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Mr. Dennis Flanagan, Editor
Scientific American
415 Madison Avenue
New York, New York 10017

To the Editor:

We would like to take this opportunity to reply to the comments of Martin Gardner in his October 1975 critique of our NASA research report, "Development of Techniques to Enhance Man/Machine Communication".

The research pertains to the use of an automatic, solid state machine which randomly selects from among four hidden targets while a subject tries to choose which target was selected. The machine provides immediate feedback as to the machine state, and rings a bell for correct subject responses, to allow him to try to use this feedback and reinforcement to improve his scores. Of the 147 volunteer subjects, six were identified whose learning performance was significant at the 0.01 level or better; the binomial probability of his occurring by chance is less than 0.004. At the other extreme, no subject had a negative learning slope of equal significance. In our report we took these preliminary findings to indicate that, "there is evidence for paranormal functioning from our work with the ESP teaching machine". This evidence includes one subject to achieved scores at the $p < 10^{-6}$ level of significance in his 2500 trials.

Gardner's major criticism of the experiments is based on an error in fact, namely his misconception of the manner in which data were collected. Subjects made runs of 25 trials. These trials were automatically printed on continuous fan-fold paper tape, which carries a permanent record of every trial, machine state, and trial number from 1 to 25 for each run. After a series of eight to ten runs, the subject would bring the continuous fan-fold tape to one of the experimenters for entry into the experimental log. The tapes were always delivered to us intact with all runs recorded. They were never torn into "disconnected bits and pieces" as Gardner asserts (implying that an individual could, post hoc, select which runs he turned in). Since we were interested in evidence of learning within each day's session, it was of particular importance to us to have the complete intact tape.

We think that it is important for the reader to be aware that in Gardner's own book, "In the Name of Science," he makes his position

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on research in this area quite clear. He introduces his chapter on ESP with the statement, "There is obviously an enormous irrational prejudice on the part of most American psychologist--much greater than in England, for example--against even the possibility of extra sensory mental powers. It is a prejudice which I myself, to a certain degree, share."

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