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The Federal Budget and Special Interests

Recent News & Comment columns (see 18 Sept., p. 1619) have reported that efforts to increase federal funds for research and development (R&D) were headed for the "brick wall" separating and capping domestic and defense spending in the federal budget. Further, in the scramble for domestic funds, science would suffer at the hands of such programs as Medicare and Medicaid, which Congress is unlikely to cut.

These reports appear to have been based on comments of congressional staff persons, many of whom see their jobs in terms of the special interests with which their committees happen to be involved. Unhappily, congressional committees can be expected to take such narrow views of the federal budget, but the R&D community, along with the higher education lobby, ought not take that approach. Such an approach (i) makes the R&D and higher education communities just two of many special interest pleaders; (ii) puts science at odds with some powerful and legitimate concerns, at a time when R&D and higher education are in dire need of some effective allies to help make their case for public support; and (iii) adds to the fragmentation of the body politic and to the refusal to deal with the base on which the budget wall rests—annual deficits.

The outcome of the 1992 election, by itself, will neither ease the paralysis caused by countless claims competing for shares of shrinking budgets nor encourage effective action to reduce deficits and free up resources for the future. The directions of future federal policies could be determined by groups of special interests that move beyond fragmentation and put together new alliances in support of particular policy options. Such alliances can be organized around short-range, self-serving aims as well as around long-range goals looking to the future well-being of society.

Given that the R&D and higher education communities, by definition, ought to be concerned about the quality of the future, and that both groups need allies to help advance their agendas, the communities should give high priority to working with other special interests to create a progressive alliance. They could start by viewing aging organizations as potential allies rather than powerful competitors for public funds.

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UV Light Exposure and HIV Replication

The Research News article by Brigid M. Wallace and Jill S. Lasker (28 Aug., p. 1211) raises the possibility that exposure to ultraviolet (UV) light can activate the human immunodeficiency virus (HIV) by mechanisms that involve chromatin unwinding, with subsequent activation of HIV genes integrated in the eukaryotic cell genome. A second mechanism by which exposure to UV light could be detrimental in HIV-infected individuals is suggested by three recent observations that are seemingly independent. First, it has been

reported that exposure to UV light increases interleukin-10 (IL-10) production by monocytes (*1*). Second, it was found that a subset of asymptomatic, HIV-seropositive individuals who exhibit a particularly severe defect in T helper cell function (determined by reduced T cell proliferation and interleukin-2 production) shows elevated production of IL-10 (*2*). Third, it appears that T helper 1–type responses that augment cellular immunity may be protective against AIDS, whereas T helper 2–type responses that enhance humoral immunity are not (Jon Cohen, News & Comment, 10 July, p. 152) (*3*). Because T helper 2–type responses are characterized by elevated IL-10 levels, a cytokine that down-regulates T helper 1–type responses (*4*), it is possible that the potential immunoprotective effect provided by T helper 1–type responses would be reduced or eliminated by a UV-induced increase in IL-10 production. Thus, UV exposure could also exacerbate progression to AIDS by interfering with protective immunity.

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Yucatan Meteor: The Real Impact

The caprice of one large meteor hitting the earth 65 million years ago (Richard A. Kerr, Research News, 14 Aug., p. 878) is responsible for the existence of humanity. Had the dinosaurs survived, with all their capacity for carnivory, the large mammals, including primates, would never have evolved. On the other hand, humans could only have evolved through the elimination of both the carnivorous and the herbivorous dinosaurs. These reptilian megafauna would have both eaten the humans and eaten the subjects of their agropastoralism.

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New Observations

Although a letter is not the accepted way of reporting new observations, my preliminary findings are of significant enough interest to warrant an exception. In my last year of investigations into the field of jobhuntology, specifically focused on my transformation from tenuous to tenure track, I have made some startling observations. In physiology and related biomedical departments there has been an unexpected modification from hard-money positions into institutional opportunities for cost-cutting. From approximately 36 nationally advertised positions in biomedical and biology departments, 5 positions are confirmed to have undergone such a modification. This process occurs unexpectedly, and at least in one case (University of California, Los Angeles), after second interviews and negotiations. Although clearly based on a small sample size, these observations have implications for the entire field of academic jobhuntology. I am continuing my studies to verify my hunch that the frequency of these job modifications is increasing.

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