Letters

Clinician-Scientists

James L. Parmentier (Letters, 2 Mar., p. 878), in his comment on the attempt to increase the number of physician-investigators, draws the conclusion that this is based on a misunderstanding of career objectives and does a disservice to Ph.D. research personnel because the proponents of the program "seem to assume that basic scientists. . . cannot understand disease processes or coordinate clinical problems with experimental results." This conclusion is erroneous; those advocating the program almost universally accept fully the major contribution of Ph.D.'s to clinical research. The steadily increasing number of nonphysician scientists supported by the National Institutes of Health is concordant with this.

The advance of medical research needs both clinician and nonclinician scientists. The reason why physician-scientists are one (but only one) of the essential components of the mix of medical researchers is that there must be a group of scientists who have the skills and interests that make it possible for them to recognize among the experiments of nature through disease those which reveal the operation of principles that are unknown and have never been the subject of deliberate laboratory investigation. Since such events are uncommon and occur randomly, the astute, trained clinician with broad scientific scholarship who is constantly on the lookout for the rare but important natural experiment is in the best position to benefit from these occurrences. The history of advances in medical research amply reveals the truth of this.

Parmentier asserts that physician-scientists engaged in clinical activities will not by definition have as much time for experimentation, thinking, or scholarship as the nonphysician-scientist. This is not correct. There are superb creative clinicians in many departments, including my own, who spend well over half their time in laboratory research. Furthermore, availability of time alone does not make a successful researcher. As has been documented in the past, a small minority of all Ph.D.'s produce 85 percent of the research carried out by this group. Time is no substitute for passion, intelligence, and scientific imagination. The existence of many clinician-scientists who stand in the very first rank of fundamental research is a clear empirical disproof of this argument.

Every effort should be expended to avoid professional chauvinism. Medical research will suffer if we fail to ensure an adequate supply of clinically directed research by both clinicians and nonclinicians. The current decline in physician-scientists is a sad phenomenon, and both clinicians and nonclinicians should join in the effort to reverse the trend.

NORMAN GESCHWIND
Department of Neurology, Harvard Medical School, Boston, Massachusetts 02215

Extrasensory Perception

Christopher H. Dodge maintains (Letters, 3 Feb., p. 440) that "psi in various forms has been around for a long time and has already been applied for practical (and not-so-practical) purposes in a number of areas." Vernon R. Padgett and Steven Cody ask (Letters, 9 Mar., p. 1014), In what form and where?

Although psi devotees continually make this claim, it has never been clearly demonstrated that extrasensory perception has any practical applications nor has it been clearly demonstrated to exist in the laboratory. There is no conclusive evidence that dowsers can locate oil or water or that psychics can help detectives locate missing persons, help investors achieve success in the financial markets, or effectively contribute to the arms race.

Much has been made of late of remote viewing, telekinesis, and the Ganzfeld experiments, but the alleged results are still inconclusive. Parapsychologists talk of an impending breakthrough, but being on the "verge" of something is not equivalent to having demonstrated its practicality or reality. That is why so many scientists still remain skeptical about the entire area.

PAUL KURTZ
Committee for the Scientific Investigation of Claims of the Paranormal, Box 229, Central Park Station, Buffalo, New York 14215

The Diels-Alder Reaction

Thomas H. Maugh II's chronicle of theoretical contention "Can multibond reactions be synchronous?" (Research News, 16 Mar., p. 1162) classifies me as a disputant ("Goldstein, however, says . . . ."). May I offer a clarification and introduce a note of historical perspective?

Seltzer was the first to demonstrate that experimental "secondary" deuterium isotope effects can be used to evaluate the symmetry of a Diels-Alder transition state (*1*); Thayer and I used "primary" carbon and oxygen isotope effects to the same end (*2*). We judged our transition state to be highly unsymmetrical, whereas Seltzer judged his to be highly symmetrical, principally because the two Diels-Alder reactions were different. The two conclusions are therefore mutually compatible; neither one has seriously been questioned.

The still earlier paper by Woodward and Katz (*3*) provided the intellectual framework for both these investigations and many others. That report of an unexpected experimental discovery was the first to define and distinguish the "two-step" and "two-stage" descriptions of the Diels-Alder reaction, a recurrent theme of computational commentary ever since. Perhaps this achievement of the late R. B. Woodward has too easily been forgotten in light of his subsequent more powerful generalizations, but one wishes it were not so.

M. J. GOLDSTEIN
Department of Chemistry, Cornell University, Ithaca, New York 14853

References

1. S. Seltzer, *J. Am. Chem. Soc.* **87**, 1534 (1965).
2. M. J. Goldstein and G. L. Thayer, *ibid.*, p. 1933.
3. R. B. Woodward and T. J. Katz, *Tetrahedron* **5**, 70 (1959).

Soviet Studies

Constance Holden, in "A comeback for Soviet studies" (News and Comment, 24 Feb., p. 795), writes that "Language training is a fundamental problem" in Soviet studies. What she and others have written about the "comeback" does not make me very optimistic about the future of Soviet studies in this country. It takes more than politics or political science to create an understanding of a country. I have argued fruitlessly with my fellow Sovietologists that social science material about the Soviet Union should be accessible in English to the