

ations in Neuronal Migration (Chapter 13), Effects of Ethanol on Mechanisms of Regulating Neuronal Processes (Chapter 14), Neuronal Survival is Compromised by Ethanol: Extracellular Mediators (Chapter 15), Intracellular Events in Ethanol-Induced Neuronal Death (Chapter 16), Neural Crest and Developmental Exposure (Chapter 17), and Glial Targets and Developmental Exposure (Chapter 18). Section 3, *Nicotine Affected Development*, includes 5 chapters and outlines the developmental consequence of nicotine exposure, including: Tobacco Use During Pregnancy: Epidemiological Effects on Offspring (Chapter 19), Prenatal Nicotine Exposure and Animal Behavior (Chapter 20), Neuronal Receptors for Nicotine: Functional Diversity and Developmental Changes (Chapter 21), Neuronal Precursors as Preferential Targets for Drug Abuse: Long Term Consequences and Latent Susceptibility to Central Nervous System Disorders (Chapter 22), and Nicotinic Receptor Regulation and Developing Catecholamine Systems (Chapter 23). The authors are among the foremost neuroscientists and biologists in the areas of alcohol and nicotine exposure. Each chapter has a consistent and concise format along

with a helpful acronym guide. Unlike some texts that inundate readers with superfluous information these chapters are noteworthy for being written in a more parsimonious and clear style.

Should you buy this book? The price of nearly \$100 seems excessive for this text, despite its many illustrations of aberrant cells. The publisher indicates that the book will be of interest to “neuroscientists, developmental biologists, teratologists, pharmacologists, toxicologists, neurologists, neuropsychologists, and their students and trainees.” Though expertly written and authoritative there is relatively little attention paid to pathology beyond the cellular level, such as the impact of alcohol and nicotine on cognition and behavior. The average neuropsychologist or clinician will have benefited from reading the first section pertaining to normal brain development to refresh their understanding of this topic, but the sections pertaining to alcohol and nicotine exposure will be primarily of interest to researchers who have a need for detailed information about the cellular processes associated with exposure to these substances.

The Social Brain: The Blind Men and The Elephant

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Social Neuroscience: Integrating Biological and Psychological Explanations of Social Behavior. Eddie Harmon-Jones and Piotr Winkielman (Eds.). 2007. New York: The Guilford Press, 512 pp., \$65.00 (HB)

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I reviewed this book shortly after reading *The Neuroscience of Human Relationships*, by Louis Cozolino (2006), hoping that this book, which addresses how our brains exist in relationship to other brains, would be an adequate prerequisite for *Social Neuroscience*. I had concerns that its focus would be the biology of social psychology proper (rather than the biology of social relationships) for which I would be less qualified and less interested. A quick perusal convinced me that the book was indeed about the biological basis of human social behavior. With that information and a review of a similar title, *Social Neuroscience: People Thinking About Thinking People* (Fein, 2006), I proceeded.

Social neuroscience joins the ranks of other “blind men” (e.g., physiological psychology, social psychology, neuropsychology) that touch an elephant (in this case the brain) to learn what it is like. The editors’ goals to provide up-to-date overviews of programmatic research in social neuroscience and to highlight the theoretical and methodological richness of current research were well met. The third goal, wide accessibility, was met less well.

The subtitle of the book is “Integrating biological and psychological explanations of social behavior.” I am a practicing clinical neuropsychologist/psychotherapist with more than a passing interest in the neuroscience of psychother-

apy and human relationships, and this book took a long time to read. It is divided into six sections including the Introduction; Emotion Processes; Motivation Processes; Attitudes and Social Cognition; Person Perception, Stereotyping, and Prejudice; and Interpersonal Relationships. As is the case with many edited books, there was quite a bit of variability among the chapters in terms of readability. Section I, Chapter 1, Introduction, provides an excellent overview and description of each chapter. Section II, Chapter 2 begins very promisingly with the question “How do individuals successfully navigate their social world?” Three major theories are described including the Somatic Marker Hypothesis, Reinforcement and Reversal, and Dynamic Filtering Theory, with elements from all three deemed likely correct. The information would have been more accessible if there were more clinical examples. I lost track of the “individuals” in learning about the social world. If Chapter 2 is about the orbitofrontal cortex, then Chapter 3 is about the amygdala (which *produces* emotional responses to viewing socially relevant stimuli) and somatic mapping structures including the right somatosensory cortex and the insula (which *represent* emotional responses). The authors conclude that a complete model of emotional recognition remains elusive. The abundance of ongoing questions posed

at the end of the chapter highlights the complexity of the topic. Chapter 4 is devoted to the Trier Social Stress Test. A large body of research is reviewed and the proposed “next step” is to use the test as a “diagnostic tool for the prediction of disease susceptibility and symptom severity and/or for monitoring the efficacy of interventions.” This statement made me wonder if this is truly the state of the art or if the contributions from the field of health psychology/behavioral medicine could help to further the cause. Chapter 5, entitled I Know How You Feel, proposes there is a hardwired evolutionary advantage to being social and that neural systems have been co-opted for purposes other than the original (i.e., social pain, physical pain). My interest waned by Chapter 6, How Thinking Controls Feeling. Although the topic would seem to be of great interest to cognitive-behavioral practitioners and the chapter was well-organized, the technicality detracted from the message. The section describing “the two ways in which top-down cognitive processes can be used to regulate bottom-up emotion-generative processes” contrasted controlled attention versus controlled appraisal but ultimately concluded there are more questions than answers.

