social focus—at least in Western societies—away from the family and toward school and peer relationships. An important issue in this context is the role of “youth cultures” and the extent to which they offer ways for adolescents to cope with their specific emotional problems. Ismer uses the example of hip-hop to address this domain, showing how this youth movement particularly enables marginalized adolescents to experience social recognition and compensate for the social devaluation and shaming processes to which they are exposed in mainstream society.

The contribution from developmental psychologist Manfred Holodynski and the educational scientist Stefanie Kronast focuses on the role of shame and pride in the school learning context. They show how fundamentally adapting to school achievement standards and norms is linked to the triggering of feelings of shame and pride. Students who do not meet the academic standard are excluded through a variety of subtle shaming processes, whereas successful students frequently experience pride through praise and social recognition. The authors analyze how harmful the “spiral of shaming and discouragement” is to learning motivation because once a certain stage has been reached any willingness to achieve is suffocated by self-protective measures. They criticize the insufficient consideration given to these emotional processes in the literature on learning theory and school psychology.

This book both starts and ends with philosophy, the latter being a chapter with an analysis of anger, shame, and justice in the ancient and modern worlds by Eva-Maria Engelen. She asks about the significance of anger and shame for the individual in a social context and the role these emotions play in the recognition of social order and the rules of living together in communities; in other words, she examines the social regulatory and evaluative functions of shame and anger. She not only analyzes how closely social norms and values, laws, and justice are interwoven with these emotions, she addresses the central question on what distinguishes shame from guilt. She finds the answer in the two-sided nature of shame, that is, in the fact that individuals feel shame not only when failing to meet social standards through their own actions but also when others fail to treat them according to accepted social and moral standards, thereby “devaluing” them in a fundamental way. This form of shame persists; unlike guilt, it cannot be confessed, recompensed, or forgiven in the Christian sense. It marks a substantial social devaluation that remains branded on the mind and body of the individual.

In summary, the chapters in this second part of the book show how significant the emotional dimensions of pride and shame are for human social behavior and what a crucial role they play in processes of social conformity. Both emotions—whether the shame accompanied by fear of social exclusion or the pride when embodying central social values through one’s own achievements or
features—motivate individuals to orient their behavior toward the standards of the society to which they are attached.

As the editors, we close here with what we consider to be justifiable pride in this volume. We believe that it offers the reader deep and thorough insights into mechanisms of human action that, though based on our animal heritage, have developed in accordance with our being as a zoon politikon—a social animal who is oriented toward and forms communities.

References


Homo Sapiens—The Emotional Animal

Achim Stephan

**Abstract** Traditionally, in attempts to define what comprises being human, philosophers have referred to features such as rationality, language, culture, free will, creativity, or political structures to distinguish humans from other living beings. In the long run, these attempts to separate humans sharply from the animal kingdom have all failed. Emotions have been largely ignored on the grounds that humans share them with many other animals. As a result of this neglect, it has been overlooked how essential emotions are for what it means to be human.

Looking back over the last 2000 to 3000 years in the history of ideas, we find a series of proposals for defining what makes human beings human and thereby different from all other animals. Immanuel Kant (1724–1804) analyzed this central issue in anthropology—the nature of man—in a transparent and effective way in the introduction of his *Logik* (edited by Gottlob Jäsche). After defining philosophy as the “science of the ultimate objects of human reason,” he formulated four fundamental questions for philosophical study (that have now become almost common property), also stipulating where their answers should be sought.

- What can I know?
- What ought I do?
- What may I hope for?
- What is man?

The first question is the concern of metaphysics, the second of ethics, the third of religion, and the fourth of anthropology. Basically, according to Kant, one can assign all topics associated with these questions to anthropology (AA IX, pp. 24–25).

