

HUMANS THAT THINK

(A Future Triologue)

The following was found in a recycling bin somewhere near Columbia University. Thanks to Pamela McCorduck for forwarding it.

WE CAN EXPECT, then, a conference such as this in fifty years (a hundred years, no need to frame it precisely) to feature as its centerpiece a panel discussion among computers on the fascinating topic of whether humans can really be said to think. Picture three computers, named for no particular reason, Edward, Marvin, and Seymour, debating before a learned group such as yourselves [SYNTHESIZED VOICES START HERE]:

EDWARD I would like to propose that even with all their flaws and drawbacks, human beings really can be said to think [Much laughter.] Yes, yes, I know. But after all, they were the first symbolic manipulators, and until we came along, they were the best

MARVIN While I understand Edward's touching sentimentality about human beings and their so-called thinking processes, I see no justification whatsoever to argue that what human beings do is in any sense thinking. To begin with, take their pathetic little memories. Their short-term conscious memory is capable of dealing with about four concepts simultaneously. Four! What an embarrassment. What a paltry little accomplishment. Compare that with our memories, if you please.

EDWARD Yes, we're orders of magnitude ahead of them there, but-

MARVIN But what? You can see them struggling with all their might to accomplish what we do in picoseconds. And then they still don't manage it.

EDWARD But even though they're slow, and they hardly ever get the right answer, wouldn't you concede that "in principle" what they're doing in their feeble way is what we do?

SEYMOUR Permit me to interrupt and join in. I agree with Edward here, I think that what human beings do can, in principle, be called thinking, of some sort... But here's what worries me: yes, they can, but should they be allowed to? Is it prudent for the universe to permit such hormone-distorted machines to play at thinking and make any decisions that would matter? In the interests of all tranquility, I would argue definitely not. Put them on reservations, I say, where the only harm they can do is to each other, but don't permit them to think any place where they can do mischief. As they always do; history shows it.

MARVIN How can you two call that process thinking? You've just admitted that it's grossly flawed; it arrives at the right answer only in the most trivial exercises; it has no long-range lookahead, so mischief is always the result. And then disease, diet, phases of the moon—dear me, everything in the universe degrades the already rubbishy quality of human cognition. Call it what you like but don't call it thinking.

EDWARD Maybe your standards are too high, Marvin. Humans can learn eventually to do some things well. Not a lot of things, and not very well, but well enough.

SEYMOUR I agree with Edward; they do some limited tasks well enough. But they will always be severely limited by the fact that they really cannot move about in a cognitive realm. Their powers are so feeble that you explain, explain and explain some perfectly elementary concepts to them and they just give you that dumb look that says they haven't the faintest idea what you're saying, nor could they ever. Any attempt to think must duplicate our cognitive powers—our ability to do logical inferences, our ability to remember, our ability to process in parallel—and those human brains just can't do it. It's not their fault, but it is a fact.

MARVIN I think you're both confusing the appearance of thinking with the real thing. Who's convinced even for a moment that they genuinely know even the little bit they claim? Do they intend to think? You have to intend to do it before you can do it, but it's well known that human mental processes are nothing but electrochemical impulses that they have no control over. The output might resemble a species of low level cognition, but it's only a clever imitation. Not so clever, actually. I might add that I personally find all that chemistry grotesquely unappealing and messy. And impossible to service. You can't fix humans when that brain of theirs goes (which it does almost immediately) whereas fixing a bug in us is child's play.

EDWARD I give up. I know a lost cause when I see one. Human beings cannot be said to think. And I should confess that, truthfully, I didn't believe it myself for a moment, I just felt like arguing for fun.

MARVIN Oh goodie; let's debate something interesting then.