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The New Unconscious

EDITED BY

RAN R. HASSIN
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The New Unconscious

Introduction: Becoming Aware of the New Unconscious

James S. Uleman

Over the past decade or two, a new picture of unconscious processes has emerged from a variety of disciplines that are broadly part of cognitive science. Unconscious processes seem to be capable of doing many things that were, not so long ago, thought of as requiring mental resources and conscious processes. These range from complex information processing through behavior to goal pursuit and self-regulation. Much has changed since Kihlstrom's (1987) description of the "cognitive unconscious." This collection of chapters provides a sampling of some of the most important developments at the heart of this new picture.

The Context

The ancient unconscious in Western thought might be traced as far back as the fifth century BCE in Greece, if we define the unconscious as internal qualities of mind that affect conscious thought and behavior, without being conscious themselves. Hippocrates proposed (and Galen elaborated on) four basic temperaments—sanguine, melancholic, choleric, and phlegmatic—that are based on bodily humors and shape behavior in conjunction with rational (conscious) thought. This same division into unconscious, biologically based influences and conscious, mental influences is echoed in Kant's thought over two millennia later. He distinguished temperament from moral character, with only the latter enabling people to consciously control themselves and be morally accountable to others.

The details of the unconscious mind changed as metaphors for the mind changed over these two millennia, but it was almost always present. Plato's innate "ideas" are present at birth (and his "ideal forms" are eternal), but

experience and education are required to make them available to any individual. Aristotle viewed the mind as part of the soul, with the properties of each dependent on the body's condition. His view of people as basically rational, curious, and social left plenty of room for experience to shape habits and dispositions that operated without conscious awareness. In the fourth and fifth centuries CE, Augustine elaborated the concepts of free will, conscience, and individual responsibility to control urges and impulses that arise from our lesser natures. At the beginning of the Renaissance, Descartes developed a psychology based on the influence of an immaterial will and eternal soul on the reflexes and animal spirits that controlled the body. This famous dualism was reinforced by his conviction that what animated the hydraulically operated moving figures in the French Royal Gardens could not be the same substance that animated people. But the nature of this substance and how it moved the body was obscure, even mysterious, and thus not even open to naturalistic study. In some sense, Descartes's unconscious was spiritual.

Whatever frameworks have been used, thoughtful observers of human behavior have almost always found it necessary to distinguish between internal influences that are hidden and must be inferred (fate, temperament, soul, character) and those they believe are transparent, experienced directly, or open to introspection (see Robinson, 1995).

Assumptions about the relative importance of conscious and unconscious influences have varied greatly with the times, and even within the same era. At the end of the nineteenth and beginning of the twentieth centuries, while Wundt and Titchener were building a psychology of what is conscious by training participants in introspection, Freud was building a psychology of what is unconscious. Many of Freud's ideas had already been expressed artistically in the literature and drama of the nineteenth century, and he regarded Dostoyevsky as the greatest psychologist of that century. Freud's great contribution was to gather, elaborate, systemize, and refine these ideas, in an attempt to build a scientific approach to unconscious processes. In doing so, he put the unconscious on the intellectual and cultural map, and gave the term itself currency.

The psychoanalytic unconscious is, to most laypeople and those in the arts and humanities, the only unconscious. It has many more characteristics (besides operating outside of awareness) than can be reviewed here. It includes the id (the innate and inherently antisocial sexual and aggressive drives that blindly seek expression and satisfaction) and most of the superego (the conscience and ego ideals) and ego (processes that deal with reality, such as perception and motor control, and defense mechanisms that mediate conflicts between reality, id, and superego). The primary metaphor is a hydraulic system with various fluids (drives, energy) seeking discharge (pleasure) and being channeled or blocked by defenses and sublimations. It is extremely complex because it includes many interacting processes that are not

easily isolated from each other, and that both conflict with and accommodate each other. The conflicts are dramatic and the stakes are high, but the outcomes of these struggles are quite unpredictable. Thus the psychoanalytic unconscious is widely acknowledged to be a failure as a scientific theory because evidence of its major components cannot be observed, measured precisely, or manipulated easily. The theory's complexity renders it largely unfalsifiable. The unfalsifiability of the theory as a whole has not prevented investigators from adapting its ideas to make them more empirically tractable (e.g., chapter 16, this volume; Pennebaker, 1990) or finding support for aspects of the theory in contemporary research (e.g., Erdelyi, 1985). But it does not provide an influential framework for understanding unconscious processes in academic or scientific circles (see Westen, 1998, for a dissenting view).

The "behavioral unconscious" may sound like an oxymoron because behaviorism treated conscious experience as epiphenomena, saw "the mind" as a dangerous fiction, and said nothing explicitly about unconscious processes. Nevertheless, the organism's history of reinforcement and other behaviorally relevant experiences is stored within, and might be called the behavioral unconscious. That history is the key to predicting behavior. Behaviorism avoided the problems of introspection's unreliability and psychoanalysis's complexity and empirical intractability by avoiding analyses of internal processes altogether and treating the mind in some ways as a black box. Behavior and its consequences (e.g., reinforcements) served to make stimulus-response connections inside the box, in much the way that telephone operators made connections on a manual switchboard. The high-water mark of behaviorism's attempt to account for complex behavior is probably Skinner's (1957) book *Verbal Behavior*. Chomsky's (1959) incisive critique made the limitations of behaviorism clear to most, and it is no longer regarded as adequate for explaining most complex human behavior.

