

Re: Incompleteness vs. Mechanical Reasoning

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On Apr 4, 8:06 am, Marshall <marshall.spi...@xxxxxxxxxx> wrote:

A few times lately I've had the experience of mentioning something about mechanical reasoning and then having someone mention incompleteness as if that had anything to do with what I was saying. In fact the attitude seems to be akin to that woman in the penguin-on-the-telly sketch who says "there; I've run rings around you logically."

It's puzzled me a good deal.

A thought just occurred to me: could this possibly be the result of people thinking that incompleteness is something that affects mechanical systems but not our brain? Is the idea floating around that the human mind is somehow capable of doing things not only that no *current* computer can do, but also that no possible future computer could ever do? Is that what's going on here?

How do I say this: I do not subscribe to that hypothesis.

The human mind has free will and is capable of making a genuinely random decision. Take a proposition like "X will leave for office at 9-00 AM tomorrow". Not even X can be certain of the truth of or falsity of this proposition even until a micro-second before 9-00 AM tomorrow. This, in my opinion, is the difference between a human being and a machine. Normal machines that we are aware of are predictable, while human beings are not.

Of course I am talking about machines that take in predictable inputs, without any interaction with human beings. E.g. I could program a machine to shut itself down if there are 5 or more users logged in at 5-00 AM tomorrow. Here the machine is taking in unpredictable inputs and is therefore unpredictable. A human being could be unpredictable even if all inputs are predictable.

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I think that quantum computers are actually capable of picking genuinely random numbers, just like human beings, and could therefore be just as unpredictable as human beings. In fact a human mind may actually be doing quantum computations for all we know. To confirm this would require a new computability theory, formulated in the logic NAFL, as noted in the following reference:

<http://arxiv.org/abs/math.LO/0506475>

Regards, RS

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