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BOOK REVIEW

Review of Steven Stich's "From Folk Psychology to Cognitive Science"

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The amateurish psychological analyses our mothers make and the study of social psychology must each be abandoned by those interested in developing a truly scientific study of cognition. Similarly, any school of psychology which refers to the referents or semantic elements of mentalistic terms must be dismissed as unlikely to contribute to the science of cognition. This would include such additional areas of study as developmental psychology and gestalt psychology. These somewhat audacious claims follow either directly or indirectly from the pronouncements of Stephen Stich's much heralded book, *From Folk Psychology to Cognitive Science: The Case Against Belief.*

Stich is not fond of mentalistic accounts of the psychological domain. Curiously enough, however, he is equally disenchanted with the attempts of behavioral psychologists to account for the nature of human behavior. Having disparaged the attempts of most major schools of psychology one wonders what Stich does permit as a legitimate approach for the scientific study of cognitive processes—assuming of course we still want a scientific study of psychology!

Surely, even generally critical philosophers and scientists would applaud the efforts of clinical psychologists who are intent on relieving patients of their mental afflictions. However, these same philosophers and scientists may be equally eager to dismiss the claim of psychologists who describe their field of study as a science. Psychology, these critics say, is not really a science, but rather a mere ideology of human well-being. The only real science of human nature they insist is neurophysiology. Stich is not such a critic, nor is he an advocate of a non-psychological reductivist neuroscience. He believes there can be a scientific study of human nature, a sort of science of the mind. Stich describes the science of the mind as cognitive science. However, before the reader gets any hopes up, Stich disclaims association

with any current ongoing school of experimental practice. In fact, Stich explicitly denies that he even has in mind a definition of cognitive science. "It would be satisfying, I suppose," says Stich, "to begin with a definition of cognitive science, but I have no definition to propose" (p. 127). Thus, the reader is led to believe that, in addition to his criticism of certain schools of psychological thought, Stich, at best, will do no more than recommend a few meta-theoretical principles that any genuine cognitive science ought to adhere to. Contrary to expectation however, Stich appears to contradict himself and instead proposes to the reader a rather explicit and far-ranging description of what cognitive science should be and, in fact, is. In Stich's own words, "...I have urged the adoption of the Syntactic Theory of Mind, which construes cognitive mental states as relations between purely formal or syntactic mental state tokens...cognitive science is and should be adhering to the Syntactic Theory of Mind paradigm" (p. 209). Thus, the reader finds Stich, on the one hand, denying that he has a definition of cognitive science. On the other hand, we find him boasting that "cognitive science is AND should be adhering to the Syntactic Theory of Mind paradigm." Stich's boastful declaration hardly sounds appropriate for one who is unable or unwilling to define cognitive science. On the other hand, it does characteristically reflect Stich's general inability throughout the book to establish a single theme and develop it as systematically as possible. Throughout the book Stich plagues the reader with mixed recursive references to cognitive theories of language he deplores and applauds. In tandem with Stich's erratic development of his notion of cognitive science is a parallel line of thought discussing the merits of folk psychology's mentalistic idioms.

Briefly, Stich's plan for cognitive science seems to run something like this. In light of the fact that behavioral psychology has shown itself to be notoriously bankrupt when it comes to explaining, among other things, the nature of many speech acts (pp. 1-6) and in light of the fact that psychological approaches which rely on the content-referents of mental idioms remain unmanageably vague, a new paradigm in cognitive research must be pursued. As noted above, the new paradigm Stich endorses is the Syntactic Theory of the Mind.

In contrast to other competing paradigms of cognitive research there are, according to Stich, two principal advantages to the Syntactic Theory of the Mind. First, the Syntactic Theory of the Mind allows the researcher to develop generalizations based upon observable, discrete, and quantifiable events, each of which can be related to other equally determinable events. The STM accomplishes this feat by insisting that cognitive research be pursued with an eye toward the principles Stich describes as the principle of psychological autonomy and methodological solipsism. The principle of psychological autonomy forbids reference to external features of a cognitive system requiring extra-psychological semantic knowledge. Methodological

solipsism requires that psychological theories restrict themselves to explanations of the strictly psychological. Thus, the two principles taken together force the cognitive researcher to restrict his interests to objects of study which are accessible to formal modelling and description.

The second advantage of the Syntactic Theory of Mind is that it "will follow the general contours of commonsense psychology," and reconstruct the mentalistic "content-based generalizations of folk psychology" into "special cases of syntactic generalizations, gerrymandered to fit the vague and idiosyncratic class of syntactic mental states to which commonsense content descriptions can be assigned" (p. 182). This, Stich insists, affords the Syntactic Theory of Mind with all the explanatory power of folk psychology and more. Finally, the Syntactic Theory of the Mind's avoidance of the "vague and observer-relative distinctions embedded in folk psychology is...good [since] there is no reason why a scientific psychology should respect the Protagorean parochialism of commonsense" (p. 182).

