

that respect, the goal of repression is like any other mental goal that can be carried out in many different ways.

This line of reasoning suggests that ultimately there is no barrier in principle between psychoanalysis and other parts of psychological and brain science. One of the dramatic events of recent years has been the rapid dissolving of the high wall between psychology and neuroscience, driven in large part by developments in neuroimaging. I would expect over the next decade a similar crumbling of unneeded obstacles between psychodynamic thought and academic science.

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It is important for the future of our discipline to relate psychoanalysis to the cognitive/neurosciences and the contemporary philosophy of mind. Mark Solms's target article, however, while manifestly championing these goals suggests a program that if implemented would drive us further into isolation from the scientific/academic world. He states that the question asked by neuroscientists, "How exactly do neurobiological processes in the brain cause consciousness?" embodies a fundamentally flawed conception of the nature of consciousness." And since this conception, flawed in Solms's view, underlies much of current cognitive and brain research, he implies that psychoanalysts need not be concerned that "our discipline is very much out of step with contemporary research." I disagree strongly. I will show why, by identifying his failed arguments and the erroneous conclusions to which they lead.

Solms's paper was delivered originally as the second annual Charles Fisher Memorial Lecture. Interestingly, Fisher's work represents a view inimical to the one Solms presents. For Fisher, psychoanalytic theory informed cognitive investigations, and cognitive methods and techniques were valuable in testing portions of psychoanalytic theory; he sought theories relevant to both mind and brain. But central disagreements notwithstanding, there are certain views regarding consciousness and unconsciousness that are shared by Freud, Fisher, Solms, and me. I shall address these first. The next section is devoted to my major disagreements with Solms, and finally I will offer my own ideas on the topic.

Points of agreement. The very existence of consciousness, for Freud, Fisher, Solms and me, implies the existence of unconsciousness as both developmentally prior to the emergence of consciousness and ontologically necessary as an underpinning for any particular conscious manifestation.

"Unconsciousness" in the prior-to-consciousness sense I intend does not primarily concern mental contents and psychological processes that because of conflict are rendered unconscious (although these later join the unconscious); nor does it concern various psychological/brain functions that are uninterestingly (for our purposes) non-conscious, in the same way that our enzyme deployment in digestion is not-and-never-to-be conscious. Instead "unconsciousness" concerns those mental contents, processes, and functions, not yet conscious or never to be so, that are organized largely by a set of principles different from those of the secondary process; they are organized according to Freud's primary process principles.

Solms provides many quotations from Freud's work that seem in agreement with this, and I will add that Freud's often misunderstood "primal repression" fits here too. As for Fisher (1954), he believed that "preconscious perception is an early stage of the perceptual process," a stage of perception "under the control of the drives and the primary process. . ." (p. 439). In a 1989 paper owing much to Fisher, I concluded that his "body of work suggests that in waking adults a prior phase of preconscious perception precedes the seemingly automatic delivery of sensory data to the status of conscious, instantaneous, wakeful perceptions" (1989, p. 460). So, for Freud, Fisher, Solms, and me, consciousness is an add-on, with a primary process type organization driven perceptually and associationally and supplemented, if never quite supplanted, by secondary process organizations. Recently some

experimental evidence (Brakel et al. 1996) has been provided for the connection between consciousness and secondary process organizational principles and unconsciousness and primary process ones. These findings suggest that unconscious, totally subliminal similarity judgments can be made on neutral geometric shapes and that these judgments, unlike their conscious (supraliminal) counterparts, are based rather exclusively on primary process type attributional features.

Points of disagreement. I have three main areas of disagreement. (1) Solms confuses reflective consciousness and primary consciousness. This is related to his misunderstanding of Searle's view (1992) and that of other nondualist naturalistic materialists. (2) Solms's discussion of Kantian epistemology is severely flawed regarding Kant's transcendental idealism. I believe with Solms that Freud's position on knowledge of the unconscious is essentially an extension of Kant's position regarding knowledge of things-as-they-are (see Brakel 1994). However, Solms, without ever discussing transcendental idealism, tries to finesse important but *subtly* contradictory conclusions about the substrate of external vs. internal perceptions by means of out-and-out contradictory assumptions about that philosophical doctrine. I will explain transcendental idealism below and attempt to demonstrate the problem. Finally, (3) Solms never explicates how internal subjective perceptions are differentiated from external objective perceptions, other than to talk of different sensory modalities facing in different directions. This is at best unsatisfying and at worst has problematic implications.

