

Letters

Earth Resources Satellite:

Before and After

Lukens states in his letter (2 May) that he "disagrees strongly with [my] conclusion that cost effectiveness evaluations are not possible" on an earth resources satellite system.

That is not quite an accurate restatement of my conclusion. The report to which he refers concludes that (1):

Precise determination of cost effectiveness at this early stage in the development of an ERS system is not possible, and any attempt to achieve such precision could be misleading. The magnitude of the economic benefits simply cannot be calculated in the absence of the type of data which the system is designed to produce. (Italics added.)

I believe this to be true.

Beyond that, there may be some value in attempting to assess the economic potential of an earth resources satellite system. Some studies already have been completed, as our report noted. Conclusions regarding costs and benefits have not been uniform; in fact, they have varied rather widely. This constitutes strong evidence that precision is not possible at this early date.

Yet, I am reassured by the fact that all such studies of which I am aware have concluded that the potential economic benefits will exceed the costs of such a system by a substantial margin, and some predict that benefits will someday be measured in billions of dollars annually. It is my personal conviction that an operational ERS system will ultimately prove highly cost-effective. Only time will tell, of course, and I desire nothing more than for NASA to get on with the job of building and testing an experimental system.

My sole objection to cost-effectiveness studies is that I believe they have been used by the Budget Bureau as a device for delaying the research and development work on an experimental ERS system. It is noteworthy that the Bureau of the Budget never demanded a cost-effectiveness study prior to permitting NASA to undertake experimental work in space communications or space meteorology, to cite just two examples. In my view, such a standard should not have been applied to ERS

for the same reason that it has not been applied to other experimental work undertaken by NASA.

This brings us to the question of NASA's basic function. I consider it to be NASA's responsibility to experiment with new space systems that appear to have potential, and to conduct the necessary research and development which will lead to a firm foundation for a subsequent determination as to whether operational systems should be built. In this context, I believe cost effectiveness is not an appropriate standard to apply *in advance* to NASA's experimental work, though it is certainly applicable when the time comes to decide whether to go forward with an operational system.

JOSEPH E. KARTH

Subcommittee on Space Science and Applications, House of Representatives, Washington, D.C. 20515

Reference

1. *Earth Resources Satellite System*, House Committee on Science and Astronautics (Government Printing Office, Washington, D.C., 1968).

Campus Riots:

Punitive and Proper Laws

As an educator I do not sympathize with the delicate tone of Boffey's comments (11 Apr., p. 161) concerning pending legislation to curb and punish campus rioters. They should be punished, and "punitive" legislation may force administrators and faculty to accept their institutional responsibilities. . . . Here at Lamar Tech a number of Negro students were arrested recently for wrecking the campus bookstore. They are subject to stiff fines and jail sentences. Several have already been suspended from the college. One immediate effect was a replacement of Negro leadership and the presentation of a revised and more rational list of grievances and recommendations.

What worries me most about the prevailing parental and institutional indulgence is the ultimate question: who will hire these white and black, bearded, beaded, and bemused incompetents when they leave college? Re-

visiting Harvard last summer, 26 years after graduating, I was stupefied by the sight of a shambling horde of filthy caricatures who have now invaded that once respectable and lovely campus. Personally, I favor the California proposal of fencing off and allowing on campus only faculty and students with identification, except I would enforce a shave, haircut, and louse inspection at the gate.

ROBERT R. WHEELER

*Department of Geology,
Lamar State College of Technology,
Beaumont, Texas 77704*

In describing the occupation of buildings by black students at Brandeis University (28 Mar., p. 1431), Nelson stated that they left the building in "good order." This statement has also appeared in the press of Boston and New York and appears in no case to have been contradicted. The facts are quite different. A faculty report of the conditions of Ford Hall rooms after the occupation listed items that were missing, including personal property of graduate students. These included a wristwatch, two brief cases (the papers from which had been emptied on the desks), sunglasses, a pipe, selected books, and an electric typewriter. The students whose property was taken generously refrained from reporting the thefts to the local police out of deference to the plight of the university and thereby compromised their claims under whatever insurance they may have had.