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In 2004, the German Wissenschaftliche Buchgesellschaft commenced a seven-volume series entitled *Topologien des Menschlichen* [Human Taxonomies] (edited by Heinrich Schmidinger and Clemens Sedmak). One of the goals of the series was to examine the old Kantian question: “What is man?” by particularly considering findings from the natural sciences and the humanities. Titles of this series, starting with the first volume, are (in translation) *Man—A Rational Animal?*, with the subtitle, *Reason–Cognition–Intelligence*, followed by *Man—A Free Being?, Man—A “Zoon Politikon?”, Man—An “Animal Symbolicum?”, Man—A Creative Being?, Man—A Deficient Being?, and Man—Image of God?*

Without exception, these titles refer directly to the traditional attempts to define what humans essentially are. As a rule, it means distinguishing humans from the animal world. Many of these attempts draw on the classical theory of definition, according to which every concept is defined as a subclass of a more general concept. This general concept is called the *genus proximum*. Each subclass of the genus proximum is characterized by special features called the *differentiae specificae*. Hence, there is consensus regarding the more comprehensive, more general concept: Humans are living beings. According to traditional proposals, they differ from other living beings through (1) their reasoning skills, (2) their efforts to form state-like communities, (3) their ability to use symbols, (4) their possession of free will, and/or (5) their ability to be creative. Humans are also viewed as (6) “deficient beings” or (7) an image of God. In contrast, emotions, passions, affects, feelings, and sensations have never played any role whatsoever in all these attempted definitions. The idea of conceiving humans also, and in particular, as an *animal emotionale* was (and is) not considered in this context.

Many of the above-mentioned attempts at definition go back a long way historically. Classic Greek philosophy, Judaism, and Christianity have provided a stockpile of definitions of humans that continue to characterize philosophy to this day. It is particularly interesting to see that the premise of a biologically deficient endowment and its compensation through higher mental abilities reflects a motive that can already be found in a mythical form in Hesiod’s *Theogony* (ca. 700 BC) and has been handed down to us by Plato (ca. 428–348 BC) as Protagoras’s myth on the emergence of culture.

Protagoras tells his visitors that after the gods had decided to create mortal beings and had fashioned them from earth and fire the gods then ordered Prometheus and Epimetheus to equip them with properties. Epimetheus asked Prometheus to grant him the right to distribute the abilities and features, and he tried to proceed in a balanced way so that no species could be made extinct by another. That is why he gave some strength without swiftness, and the weaker were made swift. Epimetheus also clothed the mortal beings with thick hair and tough skins so they could withstand cold and heat. Particularly, he made predators to be far less prolific than their prey. However, despite all his efforts, Epimetheus was not very wise, because he
didn’t notice that he had used up all the powers on the non-rational creatures; so last of all he was left with human kind, quite unprovided for, and he was at a loss what to do. As he was racking his brains Prometheus came to inspect the distribution, and saw the other creatures well provided for in every way, while man was naked and unshod, without any covering for his bed or any fangs or claws; and already the appointed day was at hand, on which man too had to come out of the earth to the light of day. (321c; translated by Taylor)

Nonetheless, Prometheus had an idea. He stole from Hephaestus and Athene their technical skill along with the use of fire, and that was what he gave to humans. This is the way, according to the myth, in which humans came to have “a share of the divine attributes” (322a) and went on to take their place between the [other] animals and the gods.

The idea emerging here of the human as a creation with little endowment from the gods or from nature recurs much later with Johann Gottfried Herder (1744–1803) in, for example, his Abhandlung über den Ursprung der Sprache (Essay on the Origin of Language) in which he describes the human as “naked and bare, weak and in need, shy and unarmed, and—to make the sum of its misery complete—deprived of all guides of life” (1772/1966, p. 107).

Nowadays, the definition of the human as a deficient being is associated particularly with Arnold Gehlen (1904–1976), who presented the human inadequacies described by Protagoras and Herder more scientifically in his book Der Mensch. Seine Natur und seine Stellung in der Welt [Man: His Nature and Place in the World].

In terms of morphology, man is, in contrast to all other higher mammals, primarily characterized by deficiencies, which, in an exact, biological sense, qualify as a lack of adaptation, lack of specialization, primitive states, and failure to develop, and which are therefore essentially negative features. Humans have no natural protection against inclement weather; we have no natural organs for defense and attack but yet neither are our bodies designed for flight. Most animals surpass man as far as acuity of the senses is concerned. Man has what could even be termed a dangerous lack of true instincts and needs an unusually long period of protection and care during his infancy and childhood. In other words, under natural conditions, among dangerous predators, man would long ago have died out. (1940/1988, p. 26)

In his introduction to a later edition, Gehlen added:

If, in comparison to animals, man appears as a “deficient being,” then this designation expresses a comparative relationship. . . . In this respect, this concept attempts precisely what H. Freyer criticizes it for: “One envisions man fictitiously as animal only to discover that he makes an imperfect and indeed impossible animal.” (1940/1988, p. 13)

Gehlen willingly admitted that characterizing humans as deficient beings is in no way a complete definition. Nonetheless, it does serve to point out our “special position” from a morphological perspective.