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Problem 1. At first Solms seems to consider only reflective consciousness, for otherwise he would have to acknowledge that external perceptions too give rise to consciousness in the primary consciousness sense in which one is *conscious of* some external perception. But it is plain that Solms does not intend to restrict his discussion to reflective consciousness. In his misappropriation of Searle's arm pinching experiment, Solms suddenly wants to talk about the subjectivity of one's visual experience, something which earlier he has mistakenly discussed solely in terms of "objective" and "external" perception. No philosopher (certainly not Searle) would fall for the trap Solms thinks he's set. Searle would not claim that the *visual experience* of the neural pathways, even enhanced by MRI, are any less first-person subjective than is the pain of the pinched arm. The brain activities that have had a causal role in the pain or in the visual image *are* third-person, and not necessarily our view of these activities. This is the point Solms misses with this false analogy:

“Brain processes can no more cause conscious experiences than a flash of lightning can cause a clap of thunder. . . . The two modalities of perception . . . are both caused by something else. . . .” Solms’s mistake here is considering “modalities of perception” to be the only kind of brain process, instead of realizing that the “something else” which he admits is causal is also a type of brain process.

Problem 2. There is a larger mistake; it concerns Solms’s handling of Kant’s transcendental idealism. The dilemma of transcendental idealism goes like this: Given that we can know the external world and our internal world only through our human capacities for knowledge, we can know only things-as-they-appear. But we cannot get from things-as-they-appear to knowing *anything* about things-as-they-are. And knowing anything about the realm of things-as-they-are includes even such minimal knowledge as knowing (1) that in causative interaction with our capacities, the realm of things-as-they-are yields things-as-they appear; (2) that this realm of things-as-they-are exists in a form different from that of the realm of things-as-they-appear, i.e., in a form outside our capacities; and (3) that the things-as-they-are realm exists at all. Early on in Solms’s account of Kant and Freud, he assumes, in contradiction to transcendental idealism, not only that the external natural world exists, but that it exists independently of our understanding of it and that it has objective causal properties. This position (which tacitly rejects transcendental idealism) is fine, except that later on Solms seems to have reversed himself completely. In a passage criticizing Searle’s program, Solms now takes the opposite position, affirming transcendental idealism, claiming that we can deal with the brain and other natural world objects only as things-as-they-appear. “The flaw in Searle’s approach,” writes Solms, “is the notion that the brain (or nervous system) is different from all other objects that we see around us, in that it exists *as such* [i.e., as having objective causal properties].” Here Solms not only attacks Searle for regarding the brain as part of the external natural world, but argues against anyone’s holding the view that natural objects exist and have causal properties. In other words, Solms now takes issue with the same position against transcendental idealism that several pages earlier he maintained.

Solms’s dual stance on transcendental idealism has consequences that are not merely esoteric. His contradictory theorizing undermines the very core of his argument against theories that brain processes cause consciousness. With this argument dismantled, his “solution” to the

mind/body problem, namely, that there is no question of causation, can be recognized as hollow. Unfortunately, what Solms offers instead—that consciousness is merely the outcome of a “sense organ” operation on unconscious brain processes—is unargued and naive.

Problem 3. Either Solms has inadequately specified how we can make the distinction between internal subjective perceptions and external (so-called) objective ones, or there is a circularity in his account of the differentiation. Solms implies that it is the quality of consciousness itself, supposedly attached to the internal registrations and not the external ones, that marks the distinction. However, his suggestion that only subjective internal perceptions have the quality of first-person consciousness, while external objective perceptions do not, is circular. That is, only internal perceptions have subjective consciousness, and perceptions are considered internal only insofar as that property can be attributed to them. Further, this is not only circular—it is wrong. We can certainly give a privileged, first-person qualitative description of *our particular consciousness* of visual percepts of the “external world” just as readily as we can give such a description of our consciousness of a pain.