It was gratifying and disappointing to learn in Section III that 10 years after taking my advanced comprehensive examination in the laterality of emotion, many basic questions remain. Chapter 7, Asymmetrical Frontal Cortical Activity, Affective Valence, and Motivational Direction, reviews research related to models of emotional processing. Asymmetrical frontal brain activity and emotion have been explained by the valence model, the motivation direction model and, not surprisingly, the valenced motivation model. The authors use the approach-avoidance continuum rather than pleasant-unpleasant continuum to deem the valence model no longer viable. Chapter 8 provides an overview of the reward literature. The review describes the neural substrate of “expected value” and how it influences social exchange. The limited research in this area suggests that the nucleus accumbens not only indexes gain anticipation but also influences subsequent behavior. Chapter 9 addresses power motivation and its’ self declared weakness is the dearth of literature related to females. Chapter 10 covers dominance and submission by way of vigilant and avoidant responses to angry facial expressions. It pays evolutionary tribute to the multi-layered brain and also addresses the role of personality and steroid hormones.

Section IV was the most satisfying. In Chapter 11, Attitudes and Evaluation, the authors define attitude as a process. Despite reduction to elemental units, understanding a topic that includes likes and dislikes and their relationship to emotion, memory, arousal, and implicit and explicit components remains a complex activity. It was particularly interesting to read that mental activities that counteract prejudiced thoughts are a limited resource and that a recovery period is required. It was encouraging to learn that regulation of prejudice can become more automatic with practice. Chapter 12 addresses human empathy and its constituent parts, affective sharing, self-awareness, mental flexibility, and the medi-

ating regulatory and neural processes. Chapter 13, How Dynamics of Thinking Create Affective and Cognitive Feelings, covers the investigation of processing fluency and how it generates affective and cognitive experiences. Chapter 14 describes the neural systems, X (reflexive) and C (reflective), responsible for automatic and controlled social cognition. The author’s inclusion of neuropsychological research and clinical implications went a long way toward illuminating these concepts. Despite the daunting title, Chapter 15, An Evolutionary Perspective on Domain Specificity in Social Intelligence, was captivating. It covered a wide range of topics (e.g., evolution, developmental psychology, theory of mind, and politics) and also clarified terminology and provided clear and useful tables.

Section V is entitled Person Perception, Stereotyping, and Prejudice. Categorization of social group and the neural mechanisms of regulation of race-based responses were of particular interest. Chapter 16, Mechanisms for the Regulation of Intergroup Responses, provides a description of major themes in social psychology in addition to information regarding race bias-control. The chapter was well organized. In fact, concepts and studies were introduced in a way that allowed suspense, regarding the capacity of human beings to get along with each other.

I looked forward the most to reading Section VI. Chapter 19, Neuropeptides and the Protective Effects of Social Bonds, addresses the role of hormones in behavior and stress management by postulating that the capacity for change in the neuroendocrine system may help explain gender, personality, and temperament. In Chapter 20, The Quiet Revolution of Existential Neuroscience, the author questions longstanding assumptions about artificial intelligence including the subject-world and inner-outer dichotomy, the role of representations in the mind, and the atomism of the input. This was difficult to digest without a working knowledge of the assumptions but interesting nonetheless. From this point of view the brain needs a body to experience the social norms in which meaning originates from being-in-the-world. The author calls for nothing less than a new interpretational perspective. Chapter 21, Affiliative Responses to Stress, considers the concept of tend and befriend as well as the classic concept fight or flight response. Oxytocin and opioids are described as major players in the quest for affiliation and the ultimate goal is to bridge the molecular to the structural. In Chapter 22, The Social Neuroscience of Relationships, the authors attribute “a more focused conceptual and methodological perspective linking social support to physical health outcomes, to the social neuroscience perspective.” This perspective includes multiple levels of analysis (i.e., sociocultural, personological, psychological-affective, behavioral, and physiological).

The title of this review suggests that elephants can be viewed differently depending upon one’s perspective. *Social Neuroscience: Integrating Biological and Psychological Explanations of Social Behavior* examined this particular elephant with much enthusiasm. However, as for the blind men, the story remains incomplete. While this book was

not, as I feared, about social psychology per se, it was not the text I had hoped for. In the goal to be cutting edge, the editors gathered chapters that were highly technical and at times redundant. The reader would benefit from a glossary. The book seems best suited for social psychologists with an interest in brain-behavior relationships rather than neuropsychologists with an interest in social psychology.

REFERENCES

- Cozolino, L. (2006). *The neuroscience of human relationships: Attachment and the developing social brain*. New York: W.W. Norton and Company.
- Fein, D. (2006). Thoughtful people thinking about people thinking about thinking people. *Journal of the International Neuropsychological Society*, 12, 759–760.