Conscious and Unconscious Processes in Decision Making

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Abstract

Theories abound about how conscious and subconscious processes interact, both subjectively and neurochemically, in order for people to make their decisions. I demonstrate that no physical mechanism need exist for distinguishing between conscious and non-conscious processes (or rational vs. non-rational, explicit vs. implicit, etc.), and that the entire matter can be more easily and accurately explained in terms of more-or-less autonomous personality perspectives' competing with each other. I present the idea that the so-called "unconscious processes" can be viewed as conscious, each in its appropriate context, just as a 'fact' (e.g., "all celestial bodies revolve about the earth, which is flat") becomes a myth from a different perspective. Therefore, my hypothesis can be stated as: Decisions are made from greater or lesser integrations of personal perspectives; i.e., how much one is in touch with himself, or whether a person's character has enough room in it to ruminate from conflicting viewpoints. In order to do this, I redefine 'consciousness' and "the unconscious" in a more useful way than has been hitherto, and demonstrate why meaningful and useful decisions cannot be made from what has erroneously been referred to as "the conscious state."

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Existing theories about explicit and implicit memory

In most of the literature I reviewed, explicit and implicit memory were referred to as conscious thought and unconscious processes, respectively. This section summarizes the theories and findings of a representative selection of papers and studies on the subject.

Deliberation-Without-Attention (DWA).

According to Aczel, Lukacs, Komlos, and Aitken (2011), the DWA effect cannot be proven to enhance unconscious decision-making processes and, furthermore, they claim, unconsciousness of the decision process led to poorer performance. However, Constantinidis (2011) pointed out that such incubation allows unconscious processing to help solve problems which were felt to be too complex, difficult, or novel to solve consciously, as long as there had been prior reflection and knowledge acquired on the subject, even though it had not yet been integrated sufficiently to produce a conscious solution; this position was supported by the Dijksterhuis (2004) paper. Therefore I suspect the study's authors of foreclosure errors in drawing their conclusions, such that they selected experiments which were insufficiently complex, difficult, or novel, and without the requisite prior study, to fully utilize the benefits of incubation. The experiments they ran included judgments the participants were to make about their housemates, and tasks similar to the Wason experiment (CogLab, 2008).

The unconscious in current psychology.

Norman (2010) explained how current cognitive research has been moving toward a graduated scale of states ranging from conscious to unconscious and, moreover, that the field has not settled on a consistent definition for either of the two extremes. Some researchers equate

consciousness with the application of attention, others with verbal skill, still others with performance on various standardized tests. That would make the unconscious seem to be the absence of those criteria, but research into the functioning of the unconscious continues to show that some important kinds of processing take place at the unconscious level.

Unconscious thought in preference development.

The Dijksterhuis study (2004) revealed, experimentally, that preference decisions made rationally, on the conscious level, proved inferior to those made unconsciously, following distraction. The experiments indicated the unconscious processes' leading to more lucid and better integrated representation in the memory of the subjects. The theory behind this study was based on the assumption that conscious thought would be counterproductive for complex decisions, due to their conclusion that consciousness has low processing capacity. My criticism of this research is not that their conclusion is wrong, but that their experiments were too superficial, not involving serious ethical dilemmas, and that their definition of consciousness was too mundane, restricted to a superficial realm of perception and rational processing. In this current paper's section on my own theories, I present what I consider to be a superior definition of both consciousness and unconsciousness.

Integrating conscious and unconscious thought.

The Unconscious Thought theory (Nordgren, Bos, & Dijksterhuis, 2011) describes the respective benefits of both conscious and unconscious cognitive processes. According to the authors, an advantage of conscious thought is that it can adhere to precise rules, although unconscious processes are better for integrating complex and multiple decision issues. Most intricate decisions, say the authors, necessitate both types of approaches, and their research

verified that the combination gave better results than with either conscious or unconscious thought alone, with best performance derived when unconscious process followed conscious deliberation.

Process-tracing methodology.