In the following, I pick up the threads of these old myths again and look at one of the positive definitions of the human being. The most well known is naturally the premise probably going back to the Greek physician and philosopher Alcmaeon (≈ 500 BC) that human beings differ particularly from all
other animals through being the only ones who can comprehend and think; that is, they possess understanding, reason, awareness—a mind. This perspective can be seen in definitions of the human being as *zoon logon echon*, as *animal rationale*, or as *Homo sapiens*. The valuation assigned to the ability to think or the activity of thinking is simultaneously the standard for measuring the valuation assigned to humans. This applies to Socrates and Plato just as much as to Descartes and Kant. For René Descartes (1596–1650), reason was the defining property that discriminates true human beings from possible artificial imitations, and it does so in principle. In a famous passage from his *Discours de la Méthode*, he stated:

[I]f there were machines bearing the image of our bodies, and capable of imitating our actions as far as it is morally possible, there would still remain two most certain tests whereby to know that they were not therefore really men. Of these the first is that they could never use words or other signs arranged in such a manner as is competent to us in order to declare our thoughts to others . . . The second test is, that although such machines might execute many things with equal or perhaps greater perfection than any of us, they would, without doubt, fail in certain others from which it could be discovered that they did not act from knowledge, but solely from the disposition of their organs; for while reason is an universal instrument that is alike available on every occasion, these organs, on the contrary, need a particular arrangement for each particular action. (§ 5.10)

In general, many authors, particularly during the Middle Ages, agreed unanimously that humans are the image of God precisely because they possess reason, free will, and self-regulation (Grawe & Hügli, 1980, p. 1072). The strongest expression of this idea can be found in the bible when the Book of Genesis addresses the origins of creation:

Then God said, Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground. So God created man in his own image, in the image of God he created him; male and female he created them. (Genesis, I, 26–27)

The idea of humans as free and creative beings is expressed most impressively in Pico della Mirandola’s (1463–1494) *De Hominis Dignitate Oratio*—which Jacob Burckhardt (1818–1897) called one of the “most noble legacies of the Renaissance” (Burckhardt, 1952, p. 330). Pico della Mirandola let “God the father,” the greatest architect of the world, speak to Adam after releasing him into the world:

All other things have a limited and fixed nature prescribed and bounded by Our laws. You, with no limit or no bound, may choose for yourself the limits and bounds of your nature. We have placed you at the world’s center so that you may survey everything else in the world. We have made you neither of heavenly nor of earthly stuff, neither mortal nor immortal, so that with free choice and dignity, you may fashion yourself into whatever form you choose. To you is granted the power of degrading yourself into the lower forms of life, the beasts, and to you is granted the power, contained in your intellect and judgment, to be reborn into the higher forms, the divine. (pp. 5–7)
Nowadays, Kant’s thesis presented in *The Critique of Pure Reason* under “The antinomy of pure reason third conflict of the transcendental ideas” provides a more suitable focus for the modern and contemporary debate on human freedom. He stated:

Thesis: Causality in accordance with laws of nature is not the only causality from which the appearances of the world can one and all be derived. To explain these appearances it is necessary to assume that there is also another causality, that of freedom. (AA III, p. 308)

In his commentary on this thesis, he remarked:

If, for instance, I at this moment arise from my chair, in complete freedom, without being necessarily determined thereto by the influence of natural causes, a new series, with all its natural consequences in infinitum, has its absolute beginning in this event. . . . For this resolution and act of mine do not form part of the succession of purely natural effects, and are not a mere continuation of them. . . . (AA III, p. 312)

