

letters

parably more valuable than one detailing all the known information, replete with formulas and equations arriving on the legislator's desk one hour after roll-call vote.

But it is precisely in establishing this close working relationship based on mutual trust and regard for each other where the payoffs both to the scientists and the politicians can be the most rewarding, and this is why I am so enthusiastic about the Congressional Fellowship Program.

ANNE H. CAHN

Massachusetts Institute of Technology
Cambridge, Massachusetts

Bethe still at Cornell

I am writing to correct an announcement made in the "We Hear That" column for May 1973 (page 77). It was noted that Hans A. Bethe "has been named Battelle Distinguished Professor of Physics at the University of Washington following his retirement from Cornell University." This information is partially correct in that I believe Bethe did serve as Battelle Distinguished Professor of Physics during the Spring term 1973. However, I am happy to assert that Professor Bethe is not retired from Cornell. He will be spending one term away from Cornell in each of the three years from 1973 through 1975. During this period, Professor Bethe retains his regular faculty responsibilities while in residence in Ithaca.

D. F. HOLCOMB
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Ithaca, New York

Teleneural physics

I am writing this letter to defend and to stimulate interest in the physics of teleneural phenomena. My scientific background includes work on the phonon theory of transport in solids and light scattering, diffusion and collective-mode theory in liquid crystals. However, over the last year or so I have found an intriguing new avocation that is rapidly developing into the possibility of a professional area of endeavor. The work of the Russian physicist and cyberneticist, I. M. Kogan,¹ has shown that, using information theory together with electromagnetic theory, the propagation of a telepathic signal is feasible. Information transfer rates were found to be small so that the process is a subtle one not amenable to high communication rates. Evidently the frequencies are low. Various possibilities for the reception of an electromagnetic signal that have been proposed include inter-

action with the proton resonance frequency in the body's magnetic field and an electrohydrodynamic liquid-crystal model of the cell membrane. The electromagnetic theory of telepathy envisions the body of the sender as an antenna and the requisite biocurrents for signal transmission range from approximately 10^{-12} to 10^{-6} amp for distance of 1 and 10^6 meters, respectively, for a typical transmission time and typical number of possible issues.

However, telepathy has been done in a Faraday cage^{2,3} with results that signified improved transmission rates inside the cage. If this work is correct, and if the cage effectively screened even long wavelengths, then telepathy may be the result of some non-electromagnetic mechanism, and the electromagnetic theory, which appears very plausible, may account rather for noise due mostly to electronic equipment in telepathic reception. In addition, direct electromagnetic effects on the neural system may be a cause, in some people, of neurological disturbances and would be a significant factor to consider in the present electromagnetic pollution of the environment. One of my graduate students and I have done telepathy experiments, and after checking the theories and postulating a mechanism for reception, we don't find telepathy so hard to accept.

One of the primary reasons for writing a letter at this time is to comment on the recent article in *Time* magazine⁴ concerning laboratory work with Uri Geller, a young Israeli psychic, at the Stanford Research Institute (SRI). In my estimation, based on my participation in a portion of those experiments, the traditional stance of most of the scientific community toward teleneural phenomena of complete disbelief and noninvolvement is certainly open to question. From the variety of experimental results with Uri Geller and, in addition, other evidence from outside the laboratory, I would say that, in my estimation, the physics community and scientists in general should reconsider their positions with respect to the possibility of science in teleneural phenomena. The laboratory evidence, while not what it could be for convincing proof, indicated that "magic" or sleight of hand could not explain most of what Geller did and that further work should be attempted and carefully controlled experiments performed with a view toward isolating the many variables in experiments with the most complex of subjects—the human being. A lot of credit should go to the SRI management and scientists and to former astronaut Edgar Mitchell (who was part of the team at SRI) for taking a step, in the face of considerable adversity and strong criticism, toward what may become a new

