

anthropology, who have acted with transparent political motivation. The timing with which the article was picked up and distorted by the general press denotes careful pre-arrangement on which I suppose the committee is to be congratulated.

CARLETON PUTNAM
4415 Kirby Road, McLean, Virginia

The report should receive an award. It contained fewer data to support its generalizations than any contribution I have ever seen published by you heretofore.

W. W. BAKER
917 Sutton Drive, Xenia, Ohio

Distribution of Research Funds

I take issue with you concerning the influence of the institutional name in securing government research funds [*Science* 142, 453 (25 Oct. 1963)]. I cannot agree . . . that the name of the institution sponsoring the research has important bearing on decisions by all granting agencies concerning grant support.

I base my disagreement on my personal experience as a member of a panel at the National Science Foundation for 2 years (1960–62) and as a program director for 1 year (1960–61) in the same agency. This panel at all times bent over backward and was indeed prejudiced in favor of able investigators at the smaller institutions. The majority of its members would demand more from equal talent at a well-staffed institution than from isolated talent. . . . I cannot understand your statement that “we could not in good conscience produce a different result,” since it was a relatively simple matter for our panel to be prejudiced in the opposite direction. . . .

DANIEL BILLEN
Department of Biology, University of Texas, M. D. Anderson Hospital and Tumor Institute, Houston

I am deeply distressed to see your prestige added in support of a specious and, I think, dangerous argument. . . . The two ways you propose of distributing research funds more equitably are (i) judgment without consideration of institution and (ii) direct grants to institutions.

In recommending the second, you assert that excellence will not suffer. The fate of excellence will depend

upon the ability of the local committees to allocate the money judiciously. . . . If local decisions are less sagacious than those of national study sections, then excellence must certainly suffer.

A research proposal to a local committee will typically encounter either of two principal alternatives. Either the committee will not contain anyone in the field of the proposal; in this case, with all else equal, the committee will tend to defer to the member from a related field—a zoologist may judge a psychology proposal, and so on. Or the committee will indeed contain a scientist from the proposal field, and then, not too surprisingly, will tend to defer completely to the expert. Judgment is thus rendered either without an expert or, what may be even worse, by a single expert. . . .

You ascribe an additional virtue to your proposal—that it will allow the institution a greater voice in decision, which you offer as a *prima facie* good. First, do not individuals now decide their own research topics, and is not decision by the individual to be preferred to decision by any institution? . . . Second, local institutions, more than study sections, are susceptible to influence by factors inimical to basic research. For example, a governor decides that the industry which his backward state sorely needs will be attracted by a strong engineering college at his state university; thereafter, funds have a way of going to engineering. They are not so routed because of the concentration of able people; more nearly because of the opposite. . . . Indeed, the opening next door to a needy university of a cookie factory would make calculable the slight interval of time before the arrival of the first basic research proposal—“Factors of nutritive value in pastry flour”—a proposal which could not but do well with the dean. . . .

Because science has attained a sufficient market value to appear by name in the budget of federal aid to the states, there is a pressure toward equitable distribution. . . . But how compatible is science as a striving of an individual for excellence within a culturally agreed-upon form, with science as a vehicle for state aid? It would seem profoundly risky to divorce science from its internal criteria so as to hand it out according to the criteria of veterans hospitals and bridges.

DAVID PREMACK
Department of Psychology,
University of Missouri, Columbia

. . . Funds to encourage and support research should be distributed more broadly, but a funding mechanism not involving study section analysis and decision should be employed. Different criteria should be used to determine how other and additional funds might be distributed. . . . The study section as it functions now should continue and should recognize excellence and vote support for it, irrespective of the origin of the application.

GUSTAVE J. DAMMIN
Peter Bent Brigham Hospital,
Boston 15, Massachusetts

I appreciate your editorial very much. The scientific fraternity must itself support vigorously alternatives to the present system of project-type grants, which fails to develop the mass of colleges and universities and probably unbalances the programs of the few who get substantial grants.

CHARLES E. KELLOGG
Soil Conservation Service,
U.S. Department of Agriculture,
Washington, D.C.

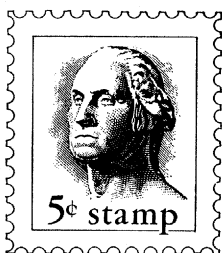
. . . There is one hard cold fact. There is a difference in the quality of investigators at certain preeminent universities and [those at] other schools in parts of the nation which, as communities, may be less stimulating intellectually. This is the nature of the beast and the root of the problem. . . .