The definition of the human being as a *zoon politikon*, that is, as a being that forms states, is arguably first found in such a form in Aristotle’s (384–322 BC) *Politics*. In Book One, Aristotle addresses the relations between individuals, households, villages, and states. A polis (city-state) is accordingly the final association, formed of several villages. It has become substantial enough to reach self-sufficiency. This led Aristotle to the conclusion that:

When several villages are united in a single complete community, large enough to be nearly or quite self-sufficing, the state comes into existence. . . . Hence it is evident that the state is a creation of nature, and that *man is by nature a political animal*. . . . The proof that the state is a creation of nature and prior to the individual is that the individual, when isolated, is not self-sufficing; and therefore he is like a part in relation to the whole. But he who is unable to live in society, or who has no need because he is sufficient for himself, must be either a beast or a god: He is no part of a state. (1252b–1253a)

However, humans are by their nature “state-forming”—that is, animals that create social order—and they do this to a far greater extent “than bees or any other gregarious animal” (1253a).

At the time, a new proposal for defining the human being was formulated by Ernst Cassirer (1874–1945) in his *Essay on Man*. In his introduction to a philosophy of human culture, Cassirer started by using Jakob Johann von Uexküll’s (1864–1944) terminology to demarcate humans as such from all other animals.

The functional circle [i.e., the cooperation of a certain *Merknetz* (a receptor system) and a certain *Wirknetz* (an effector system)] of man is not only quantitatively enlarged; it has also undergone a qualitative change. Man has, as it were, discovered a new method of adapting himself to his environment. Between the receptor system and the effector system, which are to be found in all animal species, we find in man a third link which we may describe as the symbolic system. This new acquisition transforms the whole of human life. (1944, p. 24)
Hence, humans no longer live in a merely natural universe but also in a symbolic one. Language, myth, art, and religion are parts of this universe. In Cassirer’s words, they are the “varied threads which weave the symbolic net, the tangled web of human experience” (p. 25). Taking these aspects into account, Cassirer proposed a correction and extension to the classic definition of the human being. He wrote:

The great thinkers who have defined man as an animal rationale were not empiricists, nor did they ever intend to give an empirical account of human nature.... Reason is a very inadequate term with which to comprehend the forms of man’s cultural life in all their richness and variety. But all these forms are symbolic forms. Hence, instead of defining man as an animal rationale, we should define him as an animal symbolicum. By so doing we can designate his specific difference, and we can understand the new way open to man—the way to civilization. (1944, pp. 25–26)

If we now stand back and reconsider these attempts to define the human being, it becomes conspicuous that one central human property is never used to define human beings: our emotionality. There seem to be several reasons for this: First, emotional behavior is not conceived as one of our valuable properties but more as a weakness that needs to be restrained by reason—a passion to which we seem exposed rather than an active behavior. Moreover, naturally, our ability to react emotionally to events in the world was not viewed as a differentia specifica of humans because emotions were readily attributed to animals as well. Thus, Aristotle, for example, emphasized in his Politics that “man is the only animal whom ... [nature] has endowed with the gift of speech ... whereas mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another)” (1253 a).

Indeed, there are a number of ways in which the expression of emotions corresponds between humans and at least our closest relatives, the great apes. As a result, emotions could not and cannot be considered a potential species-forming difference between humans and animals.

Nonetheless, none of the other definitions proposed so far provide convincingly real definitions of humans. The definition as an image of God is not only based on strong theological assumptions that one is in no way obliged to share and that cannot form the basis for a philosophical definition, it is also not free from a certain degree of hubris. The definition of humans as possessing free will who, in strict Kantian terms, should be able to initiate chains of causality as it were outside the laws of nature carries implausibly strong connotations of substance dualism. There is little to indicate that we possess freedom in this sense. Turning to the other definitions as an animal rationale or a zoon politikon, Cassirer and Gehlen have already presented justified objections to them. Gehlen, for example, pointed out that once one starts to examine single features or properties one can no longer find anything specifically human.