The cognitive unconscious was first described by Kihlstrom (1987), and the title of this volume pays homage to his influential essay. In it, he describes the ways in which the computer as metaphor formed the basis for increasingly complex conceptions of human mental processes. In early models, the unconscious referred to preattentive perceptual processes and latent memory traces, so that complex higher mental processes depended on awareness for their operation. Unlike the psychoanalytic unconscious, it has no innate drives that seek gratification without regard to constraints of reality and society. In fact it is rather cold, apparently rational, and amotivational, compared to the heat and irrationality of psychoanalytic drives and conflicts. In later models, complex processing did not require awareness of the information that was transformed, so much more complex unconscious cognitive processing occurs. To illustrate all this, Kihlstrom reviewed research on automatic processes, subliminal perception, implicit memory, and hypnosis. He concluded

that “conscious awareness . . . is not necessary for complex psychological functioning” (p. 1450). That is, the cognitive revolution in psychology and the development of cognitive science across disciplines (including anthropology, computer science, linguistics, and philosophy) had discovered a great deal about complex unconscious mental phenomena and provided rigorous methods for studying them.

The Contents

So what is new about the new unconscious? It is still basically cognitive, firmly embedded in cognitive science and historically beholden to the computer as a metaphor. The computer metaphor legitimized complex theories about unobservable processes while apparently avoiding the sins of anthropomorphizing and using homunculi as causes. But as Glaser and Kihlstrom note in chapter 7, the new unconscious is much more concerned with affect, motivation, and even control and metacognition than was the old cognitive unconscious. Goals, motives, and self-regulation are prominent, without the conflict and drama of the psychoanalytic unconscious. And the new unconscious includes the causes of the phenomenal experience of having intentions and free will, of attributing these to oneself and others. It thus assumes and includes the determinants of free will (see chapter 1 and chapters 9 through 11 on theory of mind). In fact, the list of psychological processes carried out in the new unconscious is so extensive that it raises two questions: What, if anything, cannot be done without awareness? What is consciousness for? (see chapter 2).

The other new thing is the multitude of methods used to study this plethora of processes. The chapters in this volume only sample that range, from neuroscience to cognitive and social lab experiments to naturalistic developmental observations (on theory of mind) to field experiments (on self-regulation). Although this book describes its fair share of reaction time studies (including my own), no set of methods is supreme, and converging operations are preferred.

As editors, we solicited chapters from many of the best researchers in this field. Four of them turned us down because of other commitments. We did not ask others whom we might have asked, because we wanted to limit the book’s size. So these chapters provide a representative rather than exhaustive sampling of cutting-edge research and theory on the new unconscious.

Fundamental Questions

An important class of unconscious processes is those that are automatic. Automatic processes contrast with controlled processes, which typically require

attention and awareness. Wegner (chapter 1) raises a basic question that is implicit in decades of research on “controlled” processes, but seldom confronted: Who controls the controlled processes? He reviews the reasons why homunculi have no place in scientific theories and makes it clear that the question of control is unscientific if it presupposes an autonomous who. Then he turns to an easier question: Why does it feel as though we’re doing things? His answer rests on three principles: (1) the priority principle, that intentions precede actions; (2) a principle that intentions and actions are consistent with each other; and (3) the exclusivity principle, that there exist no other obvious causes of action besides intentions. He describes several ingenious studies that support these ideas by demonstrating conditions that create an illusion of free will, that is, an illusion that intentions control actions. He then moves on to argue that the very conditions associated with “controlled” processes are the conditions described by these principles. That is, the characteristics of what we call controlled processes are just the conditions that promote inferences that our will or intentions cause behavior. Our sense of agency is an inference, not incorrigible direct evidence that intentions cause actions.

The mounting evidence that the new unconscious can account for so many complex, “higher” mental processes raises the fundamental question of what consciousness is for. Is it an epiphenomenon, as the behaviorists would have it? Does it have a function? Bargh (chapter 2) reviews evidence from several areas of psychology, all demonstrating that people can perform complex, flexible, goal-oriented behavior nonconsciously. Neuropsychology studies of patients with frontal lobe damage show this in one way, and priming research from social psychology with normal college students shows it in another. Wegner’s research (chapter 1) shows how much the feeling of intentional control can be illusory. Cognitive neuroscience suggests that separate pathways are involved in controlling goal-directed behavior and knowing about it. The relevance of recent views of working memory as at least partially unconscious (see chapter 8), evidence from hypnosis, and developmental research on the acquisition of behavioral concepts is also described. What is consciousness for, if so much complex behavior can occur nonconsciously? Bargh proposes that one function of consciousness is to flexibly select behaviors that can be performed automatically, so they then can occur without conscious attention.

Basic Mechanisms

Classifying mental processes as unconscious involves fundamentally psychological—indeed phenomenological—criteria. Yet understanding how they function requires many levels of analysis. The tools and findings of neuroscience have much to contribute to this effort, as Phelps (chapter 3) illustrates.