Dispensing With the Dynamic Unconscious

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Abstract: In recent years, a number of contemporary proponents of psychoanalysis have sought to derive support for their conjectures about the dynamic unconscious from the empirical evidence in favor of the cognitive unconscious. It is our contention, however, that far from supporting the dynamic unconscious, recent work in cognitive science suggests that the time has come to dispense with this concept altogether. In this paper we defend this claim in two ways. First, we argue that any attempt to shore up the dynamic unconscious with the cognitive unconscious is bound to fail, simply because the latter, as it is understood in contemporary cognitive science, is incompatible with the former as it is traditionally conceived by psychoanalytic theory. Second, we show how psychological phenomena traditionally cited as evidence for the operation of a dynamic unconscious can be accommodated more parsimoniously by other means.

Keywords: Cognitive unconscious, consciousness, dissociation, dynamic unconscious, psychoanalysis, repression.

Introduction

It is the primary tenet of psychoanalysis that there is a subterranean region of our minds inhabited by mental entities—such as thoughts, feelings, and motives—that are actively prevented from entering consciousness because of their painful or otherwise unacceptable content. These mental entities, in spite of being consciously inaccessible, are assumed to have a profound impact on our conscious mental life and behavior, and in so doing are thought to be responsible for many of the psychopathologies, both major and minor, to which we are subject.

This conjectured subterranean region of our minds is nowadays known as the *dynamic unconscious*, and there is no more important explanatory concept in all of psychoanalytic theory. Yet, despite its importance to psychoanalytic thought and practice, and despite almost a century of research effort since its first systematic articulation, the dynamic unconscious is in deep trouble. The methodologic difficulties associated with theorizing about this putative mental underworld are legion (Grunbaum 1984), and recent years have seen a growing skepticism about the very notion of a dynamic unconscious and with it the whole apparatus of psychoanalysis (see, for example, Crews 1996).

In the face of these difficulties, a number of proponents of psychoanalysis have turned to contemporary cognitive science for assistance (see, for example, Epstein 1994; Erdelyi 1985; Shevrin 1992; and Westen 1998). Their aim has been to show that psychoanalytic conjectures about the dynamic unconscious receive a great deal of support from the empirical evidence in favor of the cognitive unconscious. By variously integrating the dynamic unconscious with the cognitive unconscious (Epstein 1994) or extending the cognitive unconscious to cover psychical entities and processes traditionally associated with the dy-

namic unconscious (Westen 1998), the hope is that the struggling psychoanalytic concept will be buttressed by its healthier counterpart in cognitive science.

It is our contention, however, that this hope is misplaced. Far from supporting the dynamic unconscious, recent work in the cognitive science suggests that the time has come to dispense with this concept altogether. We will defend this claim in two ways. First, we will argue that any attempt to shore up the dynamic unconscious with the cognitive unconscious is bound to fail, simply because the latter, as it is understood in contemporary cognitive science, is incompatible with the former as it is traditionally conceived by psychoanalytic theory. Second, we will show how psychological phenomena traditionally cited as evidence for the operation of a dynamic unconscious can be accommodated more parsimoniously by other means. But before we do either of these things, and to set the scene for our subsequent discussion, we will offer a very brief recapitulation of the dynamic unconscious, especially as it was originally conceived by Sigmund Freud.

Three Propositions About the Dynamic Unconscious

Contemporary psychoanalytic thought is a heterogeneous collection of theories about the architecture and dynamics of the human mind and the psychopathologies to which it is prone. In the midst of this diversity, however, is a foundational concept to which all of these positions appeal and serves to mark them off from other psychological theories of human motivation and behavior. This is a commitment to a very specific kind of causally efficacious unconscious. Here is how Freud characterized this commitment:

> The division of the psychical into what is conscious and what is unconscious is the fundamental premise of psychoanalysis; and it alone makes it possible for psychoanalysis to understand the pathological processes in mental life, which are as common as they are important, and to find a place for them in the framework of science. To put it once more, in a different way: psychoanalysis cannot situate the essence of the psychical in consciousness, but is obliged to regard consciousness as a quality of the psychical, which may be present in addition to other qualities or may be absent. . . .
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> [W]e have arrived at the term or concept of the unconscious . . . by considering certain experiences in which mental *dynamics* play a part. We have found—that is, we have been obliged to assume—that very powerful mental processes or ideas exist . . . which can produce all of the effects in mental life that ordinary ideas do . . . , though they themselves do not become conscious. . . . [P]sychoanalytic theory . . . asserts that the reason why such ideas cannot become conscious is that a certain force opposes them, that otherwise they could become conscious, and that it would then be apparent how little they differ from other elements which are admittedly psychical. (1923, 13–14)

In this passage, Freud articulates three propositions that formed, and still form, the basis of psychoanalytic thought. First, there is a powerful (sub)system of the human mind that operates independently of conscious experience. Second, this system contains mental entities ("ideas") that are just like conscious mental entities in both their form and their causal powers. And third, these unconscious mental entities are actively prevented from entering consciousness by the operation of a certain force. Taken together, these three propositions constitute the concept of the dynamic unconscious. In what follows we will say a little more about each.

