

Letters

Farewell to Daddario

Let me begin with a declarative statement: Daniel Greenberg is back on the U.S. reporting team for *Science* and has written a characteristically Greenbergian "treatment" of departing Congressman Emilio Daddario (25 Sept., p. 1291). Older readers of *Science*, who may not have read this treatment, will, nevertheless, be able to make a pretty good guess as to what it is like: knowledgeable, personalized, lively, and occasionally unfair in its treatment of individuals. New readers of *Science* who have read this article, and whose sensitivities may still be quivering from some of its unfair aspects, possibly need some further understanding both of Daddario and of Greenberg's article, and this letter addresses itself to each topic.

First, it is important to say that Daddario is a congressman with modest seniority, having been a member of Congress since 1958. He has earned a well-deserved reputation as one of the most honest, concerned, and effective members of Congress, and one who surely would have been reelected to the Congress had he chosen to run. He has especially concerned himself with federal science policy. As chairman of the Subcommittee on Science, Research, and Development of the House Committee on Science and Astronautics, he has played a major role in the evolution of the National Science Foundation, in the analysis of federal science policy, and in the development of technology assessment, a new, important interdisciplinary area of study. Daddario, as well as the subcommittee which he chairs, has been a principal channel of communication between Congress and the U.S. scientific community, and his special knowledge and qualities will be greatly missed.

Now, let me help the new reader to reconsider Greenberg's article on Daddario. You should do this in stages.

First, cover up the unfair and hurtful first paragraph of the article (and perhaps also the last sentence, which appears to be staking out a later area for potential attack). Next, read the body of the article. Leave aside the somewhat overlively language and the occasional bizarre use of English. You will then find that Greenberg's analysis of Daddario's accomplishments and importance is coherent, specific, and generally favorable. His conclusions are, in fact, very similar to those given in the above paragraph. Greenberg completes his discussion with the handsome comment that "The remarkable thing is that he did so much with so little, and the pity is that the peculiarities of congressional power kept him from a position where he might have done more."

In view of this admiring final tribute, how is one to explain Greenberg's first paragraph? How, conceivably, can Greenberg describe Congressman Daddario as "irrelevant" to the science community? What led him to use the patently unfair adjective "grotesque" for the reorganized National Science Foundation, an organization which seems to be doing rather well these days? And what could lead Greenberg to summarize the Daddario subcommittee's efforts on science policy as "summer-long hearings on that shopworn phantom, the need for a national science policy, otherwise known, in the present-day context, as more money?" Regretfully, beyond the unhelpful observation, "that's Greenberg," I have no useful explanation as to why this particular kind of verbal overkill is written in the first place, and, in the second place, why it ends up appearing in *Science*, and I remain deeply distressed that its target is so fine and able a man as Emilio Daddario.

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In this time of social crisis and political unrest, what is the best way for the AAAS to "improve the effectiveness of science in the promotion of human welfare"? This question now dominates the agenda of the AAAS Committee on Science in the Promotion of Human Welfare.

Social change calls for reassessment of the responsibilities that the AAAS can and should undertake. Many persons and groups today are asking: What actions relating to political and social issues should be taken by the Association as our country's largest and most representative scientific organization? How might such actions affect the ability of the AAAS to further the work of science itself?

We the members of the committee believe that these questions urgently demand answers that require programs of action. We have arrived at some answers, formulated a general program, and started developing strategies to put the program into effect.

In our view, making science more effective in promoting human welfare calls for intensified efforts of three kinds:

1) More explicitly *defining* the requirements for scientific knowledge in terms that relate operationally both to the particular societal problem to be solved and to the particular scientific activity that produces the knowledge needed.

2) More efficiently *developing* the socially required knowledge that has not been produced as yet.

3) More effectively *disseminating* the knowledge to the policy makers and problem solvers involved, wherever and wherever they may be.

This three-part formulation of a program to define, develop, and disseminate knowledge reflects many considerations. Problem solvers often fail to ask the pertinent scientific questions and scientists frequently misjudge the applicability of their research results. Priorities in applied research do not correlate efficiently with social priorities. Most especially, the problem solvers, including governmental and political leaders as well as technologists, too often are not getting hold of applicable scientific knowledge in a form that they can really understand and put to use.

Already the AAAS conducts efforts of all three kinds through mechanisms such as publications, symposia, commission studies, committees, and channels

of communication with universities, industry, and government. Nevertheless, we believe that the AAAS can and should do more, through a coordinated program with explicit priorities.

Of course the AAAS should not become a universal agency to do all these things itself. Rather, it should point the way, give leadership, and provide mechanisms to help all the scientific community carry out the efforts needed. In this sense, then, we urge the AAAS to make a major commitment to the definition, development, and dissemination of scientific knowledge bearing specifically upon today's critical social problems.