Process tracing is the observation of the decision-making processes which a person undergoes before actually responding with a decision (Glaholt & Reingold, 2011). Such observations are made by using eye-movement monitoring, information-search displays, and verbal protocols to assess the cognitive states, processes and stages. This research tested the Gaze Cascade model concerning how much eye movements were involved in deciding preferences. The experiment disconfirmed that model, but supported the role of eye movements in decision alternatives. My criticism of this research is that, again, it is testing only superficial types of decisions rather than soul-shaking moral dilemmas.

Processes underlying intuitive judgment and decision making.

Glöckner and Witteman (2010) argued that the standard dual-process model is inadequate for understanding decision-making, and they propose that intuition covers an array of cognitive mechanisms which need to be identified and studied. The authors identified several contributing cognitive processes: a) *associative intuition* relating to simple learning retrieval, b) *matching intuition* which compares prototypes and exemplars, c) *accumulation of evidence*, and d) *construction* of mental depictions. Because those four processes all refer to prosaic instances, I believe that this paper left out the highly intuitive faculties of *mystical* or *ecstatic* consciousness (Picard & Craig, 2009), in which a profound sense of oneness and harmony give rise to great wisdom and moral responsibility (Rosenthal, 1993).

The Rosenthal paper seems to replace the idea of the unconscious with a Higher-Order Thought hypothesis, which is presented as part of the Appendage Theory of Consciousness. This theory rejects the Freudian notion that intentional mental states can be unconscious, such as subliminal perception and Weiskrantz's blindsight phenomenon, and even the mental processes which contribute to intentional states. The paper catalogues all the things which the Appendage Theory is *not*, such as awareness of perceptual objects, but does not affirmatively define what it *is*. My own abstraction of the theory is that it entails immediacy and reflexiveness; that is, one must be directly aware, in the moment, of being in a conscious state. My caveat for that definition is that actually being aware in the moment proves to be both rare and highly difficult, occasionally happening in a flash of near-death experience (Wilde & Murray, 2010) or following years of mindfulness training (Wallace, 2002).

The Hirshman and Henzler paper (1998) extended the classical recognition-memory paradigm, which correlated *remember* judgments (based on conscious recall) and *know* judgments (based on familiarity, and accessed unconsciously). The authors' alternative hypothesis was of a single memory process with one or more criteria influencing both types of judgments.

Rational and non-rational processes in moral and ethical decision making.

The Ham and van den Bos study (2010) demonstrated that, for at least some forms of moral decision making (they used the classical footbridge dilemma), the decisions made from unconscious processes were clearly more pragmatic (although not necessarily more moral) than those from an equal duration (three minutes) of conscious deliberation. My problem with their

conclusion is that it would tend to excuse people from consciously addressing a moral responsibility and perhaps decide precipitously.

According to one study (Rogerson, Gottlieb, Handelsman, Knapp, & Younggren, 2011), conscious moral decisions are never entirely rational in the first place. The authors pointed out that every conscious decision-making process is rife with such unconscious influences as relationships, social context, and previous experiences, leading to innate biases and flaws in reasoning.

The Nidich, Nidich, and Alexander (2000) thesis based its theory on a number of disparate platforms: a) Kohlberg's cognitive-moral development theory and (b) his Cosmic Perspective Stage 7, and c) Alexander's higher states of consciousness (transcendental, cosmic, God-consciousness, and unity awareness) and their influence in developmental stages. The authors refer to several Transcendental Meditation (TM) programs as effective in moral development, which I find dubious, having known too many examples of people's losing their moral compass after prolonged practice of TM. Furthermore, I consider Alexander's four higher-states depictions to be mostly redundant with each other (i.e., one highest state with four different labels) and lacking such intermediate states as self-awareness and self-remembering (Ouspensky, 1977, p. 145ff, p. 117ff), and heightened awareness and second attention (Castaneda, 1981).

The effect of age differences in decision making.