It is one of those popular myths that Freud was the first theorist to hypothesize about the existence of an unconscious region of the mind. But this is as absurd as it is inaccurate. The most straightforward evidence for extending the mind beyond consciousness is the existence of memory. It is a humdrum fact that at any one moment in time we can only ever consciously experience a tiny fragment of the information stored in our minds about our past experiences and the world in which we live . Memory conclusively demonstrates that the mind is made up of both conscious and unconscious parts, and this was well appreciated by theorists long before Freud started to develop his own speculations.

What is new in Freud is not the idea of the unconscious, but the manner in which he fleshes out this concept. Significantly, Freud distinguishes between two ways in which mental entities

can be unconscious. Most of our memories, although currently unconscious, can nonetheless be brought to consciousness without any special resistance. These memories exist in a state of latency and thus are *preconscious*. In contrast, there are further mental entities inhabiting the mind that cannot be brought to consciousness. One source of evidence for this, according to Freud, are the phenomena of hypnosis and post-hypnotic suggestion (to which we will return below). More generally, and more conclusively in Freud's mind, the evidence in favor of these inaccessibly unconscious mental entities is to be found in the systematic explanation of psychopathological symptoms that the whole apparatus of psychoanalysis affords. These further mental entities are certainly not conscious, and nor are they preconscious. They are unconscious in a deeper sense.

Thus, although Freud's mental typography admits of three functionally demarcated systems—the conscious (containing just what we phenomenally experience at a given moment), the preconscious (containing mental entities "which are merely latent, temporarily unconscious, but which differ in no other respect from conscious ones" [Freud 1915, 174]), and the unconscious (containing mental entities that are inaccessible to consciousness)—it is clear that the fundamental division in the mind is that between the conscious/preconscious and the unconscious: between normal conscious ideas and those that could be brought to consciousness on the one hand, and unconscious ideas that could not be brought to consciousness on the other. Unlike the preconscious, the unconscious system operates quite independently of consciousness and is governed by principles quite different from those operating in consciousness. It is a truly subterranean region of the mind. This is what makes Freud's postulation of the unconscious importantly different from the theorizing that preceded it and gives psychoanalysis its distinctive flavor.

The second of Freud's three propositions concerns the form and causal powers possessed by the mental entities that populate the unconscious. These entities are conjectured to differ little from those that arise in consciousness and are capable of producing all the effects in mental life as ordinary conscious ideas. It is not surprising, therefore, that when psychoanalytic theorists come to speculate about unconscious ideas, they feel comfortable employing the familiar vocabulary of folk psychology and talk in terms of unconscious emotions, perceptions, beliefs, desires, jealousies, fears, motivations, and memories. Just as much as the mental entities that parade across our consciousness, those that inhabit the unconscious are (to use a description developed by Dennett—see especially 1969, ch.4) "personal-level" phenomena, in the sense that they apply to the whole person rather than to the cognitive and perceptual parts from which they are made. Indeed, in terms of their contents at least, unconscious ideas are conjectured to be indistinguishable from their conscious counterparts in all things save the fact that consciousness of them is absent. What then prevents them from achieving consciousness?

The answer constitutes the third of Freud's propositions about the unconscious: unconscious mental ideas are prevented from reaching consciousness by the force of repression. It is one of the cornerstone hypotheses of psychoanalytic theory that a censorship mechanism operates on the boundary between the unconscious and the preconscious/conscious. This mechanism acts to prevent unconscious mental entities whose contents are either painful or otherwise unacceptable to the person from entering consciousness. Once repressed, these mental entities remain in the unconscious where their continuing causal activity may lead to various degrees of psychopathology. Repression is an active force in the mind, one that provides the unconscious of psychoanalytic theory with its dynamic flavor: unconscious ideas are consciously inaccessible because they are actively prevented from reaching consciousness.

