The Last Rites of the Dynamic Unconscious

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Our feature article highlighted the failure of recent attempts to shore up the psychoanalytic concept of the *dynamic* unconscious by invoking empirical evidence derived from cognitive science in favor of the *cognitive* unconscious. In fact, we argued that recent work in cognitive science suggests that it is time to dispense with the concept of the dynamic unconscious altogether. The responses to our arguments from our two commentators are representative of the schism that marks the contemporary assessment of Freudian psychoanalytic theory as a whole. Woody, on the one hand, is in substantial agreement with the position we develop, and spends his commentary developing further considerations as to why Freud and his followers got the unconscious so wrong. Kroll, on the other, claims that we have failed to show any incompatibility between the dynamic unconscious and the cognitive unconscious, and argues that the former still has an important role to play in the explanation of human motivation and behavior.

It will come as no surprise to learn that we will spend the bulk of what follows responding to Kroll's negative evaluation of our position. We do, nonetheless, want to add some thoughts to Woody's insightful analysis of why the psychoanalytic conception of consciousness is so impoverished. This is where we begin.

Telling Less Than We Know

In one of the more influential articles published in the field of cognitive psychology, "Telling more than we can know," Nisbett and Wilson argue that our introspective access to the higher-order cognitive processes underlying complex behaviors such as judgment, inference, and problem solving is severely limited (1977). As a consequence, when people report on their cognitive processes, as they readily do, these proffered explanations, according to Nisbett and Wilson, are based more on implicit theories we hold about thinking than on any direct access to thinking itself. Rather than accurate descriptions of what goes on in our minds, these verbal reports are confabulations.

These skeptical views about introspection, along with the dominance of computational models that emphasize that most of human cognition occurs unconsciously, have led to a climate in cognitive science that fosters an austere conception of the contents of consciousness. This conception is reinforced further by the popularity of characterizations of consciousness that equate what is consciously experienced with what can be verbally reported. As we observed in the feature article, because there is so much in experience that is difficult to describe in language, these characterizations have the effect of emptying consciousness of a great deal of its more interesting and significant phenomenal contents.

The impoverished conception of consciousness that results from aligning it with verbal reports is the focus of Woody's commentary. He points out that making consciousness dependent on language drastically simplifies the stream of consciousness and consigns much of its complexity and subtle richness to the unconscious. This is especially true, he thinks, of the life of feeling: "We have far richer language for distinguishing the varieties of mosses and moths than the subtleties of human emotions." Why did Freud and his followers embrace such an implausibly arid conception of consciousness? Woody's explanation is that they have succumbed to what William James calls *the psychologist's fallacy*: insufficiently distinguishing the perspective on the world afforded by one's own mental states from the potentially very different perspectives afforded by the mental states of others. The villain here, according to James, is language. Because we are forced to communicate our conscious experiences by naming the objects they are about, it is easy to fall into the trap of thinking that because your experience is about the same object as mine, it must have the same content as mine.

We certainly think this is part of the explanation. But we think there is more to the story, especially where affective phenomenology is concerned. To make this point, however, we need make a brief digression into the cognitive science of the emotions. It is commonplace in contemporary cognitive science to unpack emotion-feelings in terms of the brain's registration, in somatosensory and proprioceptive cortex, of patterns of physiologic and behavioral responses triggered by the activation of subcortical structures. When we are exposed to potentially dangerous situations, for example, the amygdala causes various bodily muscles to contract and the heart rate increase in an effort to prepare the body for fight or flight. These bodily responses are then registered in the somatosensory and proprioceptive regions of the brain, and as a result we *feel* fear. In this analysis, each emotion has a distinctive bodily signature and each emotion-feeling is composed of the representational content of the perceptual states implicated in the registration of this signature (see, for example, Damasio 1999; Le Doux 1996)

Although this analysis is reasonable in so far as it goes, it is importantly incomplete. Emotion-feelings are not exhausted by bodily phenomenology. A crucial part of any affective experience, in addition to the registration of certain bodily events, is a positive or negative evaluation. Fear, for example, is not just a pattern of bodily of experiences; it is a pattern of bodily experiences together with a distinctly "unpleasant" feeling. Similarly, joy is an experience composed of a somewhat different pattern of bodily phenomenology together with a "pleasant" feeling. Emotion-feelings, in short, are value-added bodily experiences.

What this suggests is that affective phenomenology is not exhausted by representational content. Affective experiences have additional evaluative content, which contributes their negative or positive phenomenal character. And precisely because this evaluative content is not representational, and hence cannot be described in terms of some feature of our bodies or the environment, it is much more difficult for us to convey in any verbal report what this aspect of affective experience is like. We resort to clumsy expressions such as those we employed in the previous paragraph.

