Wittgenstein And Computationalism

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The Chomsky inspired, Fodor led, M.I.T. contingent-the mainstream force in cognitive science-believes that traditional philosophical puzzles concerning meaning, knowing, believing, etc. can be solved by scientific means. Wittgenstein rejects their faith in the efficacy of science to solve certain philosophical problems, problems that he considers to be pseudo problems. In this essay I will first explicate what I consider to be the essence of Wittgenstein's views regarding symbolic representation. I will then argue that although much that Wittgenstein said in the *Investigations* is inconsistent with the Chomsky/Fodor computationalistic approach, a restrained reconciliation between Wittgenstein and the cognitive scientists can perhaps be achieved.

The Wittgenstein of the *Tractatus* was preoccupied by questions dictated by the *tripartite* conception of symbolic representation, which is intertwined with the referring and ostensive model of meaning. This model conceives of symbolic representation as a tripartite arrangement between: (1) a symbol, for example, 'horse'; (2) an object of some kind, a horse; and (3) a cognitive process of intending. This way of conceiving of symbolic representation is responsible for the seemingly irresolvable debate that has exercised so many philosophers for decades. How, it is asked, can a mental process determine its object? Must there not be a rule that associates the thinking of the horse with the horse? And would that rule itself not need to be interpreted or explained by another rule?

The Wittgenstein of the *Investigations* realized that the irresolvable set of issues concerning mental representation survives *only* because an essential ingredient is left out of the recipe for symbolic meaning, namely, *cultural* or *social* context. An individual's meaning or intending something by a symbol or word is as much an observable process as it is a psychological or neural event. It can only be fully explained by introducing into its explanation external rules of acting, or *practices*.

Using the tripartite model to clarify symbolic representation is like trying to comprehend how a clock tells the correct time by focusing on the clock itself, its internal parts, the face with its numerals and hands. Such an account cannot explain how it is *now* five o'clock in Washington D.C. but not in San Francisco. It forces one to postulate the existence of some internal something other than the gears, batteries etc. which explain its being somehow, for example, five o'clock-something independent of location

and surroundings. One cannot, however, resolve the paradox of the same clock being both right and wrong at one and the same time right here and now, unless, of course, you take into account the relevance of context, unless you make the *here* part of the solution, rather than part of the problem (1953, Section 350). Meaning is a function of contextual factors, factors unaccounted for in the tripartite model.

According to Fodor, natural languages are all learned through a universal, inner, and innate language-a full-blown language complete with syntactic and semantic rules (1988, pp 135-154). Unless there are internal systems of representation which embody language in some strict sense of the term, there could not, according to Fodor, be a science of cognitive psychology. According to Fodor, there is both sensory input and output in the form of action, and between them, connecting and integrating them, is an internal and computational process instantiated in our nervous systems, a process of representation, which is an internal language, complete with semantic rules for representing objects by signs. The mind/brain is viewed as a computing machine processing information via a natural or innate program-an (innate) system of rules for interpreting signs. Human beings are said to embody, although they are not aware of it, a "folk psychology," which is: a theoretical commitment to the idea that actions are the result of intentions or propositional attitudes; that the latter are the postulated entities of the theory; that there exists between the postulated entities and actions a causal relation; and that the postulated entities are the causes and the actions are the effects.

Critics of Fodor point out that since his account of learning a language **L** necessitates the prior existence of a previously existing language **L**p through which **L** is learned, the existence of **L** entails the existence of **L**p, and hence the existence of **L**p would seem to entail the existence of some prior language **L**pp, and hence we seem to be caught in an infinite regress. Fodor responds to this objection by arguing that the **L**p-the language presupposed for the learning of languages-has the unique property of being unlearned, it is innate. It functions like a computer program. How would Wittgenstein respond to this?

A language is for Wittgenstein a set of complex and interrelated practices designed for social communication. Natural languages are social phenomena. As such they require social interaction. The very idea of an *innate* language is a misnomer, a contradiction in terms. Words and sentences, the rudiments of languages, are defined in the context of temporal and social episodes. For Wittgenstein, the evolved and presently functioning worldview, intrinsically tied to ordinary languages and grounded in human propensities, cannot be properly put on a par with other possible world views, or hypotheses about the nature of things. Humans cannot transcend human capacities. The practices in which we engage are ones which result, not simply because of external

factors, but from what is possible given the capacities we have. Terms like 'knowledge,' 'justified belief,' 'doubt,' 'uncertainty,' and 'truth,' and the practices associated with them, all have a foundation in and depend upon actual human capacities, and were designed or evolved as means for coping with the world in which we find ourselves. Ordinary language is a set of extremely complicated and interrelated practices that enable us to deal effectively with each other and with the world in which we live.

The boat on which we sail-ordinary language-is not for Wittgenstein, as it is for Frege and Russell, one in need of replacement by an ideal one, nor is it a Neurathian one in need of repair by its crew, while on course, one that has to be patched and caulked by the efforts of philosophers like Quine. Instead, in defense of Wittgenstein, we need to understand that ordinary language is perfectly adequate as it is, because by its very nature it is a self-correcting vessel. It contains within itself the mechanisms for ever-finer distinctions and qualifications, as well as ones for the addition and modification of terms and practices. Language is the product of an ever-changing creature, capable of great diversification and modification. It is not the product of a self-contained and closed system-a machine, and so it cannot be fully understood nor appreciated when it is conceived of as a computational program.

Cognitive scientists respond by arguing that the common sense view of the world incorporated into and represented by natural languages is only one approximation among others, and no more accurate regarding cognitive matters than it is regarding physical ones. They claim that we would not have made any progress in physics if we had remained complaisant about the story common sense tells about the physical world. Why should we expect the ordinary language story to be any more reliable concerning cognition than it has been concerning the physical world? Physics takes ordinary language terms like 'force,' 'energy,' 'momentum,' 'solidity,' etc., and modifies their meanings to suit its purposes, the result of which is genuine and indisputable progress.