The Cognitive Unconscious

One does not have to go to the psychoanalytic literature to find mention of unconscious mental states and processes. It is a sine qua non of contemporary cognitive science that human cog-

nition implicates a great deal of unconscious operations defined over unconscious mental representations. Indeed, the theoretical focus on the unconscious has become so extreme in this discipline that Fodor is willing to assert that "practically all psychologically interesting cognitive states are unconscious" (1983, 86). In this sense, at least, psychoanalysis and cognitive science are fellow travelers, because they both affirm the existence of a causally active yet unconscious region of the mind. This, however, is where the similarity ends, or at least so we shall argue in this section. Even the most cursory examination of the cognitive unconscious reveals that it is very different from the dynamic unconscious along all three of the dimensions considered in the previous section.

The most straightforward evidence for extending the mind beyond consciousness, as we saw earlier, is the existence of memory, both autobiographical and semantic. But, significantly, the existence of memory on its own does not entail a *causally efficacious* unconscious, because it is possible that stored memories only get to throw their weight around when, through episodes of remembering, they are brought to consciousness. The concept of a causally active unconscious thus requires additional support.

Contemporary cognitive science recognizes two further lines of evidence, one indirect the other more direct. The indirect evidence takes the form of various inferences to the best explanation, whereby our best theories of perceptual and cognitive capacities assume a great deal of unconscious information processing. The direct evidence is provided by experimental paradigms that demonstrate that information can be processed and have an impact on a subject's subsequent behavior without entering conscious awareness.

What is special about cognitive science is its commitment to the *computational theory of mind*—the theory that treats human cognitive processes as disciplined operations defined over neurally realized representations. In this context, the tokening and manipulation of unconscious representations becomes such a powerful explanation of all manner of intelligent outcomes, it is not surprising that the vast majority of speculative theories in cognitive science assume our perceptual and cognitive capacities are the result of a large amount of unconscious computation. Insofar as these theories are successful, therefore, they provide indirect support for a causally efficacious cognitive unconscious.

Apt examples are Marr's theory of vision (1982) and Chomsky's account of the mental processing that is required to explain our capacity to parse and understand sentences in natural language (1980). In the former case, Marr's theory assumes the human visual system generates a number of unconscious object-centered symbolic representations of the distal layout of the world ("sketches"), before producing the egocentric representation that we are familiar with in experience. In the latter, Chomsky supposes that underneath our conscious experience of comprehending and producing natural language is a staggeringly complex system of unconsciously encoded representations of phonetic and syntactic structures, together with rules for their manipulation, including representations of grammatical information.

The second and more direct route in cognitive science to the cognitive unconscious is via experimental work that purports to exhibit the dissociation of conscious experience and information processing. The most influential paradigms are dichotic listening and subliminal perception, which are reputed to provide good evidence for preconscious perceptual processing; implicit learning, in which unconscious processes appear to generate unconscious rule structures; and studies of blindsight. All these paradigms are what Baars (1988) calls "contrastive analyses," because they examine differential predictions concerning the existence and role of unconscious information in various kinds of thought. And the almost unanimous conclusion derived from these studies is that human cognition implicates a great many representations that are unconscious.

In dichotic listening tests subjects are simultaneously presented with two channels of auditory input, one per ear, and asked to perform various tasks. Early work within this paradigm was designed to study the nature and limits of attention

(Baars 1988, 34–5). It was soon discovered, however, that information in an unattended channel can have effects on behavior (see, for example, Lackner and Garrett 1972; MacKay 1973). Results like these stimulated further research specifically aimed at investigating perceptual processes that occur without accompanying conscious awareness. The moral here is fairly obvious. To have an impact on subsequent behavior, the unattended input must clearly undergo processing all the way to the semantic level. Thus, there is prima facie evidence for unconscious information processing.

Visual masking is one among a number of experimental paradigms employed to investigate subliminal perception: perceptual integrations that, due to short stimulus duration, occur below the threshold of consciousness. It involves exposing subjects to a visual stimulus, rapidly followed by a pattern mask, and determining whether or not this exposure has any influence on the subjects' subsequent behavior. Marcel (1983), for example, conducted a series of experiments in which subjects were subliminally exposed to a written word, and then asked to decide which of two ensuing words was either semantically or graphically similar to the initial stimulus. He found that his subjects were able to perform above chance in these forced choice judgments for stimuli between 5 and 10 milliseconds below the supraliminal threshold. There is prima facie evidence here for unconscious information processing: when a visual stimulus affects similarity judgments it is natural to assume that representations have been generated by the visual system (especially when it comes to explaining successful graphical comparisons), and Marcel's results seem to indicate that this can happen without any conscious apprehension of the stimulus event.

