resources so thinly that the quality of research in the United States would fall to a common level of mediocrity. Attempts to upgrade the research activities and economy in a particular region by pulling the rug out from under research that meets objective criteria for deserving funding is woefully shortsighted. In the long run, it weakens our strongest research and undermines our economic competitiveness. Equating federal research monies with "vital regional development resources" is bad mathematics—we would not like the numbers we would end up with.

At a time when funding for research is becoming scarce while scientific opportunities are increasing, we should be helping set priorities, not climbing into the pork barrel. We should also work together to convince Congress of the great need to improve the research infrastructure in U.S. universities and colleges. There is growing recognition of that need, as Morgan indicates, with the introduction of the University Research Facilities Revitalization Act (H.R. 1905) and in the fact that similar language was included in the trade bill passed by Congress but vetoed by the President. We need these improvements to take advantage of new opportunities in science, to provide better training for students, and to improve our ability to address the nation's problems that require scientific solutions. We should redouble our efforts to ensure that adequate funds are provided to conduct good science rather than resorting to pork barrel politics.

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Response: I share Hess's belief in the value of peer review in allocating scientific R&D resources. There is, however, strong empirical evidence that Congress is unprepared to accept peer review as the sole basis for allocation and believes that other considerations, such as regional economic development, ought to figure substantially in at least some decisions. Hess argues that the answer lies in persuading Congress that they are wrong.

Both as individuals and in various groups, leaders of the nation's research establishment have made this argument repeatedly. I have myself made it with my own congressman who chairs the science, research, and technology subcommittee of the House Committee on Science and Technology. The clear evidence is that Congress does not find the argument persuasive. Members have strong political and philosophical reasons for believing that factors other than peer review should figure in at least some R&D allocation decisions. The steadily growing volume of pork barrel R&D provides strong evidence that our arguments are going nowhere.

In the face of this evidence I have concluded that the most effective defense is to "regularize" the process. Force the Congress to make a few explicit decisions that limit the overall level of R&D resources that can be allocated on a basis broader than conventional peer review. Then hold the line. Hess may not like this approach, but I believe it is better than risking the growing erosion of the peer review process that results from large numbers of individual congressional decisions, most of which are not being as effectively countered as the one Hess outlines in his letter.

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