The Queen & Hess study (2010) showed that age did not impair intuitive processes or memory contributing to decisions. However, younger adults proved superior with deliberative processing for making their decisions; thus, older people relied more heavily on intuition. Now

that I am in the ‘older’ category myself, I can look back on my life and see that my earlier decision were more rationally based, but all too often proved to be unwise: I lost my life savings at least three times, I filed a bankruptcy, lost jobs, and was even arrested once, based on a decision which seemed perfectly reasonable to me at the time. I am relying much more on my intuition in recent years, and find it to be far more reliable and practical than my earlier ‘rational’ choices.

The theory of this current paper

My definition of both consciousness and unconsciousness.

In line with Rosenthal (1993), I do not consider consciousness to be merely perceptual awareness, but rather, a collection of states in which different orders of perception and cognition become present. As I stated above, I would include, in addition to higher or ‘cosmic’ states, several additional levels:

Dreamless sleep – one appears to be unconscious, but the intelligence of the organism breathes, beats its heart, metabolizes, eliminates waste, and maintains healthful levels of temperature, blood sugar and pressure, replacement of cells, and myriad other physical functions. In addition, the brain and body constantly emit electromagnetic signals which can be sensed and interpreted not only by instruments, but also by other organisms, so that a subtle field of communication continues to make nature itself a living organism (Beaubois et al., 2007; Haas, 2011).

Dreaming – this includes not only REM sleep, but various trance-like states (induced by oneself or externally) in which one is virtually awake in a different realm from the ordinary. This new world may resemble the ordinary context in many ways, or it may be so novel and

fantastic that words fail to describe it upon awakening from it. In the psychological literature, Jung came closest to understanding these dreaming states, although I do not believe that he went far enough in his descriptions and theories (Dixon, 2005). In relating dream states to schizophrenia, Dixon points out, Jung (as well as Freud) missed the significance of what can be learned from nightmarish dreamscapes, which is to appreciate and integrate *the shadow* as portrayed within dreams (McNamara & Szent-Imrey, 2007). Unfortunately, those latter authors missed the value of what they termed "costly signaling," referring to the toll taken by dreaming of difficulties and failures and having to carry that weight forward into waking life. In real dreamwork (Murray, 1991), the dreamer learns to embrace "the monster" and harness its power for one's own goals, thereby clearing some deep-seated anger or trauma, and also providing a virtual context for trying out solutions to ordinary life's challenges (Hobson, 2009).

Ordinary "waking consciousness" – I regard this term as a misnomer, since it is obvious that people walk around in a wide range of states, often not remembering how they got to where they are, and thinking and speaking in only stock, habitual phrases with little comprehension of what they are saying (Ouspensky, 1977, p. 352). They form opinions, even opinions which will affect their own lives as well as future generations (as with voting for dubious ballot measures) based on how their symbols have been manipulated (Morsella, Lanska, Berger, & Gazzaley, 2009). Furthermore, people move through trance and dreamlike states throughout their typical day, as when shopping in a department store, riding in a crowded elevator, or engaging in their job-related tasks; these restricted contexts are virtually forgotten once the person relaxes at home or in a tavern.

"Heightened awareness" – this is a term, used by Castaneda's teacher, don Juan Matus, to designate a nonordinary state, outside of the ordinary, in which all of the relevant issues of the

ordinary context are visible, and the meanings of events and relationships are known at once, seemingly without thought. According to Castaneda (1981), this state is usually induced deliberately by one's master (e.g., sorcerer or *guru*), but it can occur spontaneously in emergency conditions or with serious illness (Wilde & Murray, 2010).

"Second attention" – another of don Juan's terms (Castaneda, 1981), it refers to a range of states somewhere between "heightened awareness" and "cosmic consciousness, both of which are occasionally attained with certain meditational practices (Halsband, Mueller, Hinterberger, & Strickner, 2009), if prolonged sufficiently, or with the use of psychedelics in serious ritual contexts (Polito, Langdon, & Brown, 2010), if the acolyte be prepared adequately. This state is characterized as being unworldly, populated with impossible objects and mythical or supernatural creatures (it is my belief that this is where the Hindu and Egyptian pantheons derived their half-animal gods – through second-attention visions and experiences).

