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Levels of (Un)Consciousness

Commentary by Vaughan Bell (London)

Heather Berlin's review is an insightful analysis of the cognitive neuroscience behind unconscious processes at the level of "semantic or inferential processing," although there are some minor points that are worth re-evaluating. The article seems to conflate the concepts of dissociation put forward by Pierre Janet (the "unconscious compartmentalization of normally integrated mental functions"), the concept of "splitting" (presumably in the Freudian sense), and dissociative disorder as defined by the DSM-IV-TR, despite strong evidence that these are not unitary processes either conceptually and neuropsychologically. Furthermore, the championing of Freud as the figurehead of the dynamic unconscious is perhaps a little misplaced, as the main contribution of Freud was not the concept of unconscious processing, which had a long history before his work and has been well studied since, but the fact that these influences are supposedly interpretable at the level of personal meaning—something that is hard to reconcile with either the majority of evidence from cognitive neuroscience or indeed its conceptual basis. Despite these minor points of contention, the article remains a perceptive and revealing examination of the science of the unconscious.

Keywords: dissociation; hysteria; dynamic; unconscious; emotion; psychoanalysis

Heather Berlin's review "The Neural Basis of the Dynamic Unconscious" is an insightful analysis of the cognitive neuroscience behind unconscious processes at the level of "semantic or inferential processing," and, in fact, the overview is so complete and well conceived I feel a little like a sports commentator who has to resort to giving her opinion on the team's choice of footwear because there is little else to criticize. Along these lines, my commentary is largely one of style rather than substance.

I was most struck by the section on dissociation, not least because it is one of the areas I am most familiar with. In the introduction to the section, the article seems to conflate the concepts of dissociation put forward by Pierre Janet, the concept of "splitting" (presumably in the Freudian sense), and dissociative disorder as defined by DSM-IV-TR (APA, 2000). However, it is notable that these do not make comfortable bedfellows.

Janet's description of dissociation as the unconscious compartmentalization of normally integrated mental functions has largely defined the modern concept, and his idea, inherited from Jean-Martin Charcot,

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that “unresolved traumatic memories” are a fundamental cause is still highly influential (van der Hart & Horst, 1989). In *Studies on Hysteria* (Freud, 1895), Breuer and Freud described splitting¹ in similar terms, although it is notable that they suggested that the process and subsequent symptom can have a purely symbolic relationship to the precipitating event, something not present in Janet’s original theory where dissociation was caused at a subpersonal level—something akin to the cognitive level of explanation in modern terms. Freud later placed greater emphasis on this symbolic connection, famously abandoning Breuer’s need for a “hypnotic state” to facilitate dissociation, and included conflict, defense (Freud, 1894), and compromise formation (Freud, 1908) as causal mechanisms.

Berlin initially relies on the Janet-inspired definition that has found pride of place in the DSM, namely “disruption in the usually integrated functions of consciousness, memory, identity, or perception” although it is notable that the conditions described as DSM “dissociative disorders” are not the typical examples that would have characterized dissociation for Janet and Freud, whose cases of “hysteria” would now likely be diagnosed as one of the somatoform disorders, most likely conversion disorder or somatization disorder, where patients present with seemingly neurological symptoms that are not consistent with demonstrable function of the nervous system. To add further complexity, the term dissociation has more recently become associated with “depersonalization”—a general feeling of detachment from sensory input, lived experience, or “connectedness” with the world. This is the core experience in “depersonalization disorder,” one of the DSM dissociative disorders, as well as peri- and posttraumatic dissociation in posttraumatic stress disorder (Brown, 2006).

Evidence suggests that “depersonalization” and conversion disorder, as well as being phenomenological distinct, are also neuropsychologically distinct and are unlikely to be explained by the same neurocognitive mechanisms (Brown, 2004; Holmes et al., 2005; Sierra & Berrios, 1999). However, it seems that these types of dissociation (and, indeed, others) are conflated, with our own work on conversion-disorder-like syndromes (Bell, Oakley, Halligan, & Deeley, 2010), Jacksonian dreamy state phenomena during hippocampal stimulation, effects of the dissociative anesthetic ketamine, and dissociative identity disorder all considered under the same banner and subject to a single causal explanation, which is undoubtedly not the case.

¹ Bearing in mind that Freud later substantially widened his definition of splitting to refer to splitting of the ego and objects.

