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The Myth of the Computer: An Exchange

To the Editors:

In The Mind’s I, Douglas Hofstadter and I reprint (correctly) John Searle’s much-discussed article, “Minds, Brains, and Programs,” and follow it with a Reflection that we fabricate a direct quotation which moreover “runs dead opposite” to his meaning. We do, as he says, repeat the error five times (In effect, we got off on the wrong foot and then quoted our error four times.) But so little does our case depend on the misquotation, that once it is corrected no further revision—not so much as a word or comma—of our proceedings without it, since it “runs dead opposite” to his meaning. We do, as he says, repeat the error five times (In effect, we got off on the wrong foot and then quoted our error four times.) But so little does our case depend on the misquotation, that once it is corrected no further revision—not so much as a word or comma—of our proceedings without it, since it “runs dead opposite” to his meaning. We do, as he says, repeat the error five times (In effect, we got off on the wrong foot and then quoted our error four times.) But so little does our case depend on the misquotation, that once it is corrected no further revision—-not so much as a word or comma—of our review is called for or contemplated.

How could Searle think “a few slips of paper” differs so dramatically from “bits of paper”? We had better look at the context from which we have (mis)taken the fatal phrase. Here is what Searle says, as printed correctly on p. 359 of The Mind’s I:

The Idea is that while a person doesn't understand Chinese, somehow the conjunction of that person and bits of paper might understand Chinese. It is not easy for me to imagine how someone who was not in the grip of an ideology would find that idea at all plausible.

Here Searle is ridiculing what he calls “the systems reply” to his view, and as he admits, he has a hard time taking it seriously. That is one of the points we were trying to make. He also says, in his review: “The mental gymnastics that partisans of strong AI have performed in their attempts to refute this rather simple argument (his "Chinese Room" thought experiment) are truly extraordinary.”

As for the rest of Searle’s review, it contains much to which we object, but we have pre-refuted virtually all of it, point by point, in the book he was reviewing. Indeed, Searle's review is, with perhaps one novelty, simply a telescoped version of his article. Searle may think that “Say it again, faster, in the pages of The New York Review” is a sound tactic of persuasion, but we don’t. So for the most part we are content to refer readers who want to figure out what is wrong with Searle’s view to our book. The one somewhat new element in the review is the enlargement on his unusual idea that we ignore the “causal power of the brain,” and since one can easily misread Searle on this point, a little clarification is in order.

Here Searle manifestly misunderstands the systems reply. No one claims the supervisory system gives the subsystem by itself special new powers or properties. Rather, we (and many others) claim that the supervisory system itself—the whole supervisory system—has these powers. Searle’s persistent deaf ear to this point puzzles me, particularly since it is really just a “category mistake” claim of the sort that was all the rage during Searle’s graduate student days at Oxford. In his reply to my earlier commentary on his paper (In Behavioral and Brain Sciences)he objects to my rather Oxonian claim that I understand English—my brain doesn’t—with the retort: “I find his claim as implausible as interpreting the carton of milk I put in my stomach and my digestive tract don’t.” How important a single word can be! The verb “digest” is nicely chosen, for how radically the image shifts if we switch to “eat” or “enjoy.” Does Searle find it quite all right to say that his stomach eats pizza? Can his mouth eat pizza? Which proper part of him could be said to enjoy the pizza? Levels do make a difference. Anyone who hunts for a pizza-enjoying subsystem in a human being is on a fool’s errand, and anyone who denies that a supervisory system understands Chinese on the grounds that none of its subsystems do is making the same error moving in the other direction.

This might have been a topic for a further Reflection, but in the interest of preserving the original article’s abounds in misdirection of this sort. Is it deliberate or inadvertent? Searle objects to our giving him the benefit of the doubt and calling his phrase “casual” and “offhand.”

Would he prefer us to edit it deliberate misinterpretations? In my earlier commentary in Behavioral and Brain Sciences I described his article as “sophistic,” but Hofstadter and I took a more charitable line in our volume. We, unlike Searle, do not pretend to be able to divine intention in the slips of our opponents.

We are to have swept over “a few slips,” but if Searle actually thinks this was a deliberate “fabrication”—or that our case against his view depends on misquotation—-he has deluded himself.

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Searle stresses that a computer program, being “purely formal,” has no causal power of its own. True, but of course when a program is physically realized in some hardware, and attacked by “transducers and effectors” to relevant portions of the rest of the world, that physically realized program can have lots of causal powers: such a program can control an oil refinery, make out payroll checks or terrible to say-guide nuclear missiles to their targets. Let’s call such causal powers control powers. Such powers are not simulated but real; the computer doesn’t simulate the refining; it really does control the refinery. (The distinction between simulating and duplicating is not as unproblematic as Searle supposes, but we will give him the distinction here for the sake of argument.)

Now Searle has admitted (in conversation on several occasions) that in his view a computer program, physically realized on a silicon chip (or for that matter a beer can) can control an oil refinery. He has to: the program must physically simulate the human brain to closely enough duplicate the human brain. That is, such a computer program (somehow realized) could control a human body in all its activities. Would such a body have a mind? We on the outside would find its behavior indistinguishable from that of a normal human being but whether or not it really had a mind would depend, Searle insists on whether hardware the hardware realization of the computer program shared with the missing brain not only all its control powers (granted ex hypothesis) but also some other “causal powers” entirely undetectable by others in principle. If such were the case we could say that the whole system had a mind.

What powers could these be? Where would the physical effects of the neurophysiological powers show up? Searle answers that they would show up in the individual subject's consciousness of his own intentional behavior. But would these be physical effects? If so, they must be detectable (in principle) by outsiders. Would they register on the instruments of neuroscientists? (If not “behaviorists”)? Searle does not say, but since he insists that the effects are introspectible (only) it is tempting to conclude that the effects are presumably to be nonphysiological, and that Searle is some sort of dualist. He adamantly denies it: he insists the causal powers he is discussing are physical, so they must be detectable by others. It’s not the subject’s behavior? What would these effects do?

These are mysterious causal powers indeed, except their scientific-sounding name. We frankly disbelieve in them—which is the extent of our “behaviorism.” Surely we all agree that anything that has all the relevant causal powers of food—-it saves one from starving, sustains growth and repair, tastes good, etc.,- is food. And anything that has all the causal power of oxygen is oxygen. We think that you could in principle give a body an artificial brain by giving it something that duplicated all the brain’s control powers. A person who equiped with a “mind” in the only sense that makes any sense: it would have a well-functioning (prospective) brain. Now perhaps we are wrong: perhaps there are some other causal powers that matter. Searle thinks so; he thinks organic brains "produce intentionality." It sometimes seems as if he thinks intentionality is some marvelous fluid secreted by the brain—but we shrink from imputing such a silly view to him, and await his further clarification of his position.

Searle paints us as taken in by the "mythology" of computer science. We see ourselves as demythologizers, and Searle as the victim of several superannuated myths, but perhaps we have misinterpreted his view.

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