ALFRED M. BONGIOVANNI
Department of Pediatrics, School of Medicine, University of Pennsylvania, Philadelphia 4

If the “smaller” schools are to receive a proportionate share of available research funds and if this “equitable” allocation of funds is dependent, to a large degree, upon the excellence of the institution, does it not behoove such schools to become “excellent” first? Or is it necessary for an institution to be well endowed with grant funds before it can become “excellent”? There are many institutions, not of the size of an M.I.T. or a Harvard, that are quite well equipped with both brains and hardware and that can, and do, carry on creditable research programs. . . .

I am disappointed that you found it necessary to prod congressmen into looking at grant funds as another source of pork-barrelling and another opportunity for political shenanigans. Scientists have felt blessed in that politics have, heretofore, played little or no role in the allocation of grant funds to

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investigators working in nonprofit institutions. It would be disastrous were this system to change.

MELVIN BLECHER

Department of Biological Chemistry,
School of Medicine, Georgetown
University, Washington, D.C.

Your past editorials have always struck a strong sympathetic response with me. However, concerning your effort of 25 October 1963, might I ask that you expand your arguments of the last two paragraphs into a full article. It is tempting to think that you might talk yourself out of some of this folly in considering more fully the possible results.

C. K. BIRDSALL

Department of Engineering,
University of California, Berkeley

... It is hard to separate prejudice for an established institution and an established investigator from prejudice for a specific proposal. Therefore, I propose the following change. ... The scientific portion and the budget of the proposal should be easily separable from the identity of the individual principal investigator and the institution. ... The study sections can then first weigh the scientific merits of each individual proposal and budget. The identity of the principal investigator and the institution can then be matched up with the proposal. The investigator and the institution can then be weighed. Some simple formula can be worked out whereby these three separate categories can be weighed together to yield an overall order for the proposals. ...

ARTHUR M. WILSON

Department of Chemistry,
Emory University, Atlanta 22, Georgia

The Noble Gases

In an article entitled "Some predicted chemistry of group VIII elements; the aerogens" [*J. Am. Chem. Soc.* **85**, 2202 (1963)], R. M. Noyes suggests the generic name "aerogens" for the inert gases because the latter designation has been made inappropriate by the recent synthesis of many chemical compounds of these gases. He bases his suggestion on an analogy with the term halogens, which he translates as "formed [or derived] from the salt of the sea." This is an erroneous derivation. "Halogen" means salt-forming or salt-former and refers to the unique

property of the elements in question of forming salts directly with metals. The names oxygen, hydrogen, and nitrogen likewise mean acid-, water-, and niter-former, respectively.

The term "noble gases" is a very good substitute for "inert gases." (i) This name already exists in English chemical literature, and its German and Dutch translation (*Edelgas*) is the only word used in those languages for the inert gases; in French, *gaz noble* is a known substitute-name for *gaz inerte*. (ii) These gases are "noble" in the sense in which gold, for example, is a noble metal; that is, they react only in isolated cases. (iii) The term "noble gas structure" is frequently used, especially in physicochemical text books, to designate an electronic structure with eight electrons in the outer shell (two in the K-shell), which is found in the zero-group elements.

U. A. TH. BRINKMAN

Free University,

Amsterdam, Netherlands

Virus and Pseudocowpox Disease

In the report by Moscovici *et al.* on the isolation of a viral agent from pseudocowpox disease [*Science* **141**, 915 (1963)] there is a lack of evidence that the virus, which was isolated in tissue cultures and characterized by various techniques, is actually the causative agent of the disease in question. It is evident that the new virus is capable of producing various effects in growing cells of bovine origin and is capable of surviving extensive passage through several generations in tissue culture, but these facts do not substantiate the suggestion of the authors that "the isolate is the etiologic agent of the pseudocowpox syndrome." The authors refer to an earlier report, "Milker's nodules: isolation of a pox-virus from a human case" by Friedman-Kien, Rowe, and Banfield [*Science* **140**, 1335 (1963)]. In the latter account there is likewise no evidence that the new isolate can produce pseudocowpox in cows or milker's nodules in man.

With the development of tissue culture as an instrument for isolation and study of viruses, many agents have been discovered in various animal and plant sources in complete absence of any disease or obvious pathologic changes. Discovery of the virus family in the human intestinal tract which