As is obvious from the above, Stich expressly strives for a rigorous, empirically respectable science of cognition—so far, so good. However, his recommendations for how such a science can be achieved misfires. Stich's recommendation is that the events of cognitive processing can be mapped out as one might build a computer program—this is probably a good idea as far as it goes. However, there seems to be a relevant interface between physiological events and cognitive events that simply cannot be appreciated by the sort of research paradigm Stich recommends. As an example of how the Syntactic Theory of Mind paradigm succeeds by affording the researcher a scientifically respectable account of human cognition, Stich asks the reader to consider the folk psychological notion of "belief." Stich goes to considerable lengths to reveal to the reader the subtleties entailed in the language of belief statements. This part of the book is truly informative and accounts for the bulk of the chapters 3–6 with occasional references to the topic in nearly every other chapter of the book as well. Indeed, the portion of the book devoted to an analysis of belief-talk and various philosophical accounts of how "belief-talk" functions is striking. One at first wonders why Stich does not simply write a book on the current development of belife-talk or belief-talk and its role in attribution theory. The reason Stich does not write such a book, unfortunately, is because his eventual concern is to construct a paradigm for cognitive science based upon conclusions he has reached largely as a philosopher of language.

This is not to suggest that Stich is naive about the relevant psychological literature for clearly he is not. However, as is not surprising given Stich's training as a philosopher, Stich concludes that the success of a paradigm for cognitive research is a function of the rigor and comprehensiveness of its philosophical foundations. Thus, Stich turns to philosophy of language to define the contours of what a cognitive science should set out to study. This

is not unlike the approach of the early behaviorist who decided on a philosophy of science and then set out to legislate a psychology. Unfortunately, Stich and the early behaviorists share a common lack of insight into how the successful sciences in the past have in fact developed. As W.V.O. Quine and Hilary Putnam have both noted, there is a dynamic interface between the successful sciences and their respective philosophies. It just is not the case that one builds a philosophy and then prescribes a science, or that one engages in scientific practice and then proceeds to build a philosophy. Philosophical presuppositions focus the attention of researchers on a range of phenomena. In addition, a continuing program of experimentation inevitably produces anomalous observations that ultimately force the researcher to revise an old philosophy or adopt a new one. Stich correctly notes that his Syntactic Theory of the Mind is more parsimonious than current folk psychology or the so-called "Weak Representational Theory of the Mind." But, there is more to evaluating a paradigm's merit than judging its parsimony. Comprehensiveness is equally important and it is comprehensiveness which Stich's theory lacks. Stich is aware that comprehensiveness is critical to the success of a research paradigm for it is essentially a lack of comprehensiveness that causes Stich to abandon yet a third paradigm for cognitive science, namely, the Strong Representational Theory of the Mind. Nevertheless, the Achilles heel in Stich's advocacy of the Syntactic Theory of the Mind is the theory's inability to comprehensively account for genuine psychological phenomena every bit as much as does the Weak Representational Theory of the Mind.

Taking the elements of psychological observation as a given, a research paradigm for cognitive science ought to be designed in such a way that its models neither over-generalizes nor undergeneralizes and thereby diminish attention to major classes of relevant phenomena. Stich is clearly guilty of undergeneralizing when he relies on the philosophy of language to show that belief talk is unmanageably vague and then proceeds to argue that a cognitive science can be constructed which ignores the content of belief-talk. The fact of the matter is that attributions, such as are found in the Stichean example of belief talk, are central in the cognitive-processing of human beings. Surely any time we can subject belief-talk to a purely syntactic analysis we should do so. However, when we cannot, we ought not pretend as though we can. In Stich's case it is evident that he has not fully appreciated Fodor's arguments (which he reports on at length in chapters 3 and 8) that there remain times when reference to semantic elements such as are exhibited in sentences expressing propositional attitudes are necessary in any attempt to give a comprehensive account of the cogitating processes of human beings.