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An account of consciousness. Shevrin (1986) has noted that “consciousness” (or “conscious”) can be used to refer to two very different phenomena. On the one hand, “consciousness” denotes a distinct psychological state, i.e., the alert awake state, and on the other, used with the preposition *of*, it is a synonym for “awareness of,” as in “I am *conscious of* the dog barking.” For Shevrin the import of this distinction is great because he holds that the function of consciousness—by which he means the “awareness of” type—is to confer, fix, and retrieve mental contents within their original categories of experience, e.g., as contents of an awake perception, of a memory, or of a dream image. He explains that unless there has been such a *conscious experience* of a particular mental content, the category of that experience (i.e., percept, image, or thought) is lost, even though the informational content might be available. Subliminal presentations are paradigm cases, where indeed informational content is registered, but the subject can make no assignment as to its origins precisely because the subject was never *conscious of* this content.

Much here seems right. But, as I have argued elsewhere (Brakel 1989), although consciousness (in the sense of “awareness of”) is necessary, it is not sufficient to confer, fix, and retrieve a mental content *properly* within its original category of experience. A contribution from

a function of consciousness in the other mode, the psychological state of alert wakefulness, is needed too. I base this on the commonplace experience of dreamers and hallucinators. While in the dream or hallucinatory psychological state, people are *consciously aware of* many images, percepts, and thoughts. Although within the dreaming state these are distinguished from one another, they are almost invariably experienced as alert awake percepts or thoughts only later, when the correct category of experience (e.g., dream image) is assigned in the *alert wakeful conscious state*.

It will be hard for Shevrin to dismiss my view, since subjects reporting on what they are *consciously aware of* are almost necessarily in an *alert wakeful conscious state*. But with Shevrin's account we do get a unified notion of consciousness as *awareness of* in any psychological state, a notion that includes a discrete set of functions for conferring, fixing, and retrieving mental contents in their original categories of experience. Is there any conceptual advantage in my proposal that consciousness as awareness of must be joined by consciousness in the alert wakeful state? I would have to maintain that in order to properly confer, fix, and retrieve mental contents in their original categories of experience certain functions or capacities present only in the alert wakeful state are needed.

Such a set of capacities does suggest itself—a set that comprises distinctly secondary-process functions. Admittedly I am speculating, but dream states, hallucinatory states, states of daydreams and fantasies, and even alert wakeful states in young children¹ are marked by the predominance of primary process associative thinking rather than logically structured secondary process thinking. And as primary process operations include primary process-based categorizing—where, for example, penises, cigars, and fire hoses form a category, rather than pipes, chewing tobacco, and cigars—it seems likely that correct assignment of a mental content in its original category of experience would not be a

¹I have noted elsewhere (Brakel 1989) a striking similarity between infantile amnesia and subliminal registrations. In both, subjects' memory for informational content can be demonstrated, while the source of the information, i.e., the original and proper category of experience of the mental content, is irretrievable. But the very similarity of these two phenomena strengthens my point that consciousness of is not sufficient for fixing and retrieving such mental contents. Children, unlike subjects presented subliminal stimuli, are fully conscious of contents that later become lost owing to infantile amnesia. Particular functions in the alert-wakeful-conscious state of the young child are apparently not sufficiently developed to play the fixing and retrieving role that their adult counterparts do.

primary process capacity either. Rather, for the correct conferring, fixing, and retrieving of a mental content in its original category of experience to be achieved, there must occur both an *awareness of* some content and an organization of this content based on secondary process principles. If this follows, and if secondary process principles of mental organization indeed are consistently and reliably operative only in the state of adult *alert wakeful consciousness*, my position has conceptual merit.

Concluding remarks. Although I have disagreements regarding central issues in Solms's article, I applaud attempts to relate psychoanalytic theories of consciousness to those of the cognitive/neurosciences and the philosophy of mind. I fear, however, that if psychoanalysts embrace Solms's view, with its implication that we need not worry about the dissynchrony between psychoanalysis and the findings and methods of current cognitive/neuroscientific research, our discipline will never be enriched by, or contribute to, explorations of the relationship between mind and brain. The view of consciousness and unconsciousness I advance, on the other hand, is not at odds with contemporary cognitive research, and even admits of some independent testing of the psychoanalytic presuppositions involved.

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