Ulric Neisser's article brings to mind a remark I was privileged to hear from J. von Neumann during an informal talk on computers given at the Institute for Advanced Study at Princeton, in 1948. A woman in the audience started raising the canonical question, "But, of course, a mere machine can't really *think*, can it?" For a while he tried to put it off with a good-natured gesture, but she persisted. So he turned to his tormentor and said: "Look here. You insist that there is something a machine cannot do. If you will tell me precisely what it is that a machine cannot do, then I can always make a machine which will do just that."

The full import of this remark may have been lost on the person to whom it was directed, but to others in the audience it answered, in a sudden flash of understanding, many half-formulated questions. There is no limitation at all inherent in the machine; the only limitations on making "machines which think" are our own limitations in not knowing exactly what "thinking" consists of.

Von Neumann's remark applies equally well to all of the alleged differences pointed out by Neisser. I suggest that his arguments, far from establishing any "deep difference between the thinking of men and machines," describes only the present state of ignorance of psychologists concerning what growth, emotion, motivation, creativity, and so forth really are.

This does not mean, as Neisser implies, that it would be desirable to incorporate all these features into machines of the future. For most applications of machines, this would amount to a deliberately built-in unreliability. I could hardly disagree more strongly with the implications of the remark, "If machines really thought as men do, there would be no more reason to fear them than to fear men." It is just the fact that machines do not get confused by emotional factors, do not pursue hidden motives opposed to ours, do not get bored with a lengthy problem, that makes them far safer agents than men for carrying out certain tasks. What we have most to fear in the world today is not machines which lack these "human" features, but men who, unfortunately, have them.

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