

Rationale

Mind, Cognition, and Neuroscience: A Philosophical Introduction is specifically designed for interdisciplinary audiences. The textbook will offer a comprehensive overview of a wide range of contemporary topics that are relevant to the study of mind. Each chapter will situate current philosophical research and neuroscientific findings within historically relevant debates in philosophy of cognitive science. By situating cutting-edge research within the theoretical trajectory of the field, students will gain a fundamental understanding of the cognitive neurosciences, as well as the progressive nature of the field. To enable this level of detail, each chapter will be written by experts in their area of specialization. The textbook will be modeled upon scientific textbooks, making it accessible to a wide audience without presupposing a background in philosophy or neuroscience.

Philosophy textbooks do not adequately mirror the scientific progression from cognitive science to neuroscience. Over the past few decades there has been a vast increase in the number of philosophers studying theoretical issues in neuroscience and applying them to topics in cognitive science, yet the textbooks have not kept up. Philosophy of cognitive science textbooks are outdated with little to no treatment of the relevant neuroscience. Not only are the current textbooks on offer frustratingly inadequate, none of them include detailed coverage of the full range of contemporary topics. With the increased interest in the philosophy of neuroscience there is a tremendous need for a new textbook. *Mind, Cognition, and Neuroscience* will synergistically combine research from philosophy and neuroscience in an accessible manner for a broad interdisciplinary audience.

The increased number of philosophers working in the philosophy of neuroscience has been mirrored by a growing interdisciplinary interest in what philosophers can offer science students studying the mind. The textbook would be geared towards interdisciplinary students yet designed for use in rigorous philosophy courses. With these audiences in mind, *Mind, Cognition, and Neuroscience* will be written for both upper-level undergraduate and graduate courses. The textbook will make it possible to teach a cohort of both philosophy and interdisciplinary science students without assuming a prior understanding of philosophical concepts or familiarity with neuroscience.

Currently there is no textbook geared to this interdisciplinary population at the necessary level of specialization, but to make matters worse the textbooks on offer are not comprehensive in the range of topics that are covered. Often the topics are selected based on the author's (or editor's) area of specialization, which is not surprising given the rapid expansion of the field. One individual cannot be a specialist in all areas of the scientific domains relevant to the philosophical study of cognitive neuroscience. To circumvent this problem, the proposed textbook will be a compilation of the top research in each topic area, with each chapter written by a specialist on that topic. To control for coherence, the collection will be copyedited for a cohesive voice and each chapter will follow a prescribed format. Given the vastness of the field, the textbook will be broken into four sections.

The textbook will be divided into four sections thereby enabling the lecturer either to teach the textbook as a whole with one chapter per lecture or by selecting key topics from each section. The first section will cover background areas of knowledge necessary for both philosophy and science students to fully comprehend the further chapters in sections 2-4. The second section

transitions to classical debates in philosophy of cognitive science concerning cognition. Section two expands on previous textbooks by including chapters on language, concepts & non-conceptual content, and animal cognition. Section three covers the recent growth area of consciousness studies. This section provides both an overview of the philosophical debate and neurobiological theories, as well as offering coverage of recent advances in studying attention and the nonconscious mind. Section four concludes the textbook with topics situating the mind, such as the relation between cognition and perception, the nature of skill-based action, the embodied nature of the mind, and the role of society in shaping cognition.

Aside from the greater range of topics covered, the textbook will also be structured to implement the innovative designs of science textbooks. *Mind, Cognition, and Neuroscience* will be modeled upon leading textbooks used in biology, psychology, and neuroscience. Each chapter will be written in an accessible manner for the full range of interdisciplinary students. The chapters will have a unified structure and progression, as well as sections outlining the conceptual flow of the topic, introductory text boxes defining key terms and concepts, as well as a separate section devoted just to the neuroscience relevant to each chapter. By including these features every student is provided with the necessary resources to fully comprehend each chapter.

Market and Readership

The *Mind, Cognition, and Neuroscience* textbook would be predominantly marketed towards universities that offer a course on philosophy of cognitive science or philosophy of neuroscience. While the textbook is geared towards a wide interdisciplinary audience, it will be primarily designed for upper level undergraduate courses and introductory level graduate courses. The intended readership is both neuroscience students and philosophy students. To ensure that it fits the needs of this broad audience, the introductory section serves as toolkit of knowledge for both populations. *Mind, Cognition, and Neuroscience* could also be used for empirically oriented courses in philosophy of mind. Additionally, given the textbooks devotion to introducing philosophers to key concepts and research in neuroscience the textbook might be read by philosophers who do not have a strong background or education in neuroscience but nonetheless would like to begin working in this area.