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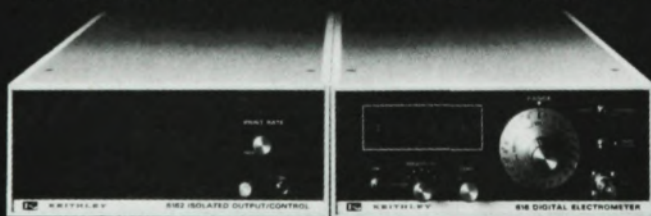
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field in the science of living systems. Further information concerning the results of the SRI experiments can be obtained from Russell Targ or Hal Puthoff at SRI. Targ and Puthoff were formerly involved in high-power laser physics and quantum electronics and have recently entered the field I call "teleneural physics."

The point I would like to make in this letter is that if the experimental results with Geller and with other subjects are correct representations of neural interactions with other living systems and with matter, then the physics community should not, in my estimation, disregard the results as being "nonphysical," quackery or fraud. Rather, a new stance of openness, with skepticism, of course, might better be assumed and the questioning mind of the interested not hindered from exploratory work in this area.

References

1. I. M. Kogan, *Telecommunications and Radio Engineering* 21, 75 (1966); 22, 141 (1967); 23, 122 (1968).
2. H. K. Puharich, *Internat. Jour. Neuropsychiatry* 2, 474 (1966).
3. A. Puharich, *The Sacred Mushroom*, Doubleday, New York (1959), Appendix 1.
4. Time, 12 March 1973.

WILBUR FRANKLIN
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Centralized preprints

Recently the Publications Committee of the Division of Particles and Fields of the American Physical Society has proposed establishing a centralized preprint duplication and distribution system. This would replace the existing unorganized system, in which each institution sends out preprints on a large scale, by one in which a central depository would handle the distribution and duplication (perhaps on microfiche). I am highly unfavorable to such a suggestion. A centralized system seems most unwise to me, for it would further the already apparent trend to replace quality with quantity, by pressuring premature publication. The need is not for more unrefereed, unreadable reports, but for fewer. Obviously, in spite of assertions to the contrary, these proposals are an attack on the journal system and the associated virtues of objective standards and universal accessibility which, if not achieved, are at least the goal. Frankly, it is hard to believe that advances in physics require such an instantaneous "publication" scheme, and it seems undesirable for the physics community to set up a system that might

well have the effect of lowering quality of work done and of papers written, as well as intensifying the struggle for priority.

The present *ad hoc* preprint system shares many of these disadvantages, although not to the same degree. A more modest proposal, which has been suggested to me by a colleague would seem to offer some improvement: Instead of institutions mailing out 200 or so preprints as they do now, they would send one to SLAC. Anyone interested would learn the title from the (already existing) SLAC listing, and then could obtain a preprint by writing directly to the author. (Of course, this is just what people at institutions not on the mailing lists do now.) In this way, only preprints desired would be collected, and there would be no undesirable archival connotations of publication.

KIMBALL A. MILTON
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Los Angeles

COMMENT: At its March 1973 meeting, the Publications Board of the American Institute of Physics (a board which is advisory to AIP's Governing Board and consists of editors of all the journals published by AIP, including the journals of the Member Societies) unanimously passed a motion "[deploring] the centralized dissemination of material in preprint form as being contrary to the best interests of orderly physics communication." A similar resolution was adopted at the last meeting of the Publications Commission of the International Union of Pure and Applied Physics, an organization whose principal business is the sponsorship of international physics conferences.

It is clear that neither of these resolutions is aimed at the present *ad hoc* preprint systems. Instead, they address themselves to precisely the problems outlined so eloquently by Milton. The journal system, imperfect though it is, has evolved from its beginnings in the 17th century as the sciences have evolved, and is now precariously balanced between information needs and resources. It might be better to think of ways to strengthen it, rather than circumvent it.

A. W. K. METZNER
Director, Publications
AIP

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