A further, very extensive literature that has an important bearing on unconscious information processing concerns the phenomenon of implicit learning (see Dulany 1996 and Shanks and St. John 1994 for reviews). For example, consider the work on artificial grammar learning first conducted by Reber (1967). A typical experiment involves supraliminal exposure to a set of letter strings generated by a regular grammar (or, equivalently, a set of strings accepted by a finite automaton), which subjects are asked to memorize, followed by a further set of novel strings that they must identify as either grammatical or ungrammatical. Subjects are generally able to perform well above chance on the grammaticality task, yet are unable to report the rules of the grammar involved, or indeed give much account of their decision making. The standard interpretation of this result is that during training subjects unconsciously induce and store a set of rules. These rules are brought to bear in the grammaticality task, but do not enter consciousness (or, at least, are not reportable). There is prima facie evidence here that subjects exposed to training stimuli unconsciously acquire knowledge of the relationships among those stimuli, which information guides subsequent decision making, even though it remains unconscious.

Among philosophers, probably the best known experimental evidence for unconscious information processing comes from "blindsight" studies. Weiskrantz and his colleagues coined this term to refer to visually guided behavior that results from stimuli falling within a scotoma (a blind part of the visual field) caused by ablations of striate cortex (Weiskrantz et al. 1974). A number of studies indicate that subjects with striate ablations can localize flashes of light, or other visual objects, falling within a scotoma, which they indicate by pointing or by verbal distance estimate (see, for example, Perenin and Jeannerod 1975; Weiskrantz 1980, 1986). A principal claim of blindsight research is that it provides evidence for a subcortical system capable of giving rise to visually guided behavior. What has generated all the excitement among philosophers, however, is the further contention that such behavior can occur in the complete absence of visual phenomenology. Blindsight subjects frequently claim that they cannot see anything and that their answers in the forced-choice discrimination tests are merely guesses. It is this aspect of blindsight research that provides evidence for unconscious perceptual processing, because it is reasonable to suppose that visual judgments are mediated by mental representations: for anyone to make discriminations concerning the visual environment, some

sort of representation of that environment must first be generated.

For the majority of contemporary cognitive scientists, these two lines of evidence make the postulation of a causally efficacious unconscious irresistible (see, for example, Kihlstrom 1987). But what *kind* of unconscious do we end up with?

The first thing to note is that talk of *the* cognitive unconscious is misleading, precisely because it suggests that the unconscious as understood by cognitive science is a unitary, functionally demarcated system that operates below our conscious awareness. Nothing could be further from the truth. It is sheer orthodoxy these days in cognitive science to suppose that the brain exhibits a *modular* computational architecture, such that complex cognitive activities are the achievements of a coalition of semi-independent, often domain-specific information processing mechanisms implemented in far-flung regions of the brain (see, for example, Fodor 1983). Along with the modularization of cognition goes the fragmentation of the cognitive unconscious. The cognitive unconscious is nothing more than a set of narrowly focused computational specialists, which operates in almost complete isolation in informationally encapsulated modules distributed right across the brain.

Hard on the heels of the fragmentation of the cognitive unconscious comes a corresponding restriction in the scope of the kinds of mental entities that are to be found there. On the basis of the two lines of evidence we have just investigated, the cognitive unconscious is populated by two different types of representational state: (1) modality-specific, low-level perceptual representations licensed by both the empirical work conducted on dichotic listening, subliminal perception, and blindsight, and computational theories of perception such as Marr's; and (2) representations of rule structures, licensed by the empirical work on implicit learning and theories of language processing such as Chomsky's. In both cases, the postulated representations carry informational content relevant only to the operation of narrowly specified perceptual and cognitive capacities. The cognitive unconscious is therefore inhabited by mental entities very different from those conjectured to exist in the subterranean world of the dynamic unconscious. As we saw in the previous section, when psychoanalytic theorists come to describe the dynamic unconscious, they fill this mental underworld with personal-level mental states that are familiar from the vocabulary of folk psychology. By contrast, the mental entities that populate the cognitive unconscious are what Dennett describes as "subpersonal" (1969, ch.4), because, rather than applying to whole persons, they apply only to their perceptual and cognitive parts. Far from being a subterranean system replete with sophisticated, personal-level mental abilities, therefore, the unconscious is broken up and distributed across a set of specialized subsystems, each of which is restricted to the computational manipulation of subpersonal representational information.

