

### Mind and Brain:

A Philosophy of Science  
by Arturo Rosenblueth

The author, who is Director of the Centro de Investigación de IPN in Mexico City, is both a scientific generalist and a specialist, and the two aspects together serve to guide his philosophic approach.

As a generalist, he organized a seminar on scientific method in the 1930s, as a student and later a collaborator of Walter B. Cannon at the Harvard Medical School, to discuss these questions with exponents of many disciplines and to see them whole. Norbert Wiener, a member of the group, has written about the influence of Dr. Rosenblueth on his formulation of cybernetics, a notable scientific synthesis embracing animal and machine. In his book, Rosenblueth continues his search for scientific universals.

As a specialist, the author is a neurophysiologist. He is thereby an experimental philosopher, for this is the field most likely to provide hard answers to the central questions of perception, sensation, volition, and the nature of human knowledge. A nonneurological epistemology can be only impressionistic, and in order to allow the lay reader to follow the later discussions, the book reviews the present state of the neurological sciences, including the speculations on intrinsic uncertainties and indeterminacies, and neural events at the quantum level. \$5.95

### Neurosciences Research Symposium

**Summaries:** An Anthology of Work Session Reports from the Neurosciences Research Program Bulletin  
Vol. 4, edited by Francis O. Schmitt, Theodore Melnechuk, Gardner Quarton, and George Adelman

This is the fourth annual anthology of the Neurosciences Research Program Work Session reports which have appeared in the issues of the *Neurosciences Research Program Bulletin* for 1969-1970. It continues the coverage of "hot" areas in the neurosciences begun in 1966 with the first volume of this series. The current volume includes core research topics from a wide range of the neurosciences (neurophysiology, cell biology, neurochemistry, and animal behavior) in five critical summaries of research. \$15.00

### The MIT Press

Massachusetts Institute of Technology  
Cambridge, Massachusetts 02142

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## LETTERS

### Two-Way Benefits of Defense Research

Like many scientists in the New York area, I was gratified to read the editorial in the *New York Times* (13 Jan.) on the funding of academic research. It is most encouraging that a subject of truly national importance, which has been surrounded by a great deal of irrational and partisan debate, should have been brought to public attention.

The *Times* article which pleaded for "orderly transfer" of nonmilitary Pentagon research to other federal agencies overlooks the harsh reality of research budget cuts everywhere; cuts in research funds at this time are likely to undermine many universities' financial structure. To eliminate defense funding without facing up to real needs is to replace expedience with neglect. A sharp delineation between basic, nonmilitary, and mission-oriented research is not possible and research is not a supply line than can be turned on or off at will.

Scientific contributions to man's knowledge have always been in the service of all of man's needs including (rightly or wrongly) his armory. From Archimedes to Leonardo da Vinci to this day, science in war and peace provided the potential from which military inventiveness designed its hardware. If the present law stipulates that cooperation by universities be limited to areas of evident military application, this violates the basic mission of universities and excludes true academic participation. The cooperation between the Department of Defense and universities is far from a one-way affair, on the financial or the intellectual level. The vast storehouse of factual information at the disposal of DoD is of very great value to the academic man who in turn can prevent DoD from becoming insulated from the trends of the day or from investing in dubious causes. In any case, to undertake to decide beforehand which piece of scientific inquiry is going to be useful to the military is trying to chart the unknown. Therefore, apart from the facts pointed out in the *Times* editorial that the new congressional rule can only serve to reduce seriously the support for scientific inquiry in this country, it must be emphasized that diluting the military-university partnership is not only bound to cause serious delays in transmission

of new knowledge, but will impair the building of a force of academic men who have the necessary defense background in case of emergency. If the British had delayed the development of radar by only 6 months, if France had not insisted on butter before guns between the wars, or if Hitler's politics had not interfered with the development of nuclear physics at a time when all the trumps were in his hands, history would have taken another turn. In times when the next war may come undeclared and be over in a few hours or days, we are flirting with catastrophe to stifle the military-university interchange.

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### Campus Computer Costs

Mark Oberle's article entitled "Campus computers: Federal budget cuts hit university centers" (26 Sept., p. 1337) failed to consider what we believe to be a major inequity in regard to the use of university computer facilities by government research projects on campus. He states that "The Bureau of the Budget requires that all users of a computer that handles government-sponsored projects be charged the same rate for the same service." However, this is not necessarily true. Under some circumstances the government requires that the cost to university users not funded by government contracts or grants must be greater than the cost to university users who are government-supported.

This situation arises because the government refuses to recognize interest charges (on money borrowed to purchase, rather than lease, a computer) as an allowable cost to government contracts and grants. Although the interest expense which is included in the lease price of a computer by the manufacturer or by a third party is an allowable expense, the university is not always given the option of leasing. Should the lease payments on a system exceed what would have been the annualized amortization of that system's purchase price, the government can disallow lease costs in excess of that depreciation figure. Since many universities plan to retain their systems for beyond that break-even point, they are in a sense "forced" to purchase their computer equipment. Economic considera-