Textbook Structure, Unified Chapter Outline, and Proposed Table of Contents,

Below is the proposed structure of the textbook, the unified chapter outline that each contributor is expected to maintain, and the table of contents. Each author is expected to maintain the outlined progression of their chapter, supply keywords, and provide one diagram or infographic that enhances the students understand so as to maintain coherence of the overall textbook.

Book Structure

4 sections: Introductory Material; Cognition; Consciousness; Situating the Mind

3-5 page introductory overview of each section to situate students

15 pages per chapter

Chapter Outline

First Page

Brief outline of topic covered – 1-2 paragraph box

Key terms and definitions – side bar

- Section 1: Introduction
 - (box with 3-5 Paragraphs on Neuroscientific findings relevant to topic)
 - Historical overview
 - Background theories
 - Historical development
- Section 2: Contemporary Issues
- Section 3: Future Directions
- Last Page
 - Summary of Key Ideas
 - Further readings
 - Discussion topics

Part I – Introductory Material

- Ch. 1 Introduction – brief overview to situate student
 - Structure of textbook - conceptual progression
 - The interplay between philosophy and cognitive neuroscience
 - B. Young & C.D. Jennings
- Ch.2 Introduction to Cognitive Neuroscience
- Ch. 3 Introduction to Experimental Methods in Cognitive Neuroscience
- Ch. 4 Introduction to Philosophy of Mind
- Ch. 5 Introduction to Philosophy of Science
- Ch. 6 Metaphysical issues of relevance to cognitive neuroscience
- Ch. 7 Epistemic issues pertaining to neuroscientific methods

Part II – Cognition

- Ch. 8 Thought and Artificial Intelligence
- Ch. 9 Modularity
- Ch. 10 Mental Architecture – computational models of mind
- Ch. 11 Language
- Ch. 12 Mental Content
- Ch. 13 Concepts and non-conceptual content
- Ch. 14 Animal Cognition

Part III – Consciousness

- Ch. 15 Kinds of Consciousness
- Ch. 16 Philosophical Theories of Consciousness
- Ch. 17 Neurobiological Theories of Consciousness
- Ch. 18 Unity of Consciousness
- Ch. 19 Attention
- Ch. 20 Time and Memory
- Ch. 21 The Unconscious Mind

Part IV – Situating the Mind

- Ch. 22 Perception
- Ch. 23 Mental Imagery
- Ch. 24 Action and Skill
- Ch. 25 Embodiment and Enactivism
- Ch. 26 Emotions

- Ch. 27 Social Cognition and Theory of Mind
- Ch. 28 Neuroscience and Psychopathologies
- Ch. 29 Neuroethics

Biography

Benjamin D. Young is an Assistant Professor in Philosophy and a member of the Graduate Faculty in Interdisciplinary Neuroscience at the University of Nevada, Reno. Previously he held a Kreitman Post-Doctoral Fellowship in the Department of Brain and Cognitive Sciences at Ben-Gurion University, as well as Visiting Assistant Professorship and Post-Doctoral Fellowship in the Department of Cognitive Science at Hebrew University. He conducts research at the intersection of cognitive neuroscience and philosophy with a particular emphasis on olfaction. Most recently he has published articles on non-conceptual content, qualitative consciousness in the absence of awareness, and the perceptible objects of smell. Ben's current projects concern non-conscious phenomenology, the senses, and a long overdue book on the philosophy of smell.

Carolyn Dicey Jennings is Assistant Professor of Philosophy and Cognitive Science at University of California, Merced. She was previously a postdoctoral researcher with Bence Nanay's *Between Perception and Action* project at University of Antwerp and a research assistant with Takeo Watanabe's *Vision Lab* at Boston University. She graduated with a PhD in Philosophy and an MA in Psychology (Brain, Behavior, and Cognition track) from Boston University in 2012. Her work draws from neuroscience and psychology with a focus on the topic of attention and its impact on other functions of the mind. Her research has been published in *Analysis*, *Synthese*, *Journal of the American Philosophical Association*, *Neuroethics*, *Consciousness & Cognition*, and *Philosophical Studies*. She is writing a book under contract with Cambridge University Press: *The Attending Mind*.