The final proposition about the dynamic unconscious examined in the previous section concerned the operation of the force of repression—a force that actively prevents unconscious mental entities gaining entry to consciousness. Cognitive science does indeed recognize a panoply of mental entities that will never be consciously experienced. But these mental entities are not actively prevented from entering consciousness by the operation of some force; they are so prevented by the computational architecture of the human brain. This is the case, for example, with respect to the representations of phonetic, syntactic, and grammatical information that, according to Chomsky, are responsible for our capacities of language comprehension and production.

In summary, the cognitive unconscious is very different from the dynamic unconscious along all of the dimensions examined in the previous section: rather than being a powerful unitary system, it is fragmented across a large number of informationally encapsulated and narrowly focused specialist computational mechanisms; it is not populated with personal-level mental entities such as beliefs, desires, and memories, but subpersonal mental representations that carry information relevant only for highly circumscribed perceptual and cognitive tasks; and its represen-

tations are inaccessible to consciousness by virtue of architectural constraints rather than the operation of a repressive force.

Accommodating the Traditional Evidence for the Dynamic Unconscious

Thus far we have argued that the empirical work in cognitive science that leads to the postulation of the cognitive unconscious fails to support the existence of the dynamic unconscious, at least as it has traditionally been conceived by psychoanalytic theory. This claim is not novel (see, for example, Marcel 1988, 172), with even theorists sympathetic to psychoanalysis prepared to concede it (e.g., Woody and Phillips 1995, 127). Now, however, we will go a little further. It is only in recent times that proponents of psychoanalytic theory have turned to empirical work in cognitive science to find support for their conjectures about the nature and operation of the unconscious. In this final substantive section of the paper, we examine some of the psychological phenomena that over the years have been cited as evidence for the dynamic unconscious. Our aim is to show that these phenomena can be better and more parsimoniously explained as either effects of subpersonal unconscious influences or conscious conflicts in the normal process of construction of verbal reports.

Inconsistencies Between Verbal Reports and Behavior

The standard line of reasoning in favor of the dynamic unconscious in psychoanalytic circles takes the form of an inference to the best explanation. According to this line of reasoning, in both the psychopathologies of everyday life and those that underlie more significant mental disorders, there is an inconsistency between a subject's verbal reports and their behavior. This inconsistency is reconciled by invoking the dynamic unconscious as the determinant of such behavior (see, for example, Hinshelwood 1989, 32). This kind of approach is predicated on the assumption that what is verbally reported accurately reflects what is conscious, and that those things that are not amenable to verbal report are part of the dynamic unconscious. We think that there are good reasons for doubting that this assumption is correct.

We are conscious of thousands of things within different perceptual modalities from both internal and external sources, many of which are integrated together to form apparently discrete experiences, but some of which are more isolated. What we are able to report forms only a fraction of this conscious experience. Perhaps so many theorists have been keen to explain psychopathology in terms of conflicts between the conscious and the unconscious, rather than between the parts of consciousness, because of their tendency to characterize consciousness in terms of reportability, and especially verbal reportability. This characterization empties consciousness of many of its interesting and important mental contents—for example, those affective experiences that we find so difficult to verbalize, those bodily experiences that are so constant that we take them for granted, and even those judgments about ourselves that are only ever half-formed and inchoate because we really do not want to face them. We argue that much of what is taken to be conflict between consciousness and dynamic unconscious is in fact conflict between verbally reported consciousness and nonreported consciousness.

Some of the reasons why verbal report does not correspond to conscious experience are relatively uninteresting, including:

1. The inability to report the pure volume of conscious experience.
2. Some conscious experiences are not the kind of thing that are readily verbally reported, and at best can be suggested by metaphor or analogy. (For example, the florid language of wine tasting is not just a manifestation of the pretentiousness of wine tasters; it reflects the lack of an adequate language for expressing taste experience).
3. Subjects might deliberately lie about their conscious experience.

But of more interest is the fact that *all* of our verbal reports of conscious experience are complicated by our evaluation of their importance or suitability for reporting; an evaluation that at least partly takes place at the level of the subper-

sonal, cognitive unconscious. When we attempt accurately and completely to report on our conscious experience, we are inevitably describing only part of that experience, and furthermore are reporting on something that has already happened. In Mead's terms, "we can be conscious of our acts only through the sensory processes set up after the act has begun" (1913, 374). Reporting on our experience will always have this limitation. There will always be decisions to be made about what is reported first, what is emphasized, what is set aside as irrelevant or unimportant (in fact, inability to do so will result in a boring and arbitrary account, in which "the wood can't be seen for the trees"). These decisions need to be made much too quickly for this process to be under conscious control.

