

June 26, 1961

H.L. Royden

G.E. Forsythe

Requested Minsky appointment

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I have forwarded an evaluation of Minsky which McCarthy has given me. I hope that with this in hand you can take another good look at Minsky.

I have been looking at some of Minsky's publications myself. I find them to be excellent contributions, far more than expository in nature. It is true that the number of tangible results is less than with a candidate for a professorship in mathematics. I think the reason is perfectly clear the structure of the field of computing and artificial intelligence is far less clear, and a research man has far less on which to build. Nevertheless, what is being done is significant and important.

The aim of artificial intelligence is to develop computers as an extension of the human intellect, just as other types of machines are an extension of human muscles. The first stage of this has been to see what cognitive activity digital computers could be programmed to carry out unassisted. This direction was partly the result of human optimism, and partly dictated by the relative inaccessability of present computers to humans -- human beings are far too slow to work as a team with the full time of a microsecond computer.

This first stage has proved very difficult. It will probably pay off eventually, but the pay-off is not a rapid one.

However, a second stage of research is appearing -- the use of a computer together with a human as a team for problem-solving. This direction is now being made possible by technological developments. The pay-offs are coming considerably sooner than those to be expected from machines on their own. It is a priori evident that a human being with a computer can solve many problems better than a human being without a computer, provided the total system is organized right.

cont.....

There is no question that Minsky is a leading candidate in this whole area of artificial intelligence. Whatever is said by his evaluators, no other serious candidate is put ahead of him. In my opinion, there is no question of the importance and value of the field of artificial intelligence. This is why I am strongly urging the appointment of Minsky.

It may be asked why we need Minsky when we have McCarthy. The reason is simply that we are working McCarthy very hard right now. He is covering a wide field of computer activity. The whole character of the enormous future of Stanford's and SLAC's computing activities is receiving its technical direction from McCarthy. This is a big responsibility to add to the responsibilities of setting up a research and educational program in artificial intelligence and other non-numerical uses of computers. We simply cannot ask McCarthy to spread himself this thin and expect a program to go forward.

Stanford has the greatest momentum in improving its program in computation of any university in the nation. This momentum must be continued, if we are not to lose our position and even our present leaders.

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