procedure described above was standardized to such an extent that, to carry out a respectable econometric study, one simply had to construct a plausible and easily computable theoretical model and then secure—mostly from secondary or tertiary sources—a set of time series or cross section data related in some direct or indirect way to its particular subject, insert these figures with a program of an appropriate statistical routine taken from the shelf into the computer, and finally publish the computer printouts with a more or less plausible interpretation of the numbers.

While the quality and coverage of official statistics have recently been permitted to deteriorate without eliciting determined protest on the part of their potential scientific users, masses of concrete, detailed information contained in technical journals, reports of engineering firms, and private marketing organizations are neglected.

A perusal of the contents of the *American Economic Review*, the flagship of academic economic periodicals over the last 10 years, yields the picture in Table 1.

These figures speak for themselves. In a prophetic statement of editorial policy, the managing editor of the *American Economic Review* observed (*3*) 10 years ago that "articles on mathematical economics and the finer points of economic theory occupy a more and more prominent place than ever before, while articles of a more empirical, policy-oriented or problem-solving character seem to appear less frequently."

Year after year economic theorists continue to produce scores of mathematical models and to explore in great detail their formal properties; and the econometricians fit algebraic functions of all possible shapes to essentially the same sets of data without being able to advance, in any perceptible way, a systematic understanding of the structure and the operations of a real economic system.

How long will researchers working in adjoining fields, such as demography, sociology, and political science on the one hand and ecology, biology, health sciences, engineering, and other applied physical sciences on the other, abstain from expressing serious concern about the state of stable, stationary equilibrium and the splendid isolation in which academic economics now finds itself? That state is likely to be maintained as long as tenured members of leading economics departments continue to exercise tight control over the training, promotion, and research activities of their younger faculty members and, by means of peer review, of the senior members as well. The methods used to maintain intellectual discipline in this country's most influential economics departments (*4*) can occasionally remind one of those employed by the Marines to maintain discipline on Parris Island.

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"Myeloma"

When one considers the importance of the revolution brought about by hybridoma research (News and Comment, 26 Feb., p. 1073), it is unfortunate that the term "myeloma" has been applied to the neoplastic plasma cells that are an integral part of the technology.

The term was probably first used because of a supposed resemblance of the plasma cells to multiple myeloma cells in humans, but the mouse has no similar disease. The neoplastic plasma cells in the mouse do not involve the bone marrow unless they are introduced into the bloodstream.

The suffix "oma" is understood by pathologists to refer to a swelling or mass and can be applied to nonneoplastic masses, as in "tuberculoma" or "granuloma." Obviously there is no swelling in cells in tissue culture and no specific cell of the bone marrow for which the suffix "oma" could be used. The plasma cell in tissue culture continues to be a plasma cell, and it should not be disguised under the term "myeloma."

The term "hybridoma" is also unfortunate, but by now it is so well established that change is probably impossible. Fused cells in tissue culture do not constitute a tumor, or "oma," and to consider them as hybrids can also be questioned.

These complaints may seem trivial and peevish, but serious errors in thinking can result from the imprecise use of terms.

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Federal Information Services

In his editorial "Essential federal information services" (28 May, p. 937), Philip H. Abelson gives good reasons for concern over budget threats to the National Library of Medicine and over the possible disposal of the National Technical Information Service (NTIS), or major elements of it, to private enterprise. A history of innovative information processing and dissemination by the National Library of Medicine could be brought to an end, or greatly reduced; and the present availability of government technical reports and other NTIS services could be severely affected by entrepreneurial skimming of the most salable products.

Abelson's concern is valid, but a basic objection to these latest threats of curtailment of government information services can be stated even more fundamentally. Such threats do violence to a principle officially acknowledged (*1*) some 20 years ago: the information dissemination process is an integral part of the research cycle which creates new knowledge. The services of the National Library of Medicine and NTIS—whether for bibliographic or text access, whether in electronic, microform, or print format—actually constitute only the final sequence in this research cycle which the taxpayer funds at great cost and which is justifiable only if the results reach those who can make use of them. If they do not, the new knowledge and information cannot serve its intended purpose as the driving energy for countless activities contributing to our national well-being (including medical care and the all-important gross national product).

The cost of information dissemination is relatively miniscule when compared to the billions of dollars invested in the research itself, either in the government's own laboratories directly or in its grants or contracts to universities or private investigators. Rather than responding affirmatively to pressures threatening the return on the taxpayers' investment, Congress should strengthen and ensure the continuing growth of vital information services.

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