Not only do we need to edit out detail, effective verbal report also requires the filling in of missing data to produce a coherent story consistent with the individual's experience. This process is often referred to as *confabulation* (Dennett 1991). Confabulation is different from the knowing distortion of information that characterizes lying. It comes most prominently into play in the production of verbal reports of autobiographical memories, where the individual creates a narrative representation of an experience. To do so is not to retrieve a fully formed memory from some store. It is an active, creative reconfiguration, a complex process of restimulating an associative pattern, which, although originally created at the time of the episode, has been modified by subsequent experience. Reconstruction of an autobiographical memory might call on any or all of our knowledge (semantic memories) relevant to the area, autobiographical memories of similar experiences, and autobiographical or semantic memories about similar events that have occurred to other people (real or fictional). Whenever we tell a "true story" we are, in an important sense, making it up. This does not prevent the story, if honestly told, from being rightly considered to be the truth. The process is similar both for the retrieval of distant memories and reporting on things that have only just happened.

The subjective veracity and vividness of the memory are not necessarily reliable guides to its accuracy. For example, when subjects are asked to accurately produce a memory of swimming, the visual phenomenology is often vividly experienced, but "presented from a point of view, above or behind the figure doing the swimming (that is, *oneself)*. This is one of the more graphic examples of the non-identity of the memory image and the content of what is remembered (for one surely does not *remember* any such experience)" (Moran 1994, 91). Yet until the impossibility of this memory is pointed out, subjects are unquestioning about its accuracy. This little experiment illustrates another important point about the healthy functioning of confabulated autobiographical memories. As soon as the error in the memory is pointed out to the subjects, there is often acknowledgment of the inaccuracy of the memory, and a more realistic memory is immediately produced (of the bottom of the pool). Thus, confabulation is a process that aspires to a truthful representation of reality. It is a process whereby irrelevant detail can be deemphasized or excluded and gaps "papered over." When it is working well, it distorts reality very little and does not come to our attention. If, however, the memory to be retrieved is fraught, and the flux of internal and external events distressing, the resultant reconstructive narrative can become significantly distorted. The fallibility of our memory does not imply that there is no objective reality; just that our reports can only ever approximate that reality, but in so doing, they can be more or less accurate.

Our argument is that in healthy functioning we do our best to discipline confabulation through bringing to bear on our retellings the entirety of our knowledge. Nevertheless, because our best attempts at verbal report of experience are necessarily "made up" or reconstructed, resultant distortions or inconsistencies might seem to imply the action of a dynamic unconscious. But, before concluding that any apparent contradiction between verbal report and behavior requires explanation in terms of the dynamic unconscious, it must be recognized that all verbal productions are confabulations that can exclude information, beliefs, and desires that are consciously available. This process of exclusion is subject to (prob-

ably dependent on) subpersonal unconscious influences, but does not require the existence of a dynamic unconscious to explain over-determined thoughts, feelings, and behaviors.

Repression

One of the important characteristics of the dynamic unconscious is that it is presumed to contain fully formed repressed memories. There is no doubt that we can be cued to produce rich and vivid memories that we had forgotten and would not have been able to produce spontaneously. However, this observation does not imply that the memories were operating within the dynamic unconscious until retrieved to consciousness. There are other ways in which unreported memories might be active in mental life.

1. Aspects of the memory could be functioning at a subpersonal level to influence the reconstruction of other memories and/or motivations, beliefs, and desires. You might have witnessed a primal scene, but not been able to produce any autobiographical memory of the event. Nevertheless, you might have retained the capacity to remember that scene given sufficient specific cuing. In the absence of that cuing, the "repressed memory" might still have an impact on you at a subpersonal level. Let us oversimplify and assume that the three essential elements of the "memory" are parent, sex, and fear. All three of these elements will occur frequently throughout your life and therefore the nodes associated with them will develop a rich pattern of associations with other nodes. As a result, stimulation of any one of the three nodes will not result in a noticeable response from either of the other two. However, the simultaneous stimulation of *parent* and *sex* will be a less frequent event that might still elicit *fear* without any conscious memory occurring and more importantly without any unconscious event implicating personal level memory representations.
2. A memory might be available to conscious awareness but be more or less systematically avoided. For example people report that they "cannot imagine their parents having sex." An equally plausible explanation would be that they can imagine their parents having sex, but do not want to. Whenever encouraged to do so, there will be an emotional response to the material that begins to emerge, a response that occurs much more rapidly than we can render anything into words. If the emotional response is powerful, it might push any images out of mind before they can be reported on. Such an experience might very well be reported by the subject as a *cannot* rather than a *will not* experience.
3. The memory might be present and readily available to consciousness but not remarked upon because its importance is not recognized. The cases of both Miss Lucy R. and Katharina, from Breuer and Freud's *Studies in Hysteria* (1955), are consistent with the avoidance or minimization of the importance of memories rather than their consignment to unconsciousness. Freud was struck by Lucy's claim that the knowledge that she loved her employer, which he had apparently uncovered in his brief treatment and which had helped her to make sense of her predicament, was something that she had in fact known all along. Freud asked her why, if she knew, she did not tell him. Lucy replied, "I didn't know—or rather, I didn't want to know. I wanted to drive it out of my head and not think of it again; and I believe latterly that I have succeeded" (1955, 117)

