

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.

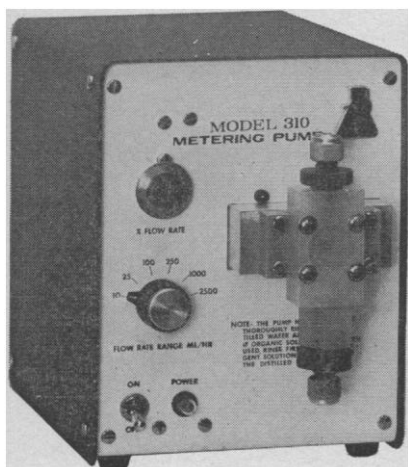
A number of legal, sociological, and moral problems are attached to such a negative incentive plan. For example, equitable allowances would have to be made so as not to penalize families for their procreative proclivities prior to institution of the negative incentive plan; the wealthy could afford to 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

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the good of the party" (to maintain the population).

Orwell was aware of the complexities of the population problem and was skeptical of simple projections of trends. "The experts are proving now that our (the British) population will be only a few millions by the end of this century, but they were also proving in 1870 that by 1940 it would be 100 millions" (1). But Orwell was even more disturbed by the convenient rearrangement of history and memory to suit occasional demands. National problems, like national enemies, may change abruptly in a generation. Blurring these changes should indeed set Orwell's grave astir.

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Reference

1. G. Orwell, *Collected Essays, Journalism and Letters of George Orwell*, S. Orwell and I. Angus, Eds. (Harcourt, Brace & World, New York, 1968), vol. 3.

Attitudes toward Women:

Flexible or Feudal

"Women in academe" by Patricia Albjerg Graham (25 Sept., p. 1284) was an excellently documented and presented statement, except for two points:

1) I do not believe that a "European" woman exists. Having been born in Europe and having lived in different parts of that small continent, I believe that people in Naples and people in Stockholm or Vienna differ profoundly in their ways of thinking, feeling, and living. This is by no means contradicted by the fact that scientists from all those areas can communicate on a topic of mutual interest when they meet at a conference.

2) If there is a common trait that unites European women and distinguishes them to some extent from those in the United States, it is their flexibility in changing roles, and doing it imperceptibly to others and mostly to themselves. Even after a childhood atmosphere of early suffragettes and blue stockings, they are in most cases quite comfortable in the double role of being a female in relation to a particular male in whom they are interested and switching to being a no-gender professional in a situation that calls for professional performance. . . .

Human behavior has a biological

basis and the reproductive functions between male and female differ radically. In this area men and women appear to me like two different species. Nevertheless, men will have to develop greater psychological mobility in this age in which heightened flexibility is called for in numerous respects. They, too, will have to revise gradually some of their feudal attitudes toward women which were bred into them in the course of millennia of simpler technologies and of lower human expectations.

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While it is true that internal ambivalences beset us, the tenor of the times is vigorously in favor of women working and having less guilt about either their femininity or their children. As Graham points out, the ages that produce the greatest pressure for scholarly publication or, I may add, development of professional competence coincide with those requiring the most domestic performance. Many women not only are unwilling to leave their family responsibilities for full-time work during this period, but are unable to physically accommodate the strains of both, especially when their children are young. If they remain out of their field during this period, which may be 10 years, they may have considerable difficulty returning. Part-time work, it should be emphasized, is an excellent way for a woman to keep up academic interests and professional skills and for a university to gain additional qualified and diverse staff. Although some university administrators (Mary I. Bunting at Radcliffe) have taken the lead and some university women themselves have recognized the problem, part-time positions on university faculties are still not readily available. Let's hope that universities, even in these less plush times, will consider "the woman question" in terms of restructuring of appointments, allowing more part-time appointments for qualified women, as suggested by Graham.

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Graham's article is about as objective as a paper on biology by Lysenko. Obviously she opts for a weird society such as that of the old Shakers. The complete equality, of course, must be available to everyone. And since few,