The observations Stich makes regarding belief-talk are, as noted above, important and insightful. However, while talk of semantic reference may

prove to be a dispensable nuisance at times in philosophy of language, its role in psychology is not so easily dismissable. Stich addresses the arguments of those such as Fodor and Pylyshyn, who insist that some role must be preserved for semantic reference and ultimately concludes that such arguments suffer from irreparable deficiencies. Particularly in the case of Fodor, Stich is very skillful at showing that Fodor equivocates on the import of semantics in cognitive science. In the case of Pylyshyn, Stich claims to show that to the extent that Pylyshyn's arguments depend on the example he uses to illustrate his position, his position can be seen to be merely a special case of the Syntactic Theory of the Mind. Admittedly, Fodor's position does suffer at times from an untenuable vacillation on the role of semantics in cognitive science. Of course, the vulnerability of Fodor's arguments do not determine the ultimate merit of the Weak Representational Theory of the Mind, a position Stich admits is held by more than one person! Nevertheless, Fodor's apparent uncertainty on the role semantics should play in cognitive science strikes Stich as sufficient reason not to credit Fodor's arguments with the most charitable reading possible. More importantly, having dismissed Fodor, Stich seems to believe he has reason to dismiss much of the Representational Theory of Mind as untenuable in principle. As mentioned above, in the case of Pylyshyn, Stich avoids much of the argument by focusing his analysis on the ill-suited example Pylyshyn selects to illustrate his thesis. If Pylyshyn's arguments were no stronger than the example he chose to illustrate his position then Stich is right in explaining away Pylyshyn's position as a special case of the Syntactic Theory of Mind. There is, however, much more to Pylyshyn's position and Stich would be well-advised to deal with Pylyshyn's arguments at length if he is to establish the Syntactic Theory of Mind as the research paradigm of choice. Finally, when considering the arguments of Fodor and Pylyshyn one wonders why Stich gives so little attention to John Searle who is barely noted in Stich's book (p. 189). Searle's arguments have become increasingly well known on these issues and it strikes me as a glaring omission on Stich's part that he has not addressed the arguments of such a well-known foe of the Syntactic Theory of Mind.

Stich seems to think that his analysis of belief-talk demonstrates two things. First, folk psychological accounts of what it means to be in a certain belief-state are satisfactory perhaps for history, economics, and ordinary discourse, but are nevertheless unmanageably vague for the purposes of scientific study and genuine psychological insight. The unmanageable vagueness of belief-state attribution becomes increasingly more befuddling, Stich notes, as our subjects become more exotic (consider for example, people of another culture, very young children, psychotics, etc.). Certainly it is true, as Wittgenstein long ago pointed out, that the language and culture of our origins largely determines how we perceive and react to current stimuli.

Nevertheless, recognizing that humans are members of a common species it is most tempting to try to conceive of a single science of the mind or science free of the disturbing influences of the subject's—or the researcher's—culture. This is clearly the motivation behind Stich's drive to define and promote the Syntactic Theory of Mind as the paradigm for cognitive research.

As noted above, the problem with the Stichean approach is that it will not account for the range of phenomena that is, or at least ought to be, relevant to cognitive science. For example, consider the rather unexceptional experience of the agoraphobic. An agoraphobic is liable to experience a panic attack without the benefit of any apparent warning and without any individuating stimuli. The agoraphobic seems to be responding to nothing more than a morbid belief. If you can alter the agoraphobic's belief you will diminish both his/her physical and mental distress. Unfortunately, there is no environmental arrangement, no verbal stimuli, and generally speaking, no drug which by itself will restore the agoraphobic to a feeling of safety. Associates of an agoraphobic typically find that the agoraphobic is unmoved by their admonitions that he should relax and understand that he is in no immediate danger. On the other hand, if the agoraphobic is told he is in no danger by someone he believes to be a physician, his attack will often alleviate itself. If, a short time later, the agoraphobic discovers the "doctor" is only an ambulance driver, a lab assistant, or a painter, it is not uncommon for the agoraphobic to relapse into a continuation of the original panic attack. Practicing psychiatrists have found no explanation for this phenomenon that does not entail some reference to the content of a patient's belief. Finally, a less conspicuous example, though one perhaps more commonly shared by us all, is the example of a high school classroom in which the class hero tells a humorless joke and everyone laughs, or, the class "nerd" tells a hilarious story and yet no one finds it funny. Such events simply cannot be mapped by individuating the formal relation among a set of mental state tokens. Rather, it is the content of individual beliefs which is the precipitating factor in the subsequent behavior. The Stichean paradigm is not equipped to allow the researcher to study the very ordinary events discussed immediately above. A semanticless cognitive science just will not do.

There is more one can take issue with in Stich's *From Folk Psychology to Cognitive Science,* but space will not permit. However, while I have been fairly critical in my remarks on Stich's work, I would be remiss if I left the reader with the impression that the book lacked merit. *From Folk Psychology to Cognitive Science* is a tour de force of the growing interdisciplinary interests in cognitive science. It would be hard to imagine how a reader could so quickly become familiar with the myriad of issues which must be addressed in the developing cognitive sciences without reading and studying in depth, the analysis and conclusions Stich presents.