Self-observation – this term is usually not regarded as referring to some specific state of consciousness, but I include it here because the practices it includes lead to integration of higher states of consciousness. Besides, setting up an internal witness entails developing a dual attention, which should count as an altered state. Disciplines which foster such dual attention include Zen Buddhism (Watts, 1999), fourth-way practices (Ouspensky), sorceric recapitulation (Castaneda, 1981), and the guardianship of the Brazilian ayahuasca religions (de Alverga, 1999).

Self-remembering – this state of consciousness is necessary in order to derive the full benefits of the highest states of consciousness, referred to in Alexander's over-glorified terms (Nidich, Nidich, and Alexander) as "cosmic consciousness" and so forth. Self-remembering is Gurdjieff's term for the state in which the person's centers are operating with their own, correct energies, and the person is actually aware of himself and his thoughts and actions (Ouspensky).

"Burning with the fire from within" – when a sorcerer (or 'warrior') has completed his recapitulation (meticulously inventoried his life, his responses to it, and all his decisions and embarrassments), and has impeccably stored up all of his power and silent knowledge, he may depart the ordinary world and enter *third attention* (analogous to "cosmic consciousness"). To a well prepared observer, this stage might appear as a flame devouring itself from bottom to top. This stage would be regarded as consciousness of one's total luminous self, having single-minded awareness and omniscient perspective (Castaneda, 1984).

Importance of the topic

The reason that all the cited researchers consistently (with one exception) found unconscious processes to be more reliable for decision-making than conscious deliberation was that they defined consciousness where it does not even exist; that is, in the ordinary waking state. My descriptions (above) of alternate levels of consciousness should make it clear that much more lucid and aware states are available, but generally declared to be "unconscious" simply because they were not part of the ordinary waking condition. The research shows that, when the attention of the ordinary waking state is interrupted (by distraction, induction, drugs, or some discipline), better decisions are made. What the research ignores or understates is that we are then *conscious* in ways other than the ordinary; one may simply have shifted over to an alternate habitual state which has a different set of assumptions and experiences or, in the case of an adept or acolyte, he may be accessing a lucid-dream state or a more inclusive higher state. Whichever shift it may be, the resources and perspectives of other states of awareness become available during such interruptions.

Individuals affected.

The ideas of this paper could lead to new treatments for various types of amnesia or disintegrative personality disorders. It can also help those who have difficulty making decisions, or who are unhappy with the decisions they have been making. This study could also help cognitive researchers, as well as others interested in the nature of consciousness, to better define their field of study, to design better research experiments, and to recognize altered states for what they are, rather than lumping them all into clumsy and misidentified categories ('conscious' and 'unconscious').

Impact on the individual.

People should have positive, long-term results from better understanding of how they make decisions and, concomitantly, what sorts of ideas and feelings have been roaming around in their minds, out of sight of their attention. Individual researchers should find that, once they have recognized the finer gradations of consciousness and applied more accurate definitions, their communications will be better understood and their research will prove more valuable.

Conclusions

What we have been calling *consciousness* reveals itself to be, in most cases, an unintegrated collection of fragmented, low-level amalgams of habitual attitudes, assumptions, moods, and reactions. What we have referring to simply as *the unconscious* is really, in the ordinary case, whatever habitual state one is not in at the present moment and, when one has undergone prolonged discipline, a spectrum of dreamlike, visionary, and mystical states with extraordinary ('divine') resources and perspectives. Much of the research studied for this paper

ended either by gainsaying other research, or with ‘inconclusive’ or “more research is needed” just because these states have been badly misidentified.

Summary

I discussed the differences and the relationship between conscious and non-conscious decision-making processes, in the context of the various existing theories of what those two areas comprise. I then showed how these processes can be better understood in terms of perspectives rather than structures or mechanisms. I surveyed methods by which decision-making processes can be measured, and also treatments for people afflicted with indecision. The clarifications which I have introduced into the meanings and understanding of the various states of consciousness should prove helpful to researchers in the field of consciousness, to therapists and psychoanalysts, and to lay people seeking understanding of themselves and of humanity.

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