I was also a little concerned that Berlin’s discussion of a possible neurocognitive basis for dissociation largely focused on dissociative identity disorder (DID). Although it is considered by some to be the paradigmatic dissociative disorder (Gleaves, 1996), it has nonetheless garnered significant criticism for lack of conceptual coherence (Lilienfeld et al., 1999), equivocal evidence for dissociative memory impairments (Allen, 2000; Huntjens, Peters, Woertman, van der Hart, & Postma, 2007), and the marked influence of popular culture on its diagnosis and prevalence (Kihlstrom, 2005), making it a doubtful paradigm on which to base an analysis of dissociation. (On a conceptual note, Berlin’s assertion that “neurobiological studies support the validity of the diagnosis of DID” reflect a category error, as psychopathology cannot be adequately validated on the basis of its neural substrates since by definition we base neuroscientific investigations on phenomenological categories associated with distress and impairment—mental and behavioral concepts that cannot be completely substituted by facts about the function of neurons and neurotransmitters.) These vagaries are less a fault of Berlin, more that of an indistinct literature that perpetuates the confusion in many cases and makes it difficult for the nonspecialist to see the wood for the trees. As someone who does consider herself a specialist, albeit a very minor one, I can only add my voice to the collective *mea culpa*.

The section on dissociation also highlights another theme that runs through the article: the championing of Freud as the “figurehead” of the dynamic unconscious, to the point where the concluding paragraph claims that “new advances in neuroscience and technology are now enabling the neurobiology of the dynamic unconscious that Freud envisioned to come to fruition.” However, on several occasions, the ideas discussed are not a Freudian innovation, nor are they necessarily a good example of his version of the dynamic unconscious at work.

With this in mind, the aspect that makes the Freudian theory of hysteria and splitting distinctive is not the concept of dissociation (borrowed from Janet), nor the idea that dissociation was the result of the unconscious action of traumatic memories (borrowed from Charcot), but that the process had a symbolic link to the cause that was interpretable at the level of personal meaning. While the analysis provides a great deal of evidence for a neuroscience of a dynamic unconscious at work in dissociation, it provides virtually none with regard to its symbolic significance in the Freudian sense that assumes that these processes can be understood adequately, for example, at the level of jealousy for a specific person relating to specific

Allen, 2000: not in Refs, or Allen & Movius?

personal events. The idea that the unconscious can be coherently interpreted at the level of symbolic meaning is central to many of Freud's theories, and yet an analysis at the level of cognitive neuroscience seems to be difficult to fully integrate with this by its very nature, owing to the fact that personal meaning, information processing, and neurobiology rely on different levels of explanation and may have to be integrated through a process of "patchy reductionism" (Kendler, 2005).

Clarity over which level of explanation we are addressing is therefore, essential, and this is not always clear in some aspects of the text. For example, in the discussion of unconscious emotional processes, one section notes that "people can feel things without knowing they feel them, and can act on feelings of which they are unaware," which would seem to lead to a logical contradiction because "feeling" is widely defined in the human sciences as the conscious subjective experience of emotion (e.g., Vandenbos, 2005). We can certainly be motivated or our behavior can be changed by things of which we are unaware, but to say that these influences are feelings is incoherent. It could be suggested that they are structurally identical to feelings but unconscious in nature, but this is an empirical point that still begs questions about the role of consciousness in our behavior and, indeed, the structure of our emotions themselves.

Of course, the great man himself was not shy of a bit of self-championing with regard to his "figurehead" status. When Freud (1940) wrote "The concept of the unconscious has long been knocking at the gates of psychology and asking to be let in. Philosophy and literature have often toyed with it, but science could find no use for it" (p. 286), he was clearly spinning us a line. We know from extensive histories (e.g., Claxton, 2006; Ellenberger, 1981) that the concept of the dynamic unconscious existed well before Freud, was central to many pre-existing theories of mind and behavior, and was consciously—and, dare we say, unconsciously—incorporated into the theories of psychoanalysis. History has shown us that psychological theories are almost invariably theories of the unconscious, however conceived, and it is much harder to find any that have rejected the importance of the unconscious mind than have accepted it.

Notwithstanding my comments on what are, at the end of the day, details in the bigger picture, Berlin's important and thought-provoking article is a remarkably comprehensive look at cognitive neuroscience of unconscious influences and a valuable resource for anyone wanting an insightful review of the relevant literature.

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