In defense of Wittgenstein, physics does not undermine our common sense categorizations of the physical world. Knife blades, maces, jackhammers, minie balls, bullets, arrows etc. are solid and capable of tearing away our flesh. The scientific "fact" that these objects are non-solid entities, composed of objects surrounded by empty space, in no way shows that our ordinary descriptions are false or misleading. What happens at the microscopic level is simply what happens at the microscopic level, and not what is happening at the phenomenal level. But, even if Wittgenstein's account of the way ordinary language works is a true account, the computationalist can agree and still have room for a *scientific* account of cognition, which, like physics, attempts to explain phenomena at a microscopic, or non-phenomenal level. Would Wittgenstein be happy with this solution? I think not.

The main reason Wittgenstein would not accept an inner directed causal account of knowing, believing, thinking, and meaning, and various other "psychological" phenomena is because of his insistence upon the *complexity* and *variable* nature of the *contextual parameters* which such phenomena incorporate. Whether one "knows that p," "understands that p," "believes that p," or "means p, and not q" cannot be determined simply by the occurrence within the subject of some inner cause, but is instead a function not simply of inner states but also and most importantly of context. Whether or not one is in pain certainly does depend upon whether or not one has a specifiable kind of experience. But the same cannot be said of understanding, knowing, thinking, believing and meaning.

Would Wittgenstein agree that although contextual parameters are necessary ingredients in the makeup of such things as believing, knowing, meaning etc., certain specifiable inner states might *also* be necessary conditions for the existence of these actions? Again, the answer is no. He argues that there is no single specifiable conscious activity, process, entity, or whatever which must occur in order for one to be properly said to be engaging in any of these actions (1953, Sections 148-178). According to Wittgenstein, any number of different inner processes, actions, sensations, etc. *could* occur when one is said to understand something, no one of which *must* occur.

The cognitive scientist commonly counters this line of objection by eliciting the Freudian premise that inner causes need not be conscious entities. He will argue that they *could* be unconscious entities or causes. For the Chomsky/Fodor computationalistic account, this is tantamount to claiming that the unconscious causes can be translated into *specific* computational processes, or programs; processes or programs which are not themselves part of the output. Wittgenstein reaction to this suggestion would be, I think, to concede that although something must occur in the brain at the unconscious level in order for one to be said to act in any way whatever, many actions are indeterminate without reference to social practices or conventions, and that the causal conditions for an action of a given type need not always be tokens of the same type.

Wittgenstein never explicitly denies, nor need he deny, the possibility that in each and every case of understanding, and other so-called "psychological processes," there is at the *unconscious* level a computational process, or some other unconscious process or activity of the brain non-computational in nature, the elimination of which would make it impossible for there to be any understanding, believing, knowing, etc. Consistent with this observation, one could argue that such processes as those postulated by the Chomsky/Fodor computationalists, while not sufficient conditions for the existence of understanding, because they ignore the importance of social practice, *could* turn out to be somehow *necessary* for its existence. Inspired by this possibility, one could argue for

a distinction between *existence* conditions, and *conventional* conditions: the former, those conditions which are the domain of science, and which are those *unseen forces* necessary for the very existence of a given or specifiable phenomenon; the latter, those *observable parameters* which society has found good cause to incorporate into its linguistic practices (or its concepts) concerning such phenomena, and which are the domain of philosophy.

Armed with this distinction between existence and conventional conditions, one might be able to work out a reconciliation between Wittgenstein's views and those of the computationalists. In defense of Wittgenstein's approach, one could argue that it does not depreciate or undermine our commonplace understanding of cognitive processes such as understanding, knowing, wishing, hoping, believing, etc., which are in large part social phenomena, either by reducing these phenomena to theoretical entities or by requiring them to complete it. And, at the same time, one could concede that the cognitive science approach could prove to be quite significant. Did we not increase the content of our concept of water when we discovered that it was H2O? Likewise, would not the eventual confirmation of these unconscious processes or causes enrich our concept of the conscious processes involved in our concept of understanding no matter how great may be the contribution of social or conventional practices? More importantly, however, would not such information likely bring about a change in the practice surrounding our use of the word 'understanding'? Although this line of thought seems quite promising, there is a serious barrier to its acceptance that will prove fatal unless it can be overcome.

In order for an action to be *properly characterized* as an apology, the relevant practice must exist. But what causes one to perform such an act might well be an internalized replica of what is constitutive of a computational process. Suppose that some person realizes that someone she has offended is capable of doing her great harm, that a public apology might very well appease the offended person, and because of this, she apologizes. Fear seems to be the significant causal factor in the equation. But fear is certainly not the only motivation for apologizing. Apologies are *multi-motivated* phenomena, in that the motivation for a given apology on one occasion may well be different from what motivates it on another occasion, and so it seems that the causal conditions (motives) for an action of a given type need not always be tokens of the same type, as Wittgenstein has argued throughout the *Investigations*. Would the computationalistic explanation not have to posit different underlying or unconscious processes for each possible motive, and does this not rule out the possibility of a uniform or unvarying explanation of psychological phenomena championed by the cognitive scientists in question? The answer to this question is that everything turns on how the computational processes responsible for actions of a given type are to be construed. If

it can be established that these computational processes are, like *modus ponens*, purely formal operations that can be instantiated by tokens of different types, Wittgenstein's objections can be surmounted. An apology could, on this account, be said to result from a specific computational process which is instantiated by such diverse phenomena as fear, guilt, desire for gain or profit, sympathy, exasperation, etc.

Literature

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