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of operant conditioning is especially important when the environment includes other organisms—each affects the other and is affected by the other, so that they enter into the reciprocal controlling relations which are the essence of social interaction. Operant conditioning provides a way of understanding these interactions; Pavlovian conditioning, although important in the analysis of behavior, cannot incorporate reciprocal organism-environment interactions.

JOHN A. NEVIN

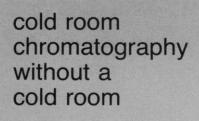
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Research Grant Evaluation at NIH

Gross (Letters, 9 July, p. 106) expresses sincere but misguided concern for the viability of the National Institutes of Health (NIH) system of research grant evaluation. He considers that "the growth of NIH center grants and contracts . . . not now reviewed by study sections" (but by special committees instead) is an effort to bypass the present system of quality control and provide safe, easy cover for individual investigators. Others, on the contrary, have privately voiced fears that worthy center and program-project grant applications may not be approved if they include less meritorious projects. Both views underestimate the strength and wisdom of the peer review system. Indeed experience with one special committee, the Pharmacology-Toxicology Program Committee, has been reassur-

Each institution applying for program-project, center, or contract funds is first rigorously inspected by a sitevisit team of experts from the committee, suitably reinforced as needed by outside ad hoc consultants to ensure coverage in depth of all aspects of the proposal. The question recurs, "Is this truly a program (or a center), or is it merely an umbrella to cover the research of the department?" The component research projects are minutely scrutinized for both scientific merit and relevance to the aims of the program or center; projects lacking in either criterion are pruned from both the application and the budget in a consensus report prepared by the site visitors.

The committee members on the sitevisit team then bring their report to





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Circle No. 77 on Readers' Service Card SCIENCE, VOL. 174 the full committee, which proceeds to challenge it mercilessly, point by point. Unless adequately defended by the site visitors, the proposal may be further modified or even rejected altogether. If accepted, with or without change, it is assigned a priority and forwarded to the (appropriate) National Advisory Council for implementation. (In today's climate of budgetary austerity, alas, only those proposals approved with sufficiently high priority can be funded.)

I have found all colleagues on this committee to be a group of hard-working, hard-nosed, penny-pinching scientists, adept at winnowing wheat from chaff. Thanks to such zeal and dedication, the peer review system continues to flourish.

LESTER C. MARK

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Spectacular Jaw

It was nice to see the fine old American Museum of Natural History photograph (cover, 8 Oct.) of the reconstructed Carcharodon megalodon jaw. It is certainly a spectacular picture, but it should be stated that the jaw is actually much too big. If the teeth in the fossil were like those in the recent species of this genus, they would diminish in size as they approach the corners of the jaw. However, this is not the case in this specimen, probably because the preparators used the largest teeth they could find to make the most spectacular jaw. Most of the teeth that are shown in this jaw come from the second anterior position of the upper jaw. These are the largest teeth that the recent "great white" has, and this must have applied as well to the fossil. It would be a similar faux pas to reconstruct a saber-tooth cat using their canines or sabers for all the teeth. We would end up with a terrifically largeiawed cat.

If the proper lateral and posterior teeth had been used in this shark-jaw reconstruction, it would reduce the size of this *Carcharodon* jaw by at least one-third. The reconstruction would still be large, but not nearly as large as the one in the photograph.

SHELTON P. APPLEGATE

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