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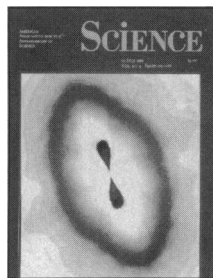
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COVER False-color representation of midplane densities in a bar-shaped model of the early solar nebula (the region shown is eight times the earth-sun distance across). Dark colors are high density; white is low. The binary is expected to merge and form a protsun; the planets may have formed in the surrounding nebula. See page 565. [Alan P. Boss, Carnegie Institution of Washington, Washington, DC 20015]

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The Science Vote in Iowa

Make this the year that no candidate for political office gets elected without being asked what his or her position is on matters relating to science and technology. For too long politicians have been able to get elected without knowing much about or taking an informed position on subjects of importance to scientists, engineers, and society at large. Adequate support of a vigorous program of research and development is one of the few ways that Congress can authorize investments likely to be of enduring benefit to this and future generations. Such expenditures have the potential for improving health, increasing the standard of living, restoring international competitiveness, enhancing our defense, and maintaining this country's prestige as a leader in research and innovation.

There is considerable discussion regarding the need to establish priorities for the expenditure of federal funds for science and technology within a zero-sum game. It is possible, but difficult, to do the job of establishing priorities so that only the highest quality basic research and most appropriate technology development efforts are undertaken. This, however, is only a small part of the problem. The main problem is that the competition for federal funding is getting tougher and the discretionary part of the budget has not been growing. Thus, it is really a negative-sum game, and scientists and engineers are not doing much to change it.

Given this situation, it is remarkable that President Reagan committed all of his 1989 available discretionary budget of more than \$3 billion to science and technology activities. But did the scientific and engineering communities congratulate the President on this unprecedented commitment to science and technology? No. Rather, some seem more concerned that if the activities proposed in the President's budget were funded, then the funds available for other areas of research or development might be reduced. This concern has resulted in some intra- and interfield controversy that has only made it easier to move these funds to nontechnical domestic programs. Whether a united front by scientists and engineers to support the President's budget would have prevented Congress from moving these funds out of science and technology programs is now merely speculation.

You might have noticed that you did not hear too much about the science vote in Iowa during the primary campaign. One reason is that the candidates were not asked about science and technology matters. They were not asked how they would address the problems of the effects of carbon dioxide or other so-called greenhouse gases on possible global warming, or what plans they might have to do something about it. They were not asked about individual investigator research, the Strategic Defense Initiative, building the Superconducting Super Collider, the space station, genetic engineering, or science and technology education. It does not matter whether or not you agree with my position on the importance of the items that I listed as budget priorities, or whether you share my belief regarding the importance of science and technology as principal engines of our economy. It does matter that it is possible for politicians to get elected without being informed about critical issues in science and technology.

To remedy this situation, more of you should start going to political functions and asking those seeking election what their position is on those scientific or technical matters that concern you. If the candidates do not have answers that satisfy you, offer to work with them or their staffs to help them develop positions that are based on fact and not on misinformation. You have a responsibility to see to it that your own political biases do not lead you into misleading the candidate on matters of fact. This will only hurt in the long run. One potential dividend of increased political activism on the part of scientists and engineers could be that among the politicians that you work with there might emerge a representative, a senator, a governor, or even President. In that case, there is a good chance that the elected official would then turn to a trusted adviser, who also just happens to be a scientist or engineer.—ALVIN W. TRIVELPIECE