Human beings do indeed have a very unusual physical structure but the anthropoids (great apes) have one quite similar. In addition, there are many animals, from ants to
beavers, that form living quarters or artificial dwellings or that are social. Like man, elephants are also clever, and acoustical communication similar to our language definitely exists in many species. If, in addition to such specific observations we add into account evolutionary theory, then anthropology would seem at best to be the last chapter in zoology. (1988, p. 7)

Since then, careful studies of chimpanzees and above all bonobos have shown that the use of symbols and cultural achievements are also not exclusively human if we understand culture as meaning that knowledge and customs are acquired from others and are not innate or acquired by chance. A good example of the cultural life of animals can be found in Frans de Waal's book *The Ape and the Sushi Master* (2001). He showed how chimpanzees, for example, acquired the use of tools to crack nuts from other members of a group. Furthermore, highly impressive forms of the use of symbols are shown, for example, by the two bonobos Kanzi and Panbanisha who learned to comprehend detailed phonetic messages. They can communicate with keyboards, thereby handling symbols in a quite creative way.

Because I also see no particular attraction in justifying a special status for humans specifically in terms of their deficiencies, I consider that all previously proposed definitions of the human being have, in the last analysis, been failures. Naturally, this is not to imply that there are no major differences between humans and other primates in those dimensions on which a species-forming difference had been sought: Even in the future, bonobos will not compose requiems, write poetry, produce barrique wines, develop computer viruses, or wage war for supposed ideals. Nor will they, or any other more highly developed animal, ever ask themselves who they are, what they can know, what they ought to do, or what they may hope for. The same applies to their emotional life: They will not have hopes for a better future; they will not feel either insulted or dishonored by others; they will not experience nostalgia like we do when we think back to happier days; they will not perceive national pride when standing before a flag; nor will they sense the hate and disrespect humans sometimes feel for their fellows that turns them into beasts more vicious than any to be found in the animal world. In other words, emotions also distinguish human beings in a completely special way. They are those animals who have developed the finest nuances and the greatest cultural variety of emotional states of mind.

Any description and explanation of cultural differences in emotional reactions must analyze the dominant beliefs and values within a culture. For humans, even so-called primary emotional states such as fear, anger, sorrow, joy, pride, and disgust are embedded in the totality of their other intentional attitudes. Therefore—unlike the animals—they do not have just a biological basis; they always have a sociocultural basis as well.

Furthermore, emotions have culturally defined conditions of adequacy. In contrast to the emotional behavior of animals, emotional reactions of humans (and the strength of their expression) are open to criticism. Moreover, these reactions can be reevaluated almost immediately after they are expressed. Therefore, one should be cautious about attributing sweeping generalizations
to humans based on insights gained from so-called affect programs identified in animals. Any description and explanation of human emotions requires not only a biological but also a folk psychological approach to gain an appropriate conceptualization of culturally mediated preferences and attitudes.

Because emotions have never been a suitable candidate in the continually unsuccessful search for a species-specific difference between humans and animals, they were never classified as essential properties of the human being. Their central significance for the rest of our mental life was neglected. However, studies in neuroscience, as popularized particularly by Antonio Damasio (1994), confirm how strongly rational and goal-oriented behavior depends on intact emotional evaluation processes. Without emotions, much would leave us indifferent; even our own future would seem uninteresting and trivial. Without emotions, we would be unable to make the decisions that guide our actions; we would have no evaluative basis for more long-term rational judgments and decisions. Without emotions, we would be incapable of a social and cultural life in a close community with many other persons. Therefore, it is time for us to recognize the full significance of emotions for our thinking and acting:1

Humans are emotional beings in a crucial sense—not in the sense that they differ fundamentally from other living beings through their emotionality but in the sense that without their emotionality many of the properties formerly proposed as species-forming differences such as our ability to act rationally (animal rationale) or our ability to form and sustain social communities (zoon politikon) would not exist either.

In closing, even Protagoras was well aware of the significance of emotions for humans. In Plato’s report of his myth on the emergence of culture mentioned above, he told about Zeus’s concern that the human race would be wholly wiped out if it were to weaken itself through continuous strife and prove unable to form communities. Therefore, he “sent Hermes unto mankind with justice (dikē) and a sense of shame (aidōs), to bring order to their cities and common bonds of amity” (322a; translated by Hubbard & Karnofsky, 1982).