Dissociation

The notion of dissociation is employed by some contemporary proponents of psychoanalysis in place of the more familiar defense mechanism of repression. *Dissociation* has been defined as "a structured separation of mental processes (eg perceptions, conations, emotions, memories and identity) that are ordinarily integrated in and accessible to conscious awareness" (Butler et al. 1996,798), and this postulated duplication or breaking up of conscious experience carries with it the implication of a dynamic unconscious. The idea of dissociation is normally traced back to the work of Freud's contemporary and rival Pierre Janet (1889). Janet proposed a modular theory of the mind's architecture in which human cognition is the achievement of the collective activity of a set of more elementary psychological functions (which he termed *psychological automatisms*), each of which is capable of uniting cognition, emotion, and motivation in action. Janet, like so many theorists before and after, was in the thrall of the unity of consciousness doctrine. He therefore held that these automatisms were all normally monitored and controlled by an executive consciousness-making system. This executive was ultimately re-

sponsible for our voluntary behavior, through its capacity to "monitor, organize and control thought and action in different domains" so that each automatism could be made to "seek or avoid inputs and facilitate or inhibit outputs" (Kihlstrom 1984, 189). Dissociation would occur when, typically as a result of significant psychological trauma, one or more of these psychological automatisms became isolated from the executive consciousness-making system. These dissociated psychological functions, precisely because they possess a degree of autonomy, could then give rise to various kinds of psychopathology as they intruded on other parts of the mental life of the subject.

Dissociation, in the sense in which Janet is usually understood, is the strong claim that separate streams of consciousness can exist entirely independently without interference or interaction. This position is not sustainable in the face of empirical data that shows implicit, if not explicit, access to information between apparently dissociated parts of the self (Kihlstrom 1984). Therefore a weaker sense (termed *neodissociation* by Hilgard [1977]) has been developed whereby dissociated streams of consciousness are not independent, but are subject to a lack of *awareness* and conscious *control*. The main links broken in the neodissociation model are those between "semantic representations of percepts and memories, and episodic representations of the self in spatiotemporal context" (Kihlstrom 1984, 195). This model is able to accommodate interference because of preserved "indirect links between dissociated control structures, passing through other structures with which communication has been preserved" (1984, 190). Dissociation therefore affects declarative and not procedural knowledge.

The problem with this weaker sense of dissociation, defined in terms of lack of awareness and conscious control, is that it is very difficult to cleave in a principled way from an even weaker (and perhaps even trivial) use of the term, which would apply to situations in which the subject is *not disposed to report* awareness and conscious control. This weakest sense of dissociation may reduce to divided attention (which is not to say that divided attention cannot be a clinically important phenomenon). The slip into the weakest sense of dissociation is exemplified by Kihlstrom, who describes people who "go to a movie precisely because they know they will temporarily lose themselves in the action on the screen" (1984, 196). The loss of self that Kihlstrom describes as being associated with becoming enthralled in a movie is of the same order as the loss of self associated with play; that is, the enthralled individual has ready and easy access to all aspects of self as required. The playing child may very well resist interruption to play and avoid the intrusion of reality features that are unconducive to that play, but has not lost awareness of reality or the capacity consciously to modify behavior should the need to do so take priority over the gratification of the play.

Hypnosis and hysteria are two phenomena explained in terms of a dynamic unconscious, more recently with an emphasis on dissociation (Butler et al. 1996). Hypnosis has traditionally been conceptualized as an altered state of consciousness, through which the normal barrier between conscious and unconscious memories, desires, and beliefs can be broken down. However, current research does not support the notion of hypnosis as a specific dissociative or unconscious state. Kirsch and Lynn (1998, 201) conclude that a hypothesized "hypnotic state that somehow promotes responding might well be abandoned." Hypnotic phenomena that appear to be manifestations of the dynamic unconscious can generally equally be produced in wide awake, task motivated subjects, and appear to be "the enactments, constructions, or doings of sentient, motivated individuals" (Spanos and Coe 1992, 103).

