

## Book Review

ZELAZO, P. D., MOSCOVITCH, M., & THOMPSON, E. (EDS.) (2007).

*The Cambridge handbook of consciousness.*

Cambridge, England: Cambridge University Press.

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This compendium of nearly 1,000 pages, containing 31 chapters by 49 different authors (some contributing to more than one chapter), is divided into three parts: I—Cognitive Science of Consciousness, II—Neuroscience of Consciousness, and III—Quantum Approaches to Consciousness. As this size would suggest, the breadth of coverage is impressive. The approach in this review is simply to give a short statement of the contents of each chapter in the sequence in which they appear in the book and then provide an evaluation at the end.

In the Introduction the editors (chapter 1) state the need to obtain “more precise descriptive first-person reports about subjective experiences” (p. 2), and in the first section in the lead-off article, Seager (chapter 2), in an overview of the history of the philosophy of consciousness, holds that “integrating subjectivity into the scientific view of the world” (p. 10) is the critical issue in the topic of consciousness. Kriegel (chapter 3) supplements Seager’s history with a review of contemporary philosophical theories.

Thompson and Zahavi (chapter 4) explore the various meanings and issues of phenomenology. Moving beyond the Western world, Dreyfus and Thompson (chapter 5) review Samkhya Buddhism’s theory of mind.

McDermott (chapter 6) notes that only a tiny number of artificial intelligence (AI) experts believe that AI is relevant to “phenomenal consciousness,” but he attempts to make a case for it involving the hypothesis that “the embodied brain is an an ‘embedded’ computer and that a reasonably accurate simulation of it would have whatever mental properties it has, including phenomenal consciousness” (p. 146). Sun and Franklin (chapter 7) present several computational models toward this end.

In presenting cognitive theories of consciousness, McGovern and Baars (chapter 8) report that a unifying approach among diverse findings is to treat consciousness as an empirical variable. The authors conclude that researchers commonly find consciousness to be “the integration of local and global capacities” (p. 203) of the brain.

Simons, Hannula, Warren, and Day (chapter 9) review a century of studies of implicit perception (but primarily the recent ones). Roediger, Rajaram, and Geraci (chapter 10) take up the recently developed topics of awareness in remembering (“retrieving memories”) and give a progress report.

Koriat (chapter 11) presents “metacognition”—self-reflection, one’s own cognitive behavior; Umiltá (chapter 12) deals with awareness of one’s own actions; and Chafe (chapter 13) discusses the relationship of language to imagin-

ing, perceiving, and thinking—referred to as components of consciousness.

Oatley (chapter 14) tries to find consciousness in narrative. Zelazo, Gao, and Todd (chapter 15) seek it in various levels that emerge during ontogenetic development and that constitute a “phenomenon.” Hobson (chapter 16) proposes a four-dimensional model to account for normal and abnormal conditions of consciousness. Kihlstrom (chapter 17) reviews the empirical and theoretical work of varied viewpoints, including the question of what constitutes an “altered state.”

Danion and Huron (chapter 18) explore first-person studies of schizophrenia as objective method and compare with third-person method. Lutz, Dunne, and Davidson (chapter 19) also address first-person studies—in this case, applied to meditation used in Buddhism. They consider the difficulty in separating first-person from third-person actions. The authors tie this to neurological studies of meditation and hold that the studies suggest that through training, meditative procedures may show the way to improved happiness.

In a chapter on social psychology, Bargh (chapter 20) reviews social behaviors and the degree to which individuals are aware of and control their own social behaviors. He quotes H. G. Frankfurt on how baffling consciousness is. Corballis (chapter 21) looks at human evolution, culture, and biology, and the evolution of other animals in pursuit of the “evolution of consciousness.” It is a mixture of empirical studies, speculation, and traditional constructs. Bering and Bjorklund (chapter 22) propose evolutionary psychology as a means of revealing the evolution of consciousness; Throop and Laughlin (chapter 23) explain anthropology’s approach; and Westen, Weinberger, and Bradley (chapter 24), in the final chapter of Part I, argue for the relevance of the contributions of psychoanalysis.

Beginning Part II, Stoerig (chapter 25) outlines the great difficulty in identifying neurological correlates, in part because “state” and “trait” characteristics of consciousness may involve different processes. Cosmelli, Lachaux, and Thompson (chapter 26) explore “neurodynamical approaches,” meaning the relation between “the formation of metastable patterns in the subject’s neural activity and the transient emergence of discernible elements of conscious experience” (p. 763). They too point out the need for reliable measures of subjective experience.

Bogen (chapter 27) adopts what he believes is a “crucial core” of consciousness—the occurrence of subjectivity, sentience, primary consciousness, and similar designations—which he calls “C.” He attempts to link C to the thalamic intralaminar nuclei. Slotnick and Schachter (chapter 28) hold memory and consciousness to be different and seek connections between them in the brain as disclosed by imagining. For Rolls (chapter 29), consciousness means recall, comparison, and planning, as evidenced by split-brain patients. Consciousness, he avers, is distinct from behavior and has a causal role “when a linguistic system is thinking about its lower-order thoughts . . . [as] implemented in neural networks” (p. 854). He proposes that affect arises secondarily to thinking behavior, especially to long-term planning.

Adolphs (chapter 30) takes a path that is somewhat different from most of the other authors’, in that he considers “conscious experience” to be more than brain function, for social relations shape the brain as much as the brain shapes them. He sees subjectivity as the major obstacle because of its lack of correspondence with the objective world. It is this relationship, he proposes, from which mind arises (and does not comprise the mind or consciousness,

as an alternative view would hold). To Adolphs, the brain is the center of organization, and multiple brains are the social environment.