We need not name the problems here. They are increasingly sensed and widely publicized. But we ask you to go over the list of problems in your mind to see if you agree with these observations: Solving or ameliorating such problems usually will involve some scientific knowledge. The knowledge, taken collectively for all such problems, derives from every field and discipline of science, physical, biological, and social. In order to contribute effectively to solutions, the knowledge must become incorporated integrally into the problem-solving system, which includes engineering, technological development, social innovation, and political process.

A final point merits emphasis. We do not propose and we do not desire to turn the attention of the AAAS exclusively to science for solving social problems. The Association must continue to fulfill its responsibility in furthering the work of basic science as an independent pursuit that expands man's understanding. However, the AAAS also has an avowed responsibility in promoting human welfare. Only if the Association fulfills both responsibilities, in a relative balance appropriate to this time, can it expect to maintain credibility in the eyes of society today.

Our committee earnestly seeks your reactions and suggestions. Mail them directly to Dr. William Bevan, Executive Officer, AAAS, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005.

WALTER MODELL, *Chairman*

Other members of the committee are Robert M. Adams, Richard H. Bolt, James D. Ebert, Linda Harris, William T. Kabisch, Martin Meyerson, Robert S. Morison, John Platt, and James E. Young. Also participating in discussion were Herbert Longenecker and Richard Scribner.

Birth Control

Kangas in his excellent article, "Integrated incentives for fertility control" (25 Sept., p. 1278), has overlooked one of the most powerful incentives, that of being able to determine the sex of children.

At present, fertility control or birth control can be only a decision not to have children, with the main advantages occurring some time distant in the family's future. A program of material incentives such as those outlined by Kangas is an attempt to give more immediate advantages for not having children. An alternative, and possibly more effective means for giving incentives for using birth control, is to allow the couple to decide the sex of their children. Although the control of children's sex is not presently available, when one talks in the time scales required for curbing world population, the necessary technical advances, in all likelihood, will have occurred, making sex control a real option. Sex control would make artificial control of birth of interest to almost every family unit. A case in point is the apparent endless fascination of playing the game, "What type of baby do you want?"

Furthermore, this pastime carries much deeper meaning for many couples, since a great deal depends on the sex of their children. How many examples can be found of families with a string of children all of one sex except for the youngest? No need to look to overpopulated countries to be able to imagine the startling effects the option of deciding the children's sex would have in reducing the number of children.

In the underdeveloped countries, it is clear that control of children's sex could have some major changes in birthrates. For example, if there were a strong preference for one or another sex, it would take only one generation for there to be a very sharp decline in the number of marriage units and, in all probability, the birthrate. On the other hand, I believe as long as both sexes are required to produce every child, there will eventually be a balance between the number of children of each sex.

Regardless of the details, the possibility of the choice of sex for children would certainly have a profound effect on acceptance of fertility control.

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The incentive plans noted by Kangas may be considered to be positive or reward incentives. Obviously, they all would be extremely costly and would require a staggering bureaucracy to implement. In view of the reluctance of many influential political leaders to extend direct subsidies to the populace, such reward incentives would seem to have little chance of quick implementation, regardless of merit.

Negative or penalty incentives for fertility control are available to those countries which have a taxing system similar to ours. Limiting the remission of taxes for dependents to, let us say, no more than four persons per family might be expected to be a strong inhibitory influence on fertility. The bureaucracy for such a negative incentive plan is already in operation in many countries. Further, these governments would be increasing their income rather than putting out subsidies—a most palatable ploy for many political leaders.

A number of legal, sociological, and moral problems are attached to such a negative incentive plan. For example, equitable allowances would have to be made so as not to penalize families for their procreative proclivities prior to institution of the negative incentive plan; the wealthy could afford to ignore the penalty, and so forth. However, it would seem that the negative type of plan could be put into operation more easily and *rapidly* than any of the positive incentives for fertility control.

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There is some irony in Carl Djerassi's reference to "Orwellian" approaches to birth control ("Birth control after 1984," 4 Sept., p. 941). While George Orwell occasionally referred in his writings to population control, his concern—and the common concern in England 25 years ago—was with a dwindling birthrate and the danger of an irretrievable decline in population.

Djerassi may have some justification for using the term "Orwellian" to describe a set of externally imposed fertility controls, for it was indeed the purpose of the state of "Oceania" in 1984 to exert absolute control over reproduction. But the Anti-Sex League in 1984 was established not to limit population but rather to eliminate the purely private pleasure of sex. Members of the League were urged to participate in pleasureless coition once a week "for