Consider, as particularly vivid examples of how difficult these evaluative contents are to describe, the feelings of *rightness* and *wrongness* (see Mangan [2002] for an illuminating discussion). You are trying to remember the name of the composer of a piece of music that you are listening to. A friend offers you a number of suggestions. Each of these feels wrong, so you reject it. They then offer you another suggestion. Immediately you have the strong feeling that this suggestion is right, so you accept it. These feelings of rightness and wrongness are familiar to everyone. But how would you describe their experiential content? Our point is that it is because these experiences are not to be analyzed representationally (e.g., they are not bodily experiences as such), it is immensely difficult to convey their phenomenological character using language.

This is why affective experiences as a class of conscious states are so elusive. It is also why any identification of the contents of experience with the content of our verbal reports inevitably leads

to an impoverished conception of consciousness. Nisbett and Wilson may be right to claim that we are prone to telling more than we can know about the higher cognitive processes that underlie our judgments and inferences. But precisely the reverse applies to our talk about our conscious experiences.

Psychodynamics Without the Dynamic Unconscious

The main thrust of Kroll's commentary is that we have replaced the traditional executive homunculus conception of the dynamic unconscious with one that admits of multiple subpersonal homunculi. As such he accuses us of failing to show that the dynamic unconscious of psychoanalytic theory is incompatible with the conception of the unconscious that emerges from cognitive science. Furthermore, this lack of incompatibility should not be surprising, according to Kroll, because the explanations offered by psychodynamic theory and those of cognitive science operate at different levels of description—whereas the latter invoke biological processes, the former engage thought and action at the symbolic level.

We think that Kroll is doubly wrong here. He is wrong to think that cognitive science and psychodynamic theory operate at different levels of explanation. And he is wrong to think that the dynamic unconscious can survive the fragmentation and subpersonalization of the unconscious that cognitive science requires. In what follows we will first defend each of these claims in turn, and then briefly respond to Kroll's criticism of our treatment of hypnosis.

First, is Kroll right to claim that cognitive science and psychodynamic theory operate at different levels of explanation?[1] The stock and trade of the latter, Kroll observes, are such entities as thoughts, desires and worries, which possess "meaning and semantics," and hence exist at the "symbolic" level. We concur. What kinds of entities does cognitive science deal in? Kroll seems to think that cognitive science confines itself to "neural mechanisms" and "biological processes." But here he is mistaken. To see this we must briefly visit the conceptual foundations of cognitive science.

What is distinctive about cognitive science as a discipline is that it seeks to explain human perception and cognition in terms of *computational* processes. As David Marr pointed out in one of the most influential discussions in early cognitive science, any computational device can be analyzed at three different levels of description (1982). At the highest level (the level of "computational theory") there is "the abstract computational theory of the [device], in which the performance of the [device] is characterized as a mapping of one kind of information onto another" (p. 24). From here we move down to the level of "representation and algorithm," where there is a description of both the representations and the computational rules that are implicated in satisfying the computational theory of the device in question. Finally, at the lowest level (the level of "hardware implementation"), there is a description of how these representations and rules are physically realized in the device's material substrate (p. 25).

At what level in this hierarchy of descriptions ought we locate the kind of explanations sought by cognitive science? It is clear from his discussion that Kroll thinks that cognitive science aims at developing implementation-level explanations of human cognition. But Marr and scores of cognitive scientists following him recognized that such hardware explanations are too fine grained to capture the crucial regularities that obtain at the higher level of representation and algorithm. In the language that has become fashionable in the discipline, representations and computational rules are "multiply realizable": the same computational processes can be physically implemented in radically different ways. For this reason, cognitive scientists think it absolutely essential that their explanations are pitched at a level of description that abstracts away from the messy details of the neural material from which the brain is composed. Cognitive science is not neuroscience.

In abstracting away from the details of neural implementation, cognitive science focuses on the way the brain codes and processes information in the form of mental representations—entities that possess meaning and semantics. And ac-

cording to cognitive science, the brain's mental representations range from the basic vehicles implicated in early perceptual processing, all the way to the complex vehicles, such as beliefs, memories, desires, and worries, that populate psychodynamic theory. Far from operating at a different level of description, cognitive science is a broad church that completely subsumes psychodynamic explanations of behavior.

As a further illustration of Kroll's confusion here about the level at which explanations in cognitive science are pitched, consider his response to our claim that a great number of the mental representations in the cognitive unconscious are inaccessible to consciousness by virtue, not of a repressive force, but of the brain's computational architecture. He construes our talk of architectural constraints as "another way of describing neural facilitation and inhibition," and retorts by saying that repression is "just a psychological construct to describe what the processes of facilitation and inhibition bring about in terms of meaningful mental activity." His point thus seems to be that what cognitive science means by "architectural constraints" (at its biological level of description) can be understood by psychodynamic theory as the operation of "repression" (at its psychological level of description).