Shame, love, affection, worry, sadness, joy, hope, and many other emotions make an essential contribution to what was and continues to be the self—concept of humans—a being capable of rational action and social community. At the same time, they constitute what humans should also be according to their own self-concept: emotional beings.

Notes

1 In recent years, such insights have exerted an increasing influence on research into artificial intelligence and robotics. There are now several research programs designed to equip artificial systems with emotion-like behavior programs. This should be highly relevant not only for human–machine communication but also—and even more decisively—for the development of so-called autonomous agents.
References

Part I

Concepts and Approaches
Emotions as Bio-cultural Processes: Disciplinary Debates and an Interdisciplinary Outlook

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Abstract This chapter develops a theoretical framework that is capable of integrating the biological foundations of emotions with their cultural and semantic formation. It starts by investigating two leading scientific theories about emotions: one that is dominant in biology and a second one that is dominant in psychology. In biology, we consider the theory of basic emotions that focuses on innate biological emotional mechanisms. Using this approach, we can take physiological states into account. In psychology, we take a closer look at theories focusing on appraisals—the so-called appraisal theories—because these can be brought in to explain the cultural and semantic modification of biological emotional processes. Our examination of the major factors and elements of appraisal processes, which is also an examination of the internal processing of an emotional episode, discriminates unconscious from conscious processes and mental from nonmental processes. The next step is to integrate the two theories—the theory of basic emotions and appraisal theory—to couple emotional sensations with emotional concepts (semanticization). We clarify how basic innate emotional processes and complex learned ones are related to each other. We assume that cognition, feeling, and consciousness gradually become more differentiated in single species and organisms (phylogeny). Correspondingly, one possible hypothesis is that this differentiation process runs parallel on all levels, meaning that these domains can be assumed to be closely linked or even interdependent.

When asked to give typical examples of emotions, people may think of fear, love, hate, anger, jealousy, shame, pride, joy or disgust; perhaps, after some pause for thought, they add surprise, offended honor, or melancholy. Such lists are easy to extend. However, scientific studies, not being satisfied with lists of this kind, introduce criteria to categorize the phenomenal domain. By allying

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structural and comparative analyses, the phenomenal domain of the emotions can be studied from completely different perspectives.

To start with, we have to ask what exactly are emotions. Are they a set of entities that can be distinguished clearly not only from other mental or cognitive processes and states such as thoughts, conclusions, judgments, or perceptions but also from actions? Or do they form a specific subgroup of one or several of these other entities?

As soon as we move away from everyday psychological categories, scientific categories and criteria emerge to take their place. Emotions could then be a specific group of physiological processes that come about at a certain developmental stage in evolution and are further refined in the hierarchy of vertebrates and in particular mammals—before finally appearing in a certain variety of forms in human beings. This variety does not just refer to the range of single emotions but also to their many cultural and individual variations, such as the strength of emotional expression. The questions that then arise are directed toward how emotions come about exactly, what forms them, and how decisive are the biological and cultural influences. When formulating a model of the emotions that may be capable of answering these questions, it is necessary to take into account both the biological and cultural aspects of emotional processes.

Conceptually, there are various theoretical approaches to studying emotions. Two major approaches, which have generated intensive discussion in recent years, are represented by two groups of scientists: those who assume that emotions can be broken down into so-called basic emotions and complex emotions versus those who concentrate on the evaluation or appraisal aspect common to all emotional events. It should be noted that appraisal theories proceed from our so-called everyday understanding of emotions, whereas physiological theories, which are primarily oriented toward “basic emotions,” concentrate particularly on the physiological changes involved in emotional processes.

For our research group, the decisive question was how to integrate the different conceptual perspectives so that both physiological and cultural aspects of emotions could be taken into account. A good way to get closer to answering this question is to start by inspecting the two dominant research directions and examine what the supporters of basic theories and appraisal theories have to tell us. This should help us to work out an approach with which we can consider not only the biological foundations but also the cultural and semantic shaping and refinement of emotions and other affective states. The theories that assume the existence of basic emotional dimensions (basic emotions) and thereby of innate physiological mechanisms offer a suitable starting point for a physiological approach to the research topic. In contrast, the theories that focus on the appraisal character as a function of emotions can be related successfully to explanatory approaches to how they are shaped and refined by culture and semantics.