In the final chapter and the only one contained in Part III, Stapp (chapter 31) calls on quantum mechanics to advance consciousness as a co-equal in a reciprocal relation between conscious choice and events of physics. He reviews several theories that bear relevance.

Several chapters, starting with the Introduction, declare the need for objective accounts of subjectivity, or “first person.” But not one mentions the Q methodology of William Stephenson that has been so effective in objectively measuring subjectivity and has been in existence since 1935 (Brown, 1980, 1994–95, 2005; McKeown & Thomas, 1988; Smith, 2001a, 2001b; Stephenson, 1935, 1962, 1968). For clinical cases it is unfortunate that Danion and Huron do not consider this methodology that has provided considerable advantage to such an understanding of subjectivity (e.g., Goldman, 1999; Goldstein & Goldstein, 2005; Smith, 2005; Stephenson, 1962, 1982, 1985, 1987)—the goal of the authors’ work. In Q methodology, subjectivity is not an elusive entity but concrete human actions. As Stephenson (1953) noted, the only difference between objectivity and subjectivity is that from my standpoint my response is subjective and from your standpoint that same response is objective.

In Seager’s history of philosophical issues of consciousness, his account of the Greeks, especially of Aristotle, seems oblivious to alternative views, such as those of Everson (1997), Kantor (1963), Randall (1960), Shute (1944), and Smith (1971). He also seems unaware of alternative twentieth-century philosophical views (e.g., Barnes, 1944–45; Ben-Ze’ev, 1993; Hanson, 1961, 1970; Soltis, 1966; Woodbridge, 1909, 1913) and of theories of consciousness as a construct (e.g., Kantor, 1957, 1978, 1983; Moore, 1998; Smith, 1997, 2007; Stephenson, 1953, 1968; Uttal, 2001). Kriegel’s contemporary review has the same exclusions as Sieger’s. Perhaps all current philosophers follow the received view. If so, one can find in psychology many individuals (some cited above) who consider consciousness to be a construct rather than an event and therefore misused as a cause or an entity. Without understanding these alternatives, one cannot make an informed choice.

Thompson and Zahavi’s review of phenomenology only touches on the phenomenological psychologists Merleau-Ponty and Sartre and their departure from Husserl. Those familiar with interbehavioral psychology will recognize the similarities of “intentionality” with stimulus-function and response-function interdependence and the departure from tradition, which Merleau-Ponty’s (1963) and Sartre’s (1948) work illustrates.

Although McGovern and Baars find an advantage in treating consciousness as an empirical variable, often what researchers actually do when observing substantive events is to impose the construct, frequently stated as anthropomorphic brain powers, and then interpret the observations in terms of the construct (see Bennett & Hacker, 2001). Despite Adolphs’ incipient break from this organocentrism and a psychological brain, he slips back into traditional doctrine. Simons, Hannula, Warren, and Day orient their review toward observable events, but then impose the construct “processing.” Slotnick and Schachter’s account, too, is replete with computer mechanisms, such as retrieval and encoding, applied wholesale to human activities. As I read Koriat’s interesting account of the relationship among a variety of behaviors, I kept wondering what the term *consciousness* or *mental* or *subjective* added to an understanding of them and never found an answer.

In Kihlstrom's extensive review he steadfastly treats hypnosis traditionally as "an altered state of consciousness" and couches the results in traditional terms of "mental states," "consciousness," and similar constructs. Although Bargh finds consciousness baffling, he never considers what might be revealed by recognizing it as a construct or in specifying which of many events it may refer to.

This large volume is imbued throughout with psychophysical dualism, biological reductionism, nonspecificity, and confusion of constructs with events. The authors start with such doctrinal constructs as consciousness, mind, and a psychological brain and impose them on the observed events, rather than starting with observations from which scientific constructs can be drawn. Few show even an inkling of about the existence of any other possibility. Not one of the chapters shows any recognition of a naturalistic alternative perspective, one that stands outside the mentalistic assumption of mind in a body or the mechanistic assumption of body without a mind; and not one that turns to the brain as mind or producer of mind shows any understanding of the distinction between necessary and sufficient condition, that is, the brain as one necessary condition in a complex set of relationships that together make up sufficiency (Smith & Smith, 1993/1996). Instead the brain is portrayed as the uncaused cause, a boss sitting in the head interpreting and giving directives—what Pronko (1987, 1988) called "self-action."

Despite the enormity of this book and the huge amount of work that highly capable people put into it, it keeps to a very restricted set of traditional assumptions and orientations, with barely a glimpse outside them. It would be useful to see a chapter on alternative approaches to consciousness, such as the externalist, the ecological, the behavior analytic, the sensorimotor, relational frames, and so forth. And it would be revealing to both authors and readers if each author would work out a set of postulates at all levels of generality of his or her orientation (as in Kantor, 1959; Smith, 2001b). Nevertheless, one may find here a wide array of empirical findings about such behavioral activities as thinking, perceiving, remembering, imagining, and meditating, as well as neurological factors that may be necessary conditions in these behaviors. This makes the book a useful resource. The attention to these diverse behaviors indicates the need to specify what events consciousness refers to, and it is these events that should not have imposed upon them such mentalistic fictions as an internal copy of the world, mental and physical properties, an anthropomorphic brain, or an emergent condition as a hypothetical quality or essence of these varied referents.

In sum, the book displays how thoroughly our dualistically oriented culture's scientific investigation of human behavior is held in the grip of ancient traditional constructs that are imposed on observed events. Perhaps that, too, is a useful contribution as an object lesson.

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Noel W. Smith, State University of New York at Plattsburgh

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