However, when cognitive scientists talk about a machine's computational architecture they are referring to its *functional organization*, not its physical implementation. And our point is that it is orthodoxy in cognitive science to assume that it is the functional design of the brain that prevents a great many (cognitively unconscious) mental representations from entering consciousness, not the operation of some neural process of inhibition. A useful analogy here is the Turing machine. One of the wondrous features of a Turing machine is that information can be explicitly represented on the machine's tape. This of course is the basis of stored program digital computers. But not all of the representations that drive the machine are explicitly rendered in this fashion. There must also be a set of representations tacitly coded in the configuration of its read/write head, and these are crucial to the machine's computational performance. Nonetheless, despite the fact that these tacitly coded representations are causally active, the machine's computational architecture prevents them from being accessed and explicitly written down on its tape. It is in this sense that many of the brain's mental representations, according to cognitive science, are inaccessible to consciousness.

Second, is Kroll right to claim that rather than dispensing with the dynamic unconscious we have merely reconstructed it in the form of multiple subpersonal homunculi? We do not think so. The computational modules that comprise the cognitive unconscious cannot, either individually or collectively, constitute the dynamic unconscious as traditionally understood by Freud and his ilk. Taken individually, these modules cannot constitute the dynamic unconscious because their focus is too narrow. Kroll is guilty at this point in his reply of distorting our argument by speaking of subpersonal parts or "subpersons" where we were careful to speak of processes at a subpersonal *level*. Subpersonal processes are *constitutive* of the self, not enacted by some tiny selves. Nor can computational modules be taken collectively to constitute the dynamic unconscious, because there is no mechanism (outside of consciousness) that integrates and coordinates the activities of these modules to create personal-level mental phenomena. Kroll concedes that the fragmentation of the unconscious entails that it cannot contain personal level repressed memories, but argues that such memories are not essential to the concept of the dynamic unconscious. However, one wonders how Kroll, or any advocate of the dynamic unconscious for that matter, would feel about emptying it of all personal-level mental phenomena such as beliefs, desires, worries, hopes, and so forth.

Furthermore, contrary to what Kroll claims, we do not argue against the existence of "personal-level mental states." We argue against *unconscious* personal-level mental states. In their stead, we propose a view of conscious mental states that is not impoverished, but richer and more complex than we can ever articulate. Verbal expression of such complex states inevitably gives an impression of something more singular

and integrated than the person's phenomenal experience, but Kroll seems to have missed one of our key points, which is to differentiate between what is conscious and what can be reported. Thus, when we describe how an emotional reaction elicited by memory or thought might push that memory out of consciousness before it can be reported on, Kroll responds by suggesting that inability to report is equivalent to never having been conscious. But this is precisely the mistake we were warning against: the inability to report a content should not be taken as criterial of its failure to enter consciousness. As to what does the pushing, something that Kroll thinks implies some personal-level unconscious entity, we can simply invoke the crowdedness of consciousness and the range of subpersonal tropisms. There *are* no principles, merely competing interests. No one is doing the pushing—rather the "someone" that constitutes the self is a *product* of the process that determines what is in consciousness and what is reported on.

Kroll alleges that our characterization of hypnosis is one sided, presumably based on our rejection of the "altered state" hypothesis. However, we reach this position only after arguing that Hilgard's neodissociation theory (which Kroll accuses us of ignoring), as the most often cited defense of the altered state hypothesis, does not offer a principled differentiation between the proposed hypnotic state and other ordinary activities such as daydreaming. We do not agree that we, Kirsch and Lynn (1998), or even Spanos and Coe (1992), are dismissive of hypnotic phenomena. On the contrary, we all accept as a starting point hypnotic subjects' descriptions of what it is that they have experienced. But although we took some trouble in our paper to draw a distinction between make believe and deception, Kroll claims that to describe a hypnotic experience as a form of pretending is very close to accusing the subject of deliberate deception. He believes that if pretending is conscious it must be willful and intentional. It need not be. Rivers (1920) used the term *unwitting* to indicate that thoughts and actions can occur without will or intention, but still be consciously enacted. We propose that pretending is a mechanism that allows one version of events (what is imagined) to exist alongside another (what can be known) without invoking repression or splitting off of consciousness by some unconscious, personal level censor.[2]

Finally, although the dynamic unconscious is a key psychodynamic concept, Kroll is not correct to accuse us of trying to dispense with psychodynamics. Our aim is to rid psychodynamic theory of some of its historical baggage and bring it into line with the current state of knowledge in cognitive science, a tradition that can be traced back at least to the work of Daniel Stern (1985). Our claim is not that we can explain the richness of human behavior merely on the basis of subpersonal processes. There is still a place for psychodynamic explanations, but a mature psychodynamics will not invoke the dynamic unconscious.

Notes

1. We find it somewhat ironic that we have to defend ourselves against this objection. In the feature article, we were responding to those theorists who in recent times have argued that psychoanalytic conjectures about the dynamic unconscious receive a great deal of support from the empirical evidence in favour of the cognitive unconscious. Clearly, such theorists do not share Kroll's conception of the relationship between cognitive science and psychodynamic theory.

2. A more detailed exposition of this argument can be found in Jureidini (2000) and Jureidini and Taylor (2002).

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