LBAR Lesson VII: Artificial Intelligence

Keywords: artificial, intelligence, discrete, context

Today's reading intends to engage what you are doing in the other threads directly, rather than indirectly or surreptitiously. Yet it does so with this caveat: as difficult as Artificial Intelligence may seem from the programming and engineering side, it is even more complicated on the theoretical or philosophical side. And that because intelligence which is artificial presupposes intelligence that is not-artificial, that is, natural. But philosophers have been debating what human intelligence – otherwise called consciousness, awareness, mind, soul, etc. - is for over two thousand years. It should come as no surprise that AI engenders controversy, and hence both positive and negative emotions; indeed, it must be so, for as long as we do not know precisely what we mean when we say that we "think," then there will always be dispute about what we mean when we say a computer "thinks."

To be sure, there are two strands of AI that must be distinguished: on the one hand, that which is called the weak program, and on the other hand, that which is called the strong program. Most of your exposure to AI is in the weak program – computers and software that are being developed to help people do otherwise mundane tasks. This includes everything from GPS to the grammar and spell-check functions in our word processors we discussed in the last lesson. In fact, most research and development goes into the weak program, for it promises the greatest return-on-investment. Yet when most people think of AI, they are thinking of the strong program – developing computers that can actually think like a human, or machines that have become conscious. And as you might expect, therein lies the source of the controversy; conscious computers could resemble either Data from *Star Trek: The Next Generation* or *The Terminator*. The very notion of AI invokes in us both the greatest curiosity and the deepest of ambivalence. Undoubtedly your students, even immersed in technology as they are, will nonetheless experience both of these phenomena.

The piece you read was written by Stanley Fish, who is a regular Op-ed contributor to the New York Times. He earned his fame as a Professor of Literature who dabbles in almost everything, including philosophy of mind and language. As Fish says rather clearly at the end, he is attempting in this piece to drive home the distinction between the weak and strong AI programs, and is using the most recent IBM sensation to do so. In doing so, he is trying to applaud the progress of the weak program, while dispelling the notion that Watson represents an important step forward in the strong program.

To be clear, Watson is IBM's most recent iteration of what they call a "DeepQA" machine. Put simply, it is a computer that can answer questions posed in "natural language" (what we speak) rather than in computer language. This was a hurdle for programmers for many years, as computers often have a very tough time picking up on the nuances of natural language (ex: I shot the man with the gun. Does that mean I shot him with the (i.e., this) gun, or did I shot the man who himself had a gun?). Watson showed how far programmers have come when it defeated two Jeopardy champions at a three-round Jeopardy competition. This obviously garnered a great deal of attention for Watson (and of course for IBM, which was looking for that attention – why?), and has led to many speculations that Watson was the next step to building conscious machines. But is that true?

Fish's point is that it is not true. Watson is being marketed as a very useful tool for people who can use such an interface to efficiently process great quantities of information (what is called analytics), such as physicians who have to make accurate diagnoses based on numerous variables. It is for that reason part of the weak program. Yet, according to Fish, those who want to suggests that its abilities are actually

similar if not superior to a human's understand neither what it does, nor more importantly, what they themselves do when they "think." He makes his case by beginning with the notion of rules, and what it means to follow them. His example of the fourth-grader is important; simple rule following often looks foolish to human beings rather than sophisticated. So punishing the boy (by strictly following the rule) as a bully for his prank seems down-right naïve instead of intelligent. Human intelligence is never the simple following of the sum of all rules; in fact, we often break rules, bend rules, or even create new rules, which is seen as the very essence of intelligence. Fish's point is that human intelligence – whatever it may in fact be – must be understood from the outset as circumstantial, or context-bound. No rule can anticipate every contingent fact, which means that what we do (and how we think) does not follow rules, but of course can stipulate them. That is our strength rather than our weakness, and it is why he calls his computer a fool – it literally follows its rules, no matter how complex and intricate, without question. A person who did this would not be a person, much less intelligent, which means that a computer that does only this does not "think" in the same way we do.

Again, the purpose here is to allow the students to explore this notion of AI critically, which means helping them to distinguish between what computers do and do not do. It will undoubtedly also prompt them to ask whether or not it might one day be possible to build an intelligent machine. Those are good questions, but be prepared: they will bring you back to the contrast between Data and the Terminator.