Hysteria is regarded as behavior that is unconsciously motivated and enacted, and therefore outside voluntary control. Yet, in times of war, when loss of troops from these sources had to be contained, doctors demonstrated that hysterical phenomena could be removed by the use electric shocks and other painful procedures and deprivations (Yealland 1918). We need not conclude from this finding that the soldiers were faking their symptoms. This pattern of enact-

ment outside of reality constraints is characteristic of children's play. Children at play do not necessarily report any awareness that they are pretending. Yet, children who insist on the reality of their imaginary friends can be cued to behave in a way that shows that they are aware of the imaginary nature of their playmates (Harris 1998). Children's insistence on the reality of their friends might be seen as an affirmation that pretend is a serious state and that the value of a game is proportional to the capacity for the player to fully enter into the part. Pretence is a process whereby reality is not allowed to stand in the way of a good story, rather than one in which reality is knowingly distorted to some end. Hysteria might be understood as a form of pretending or make believe, with loss of self attributable to a play-like state, whereby the preoccupied individual has access to all aspects of reality, but may very well resist interruption to pretence and avoid the intrusion of reality features that are unconducive to that pretence (Jureidini and Taylor 2002). We are thus able to avoid attributing hysteria to deliberate deception, and yet explain it without recourse to the dynamic unconscious.

We suggest that hypnotic states, hysteria, and other pathologic dissociative states are not qualitatively different from ordinary experiences of day dreaming, role playing, or being engrossed in play or fiction. That our verbal reports of these experiences suggest the influence of a dynamic unconscious is a product of the way in which we reconstruct or confabulate narratives from our fragmentary memories.

The modular conception of the brain's computational architecture reinforces this alternative understanding of the mental phenomena typically collected under the label of *dissociation*. From this perspective, all human subjects have a representationally complex consciousness, in the sense that the various representational elements that combine to generate moment by moment experience are produced by distinct mechanisms in different regions of the brain. Yet one of the remarkable features of our phenomenal experience is that, for the most part, these representational elements are *coherent*, both intramodally (e.g., objects are seen as colored, shaped, and in motion) and intermodally (e.g., we see our bodily parts in positions we feel them; we taste the food that we can feel in our mouths). Such representational coherence depends on all sorts of integrative influences, both intrasensory and intersensory, that criss-cross the brain, such that conscious contents not only co-occur, but mutually influence and shape one another. The brain works very hard at rendering our experience coherent, and for the most part it is successful.

On the other hand, we are all familiar with certain inconsistencies between the parts of our experience. What we hear ourselves saying both to ourselves and others is sometimes at variance with what we feel. We occasionally are subject to hallucinations where our sensory experiences in one modality do not correspond with what our other modalities are telling us. These cases are normal, but they might mark one bound of a continuum that runs right across to situations where much more serious representational incoherencies exist. Somewhere toward the latter bound it might be appropriate to use the language of dissociation. But the dissociation here is not to be understood as between what is consciously experienced and what is not; instead the dissociation is marked by *representational inconsistenci*es in the subpersonal parts of phenomenal consciousness.

Dissociation of this kind might well be the basis of various psychopathologies, as a consequence of the cognitive dissonance that it engenders. Schizophrenia, for example, might represent a particularly dramatic form of dissociation, as certain parts of the brain become so disconnected from the others that they engage in ever more florid forms of representational incoherence (see O'Brien and Opie 2003). But less extreme forms of mental illness might also be explicable in these terms. Psychopathology might indeed in large measure be the result of psychical conflicts, just as many psychodynamic theories insist, but the conflicts here are between the parts of consciousness, not between the conscious and the unconscious.

Conclusion

It is time to dispense with the concept of the dynamic unconscious. This concept gains no support from the postulation of the cognitive unconscious in cognitive science, and the evidence traditionally cited in its favor by psychoanalytic theorists can be more parsimoniously explained by other means. Consequently, if psychoanalytic theory and practice is to survive well into the 21st century, two things must happen to the mental operations traditionally associated with the dynamic unconscious: some must be relocated in the representationally complex conscious mental life of the subject, and the rest must be rendered compatible with the fragmented and subpersonal nature of the unconscious that is the counterpart to the modular conception of mind.

Acknowledgment

We wish to thank two anonymous referees of this journal for their valuable comments on an earlier draft of this paper.

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