

Introduction

Until modern times, the emotions were entirely within the domain of the humanities. The first written attempts to conceptualize emotions in Western culture come from the philosophers of Ancient Greece. For Plato, the emotions (or passions) were the basic components of the soul along with desire and reason, with reason being in a natural position of ruling over the others. In contrast, Aristotle provided more nuanced characteristics of the emotions and acknowledged their role in shaping judgments and influencing reason. Mastering control over destructive emotions and encouraging ethical conduct in the pursuit of a happy life were at the core of the teachings of the Stoics. In subsequent centuries, regardless of whether they were explicitly addressed or merely implicit in other concepts and ideas, emotions have always been present throughout the history of Western thought. Although philosophical inquiry tackled almost every aspect of the emotions as experienced through introspection and observation, the main questions around which the philosophical pursuit was historically centered upon were their origins and nature, as well as the function of emotions and how they relate to other mental capacities. This approach, however, was closely aligned with the view of emotions as a specifically human achievement which was closely associated with the human capacity for consciousness and introspection.

Since the second half of the nineteenth century (marked symbolically by the publication of Charles Darwin's *The Expression of the Emotions in Man and Animals* in 1872 and William James' article *What is an emotion?* in 1884) emotions began to be an acknowledged and systematically studied subject for the biological sciences and psychology. The introduction of the evolutionary perspective and recognition that some emotion-related processes are preserved across animal species allowed the studying of these processes in animals. Animal studies were, and still are, crucial to progress in relating observable phenomena, such as emotional expressions and associated behaviors, to underlying, detailed brain mechanisms. The emergence and progress of neuroscience in the twentieth century provided grounds for, at least to some degree, the integration of traditional biological and psychological approaches to emotions. It took decades, however, for emotions to become a fully acknowledged topic of investigation within the neuroscientific community.

At the same time, the philosophical inquiry into emotions, which had been formed by centuries of investigations, continued independently of the empirical disciplines. In extreme instances, philosophers developed their concepts and theories of emotions by relying on philosophical or literary texts as the sole source of their thinking. In recent years, however, there has been increased interest among philosophers in the results and methods of neural science. On the other hand, many brain researchers acknowledge the need to understand their work and results in a broader cultural and philosophical context. This reciprocal curiosity and mutual interest has created fertile ground for encounters and dialogue between neuroscientists and philosophers.

The present collection of essays represents one such encounter. Initially meant to be the proceedings of the conference *The Emotional Brain: From the Humanities to Neuroscience and Back Again* which was organized by the Copernicus Center for Interdisciplinary Studies in Krakow, Poland in May 19-20, 2011, this volume has assumed a life of its own. Apart from the lectures delivered during the conference, this collection includes essays which have been directly inspired by the talks and discussions held during the Krakow meeting. A few of the contributions in this volume have previously been published in specialist journals and are re-printed here in order to reach a broader audience.

This collection of articles has been divided into three parts. The first part discusses emotion research in neurosciences. In the opening essay, Joseph E. LeDoux explores brain circuits and functions associated with survival and their relation to emotions. He proposes the survival circuit concept as grounds for understanding common human and animal emotion-related processes. The two articles that follow discuss research on brain circuits contributing to emotions in animal models and humans. Regina M. Sullivan and Margo S. Landers review rodent studies of attachment and discuss how disruptions in early infant attachment contribute to maladaptive emotional states in adult life. Paul Whalen and colleagues explore human research on the amygdala-medial prefrontal cortex circuitry, its role in emotional regulation, and explain how dysregulation in this circuitry may lead to pathological anxiety. In the next paper, Jacek Debiec discusses historical and methodological issues related to the formulation of the brain-based theory of emotions. This part of the volume is concluded by an article by Bram T. Heerebout and R. Hans Phaf which discusses the role of computational modeling in studying the affective regulation of attention.

The second part of the collection is comprised of two essays representing psychological studies of emotions. Nico H. Frijda explores the phenomena of impulsive action and conceptualizes emotions as motive states which interact

with each other and contribute to eliciting and controlling impulsive actions. In the next essay, James A. Russell introduces and discusses the concepts of core affect and psychological construction as central ideas in explaining and understanding emotion.

The third and last part of this volume includes philosophical essays on emotions, emotion research in neurosciences and psychology, and their impact on philosophy and society. Łukasz Kurek analyzes the idea of emotion as a theory-binding concept and argues against attempts to eliminate the concept of emotion from philosophical and scientific discourse. Mateusz Hohol and Piotr Urbańczyk review past and current paradigms in neurocognitive sciences to focus on the embodied-embedded mind approach in the study of social cognition and emotion. In the next essay, Wojciech Załuski proposes a conceptual framework to permit us to understand the rationality of emotions. Bartosz Brożek analyzes and questions the concept of ‘moral emotions’ present in some trends of contemporary psychology and philosophy. Brożek argues that emotions play a fundamental role in regulating social interactions and culture and, as such, they cannot be reduced to mere factors regulating moral behavior. In the last contribution to this volume, Dominika Dudek discusses the concept of mental illness from the historical perspective and draws parallels between the progress in emotion research and advancements in conceptualizing mental illness in psychiatry and contemporary culture.