Under the heading "General Condition of Rooms," the report continued:

There was minimal damage to the rooms, per se. Feces were found in the corner of one room, and smeared on one chair. Fire was started in a wastebasket, miscellaneous unidentified papers and a reel of magnetic recording tape burned. It will probably take several days or weeks to determine the full extent of the damage (e.g., whether any important tapes have been erased or research materials missing). The total sum involved of personal items is \$206.95.

In a supplementary inventory, the following items were found to be missing: 1 stereo headset, 1 oscilloscope, 1 sound level meter, and 10 1200-ft reels of unused magnetic recording tape. The total value of these was \$476.42. The report continued: "In addition, the following items are present, but no longer functioning, and will need repair: a vacuum tube volt meter, and a modified 35 mm automatic slide projector."

There were also two other major acts of thievery and vandalism. One

involved the theft of photographic equipment with a reported value of about \$6000. A staff photographer found that some of it was being "peddled" in the Roxbury area. The other act involved physical damage to the IBM 1130 which was repaired at a cost greater than \$2500.

Theft is theft; vandalism is vandalism; the dropping and smearing of feces can be interpreted by the reader. In a period such as this, when strikes and occupations cannot be considered to be settled once and for all, it is particularly important that there be no concealment or playing down of the realities of the situation. Otherwise, the attitudes and behaviors of administrations and faculties will be incomprehensible to the outside world.

JOHN W. SENDERS
*Department of Psychology,
Brandeis University,
Waltham, Massachusetts 02154*

Exasperation in the Lab

How often has a research project been delayed or disrupted by the failure of a supplier to deliver an item within the time promised? If our experience is typical, these delays have become common in university research. When an order is placed with a company for multiple items, and it is filled on time, one or more items are usually back-ordered. Some suppliers even advertise materials which they cannot furnish at all. These practices are becoming universal—and the delays are not nominal—they are substantial, as long as a year in some cases.

Here, we attempt to circumvent these delays on low-cost items by ordering them from those companies which we have learned will give good service. But our larger purchase orders are sent out for bids. It is almost impossible to convince a purchasing agent that the next-to-lowest bid is preferable to the lowest bid because we know from experience that the lowest bid will not be delivered on time. He will say, "How do you know? What will I tell the auditor? I can't tell him that you *think* a graduate student will waste x amount of time waiting for the equipment or supplies to arrive."

I suggest that manufacturers of scientific equipment and supplies should have a code of ethics. When a company lists a "stock item" in its catalog, it should be a stock item in their stocks.

When a company promises delivery within a certain time period, delivery should be assured. Late delivery should be the exception rather than the rule.

PAUL A. HARTMAN
*Department of Bacteriology,
Iowa State University, Ames 50010*

Involuntary Birth Control

Ketchel's suggestion (Letters, 11 Apr.) that science should develop methods of involuntary birth control, in readiness for the day when mass starvation is the only alternative, is superficially persuasive. The argument bears an uncanny resemblance to those for advance production of weaponry. It ignores the question of who in "society" or which society will make the decision he so blithely allocates to society at large. Much will depend on who has starved already and who might be reduced in numbers to prevent the starvation of particular others. Alas, his suggestion even ignores the bitter and unscientific fact that technology is too often the mother of ideology. One cannot so easily allow "society" to make the ultimate decisions in use of techniques. On the contrary, there is much to be said for the vigorous expression of professional ethical principles by the creators of those techniques.

E. A. HAMMEL
*Department of Anthropology,
University of California, Berkeley*

Federal Information Policies

The Committee on Scientific and Technical Information of the Federal Council on Science and Technology has established a task force to review the government's technical information dissemination policies, assess their adequacy, and recommend improvements. The task force has already interviewed many federal officials, but it would also appreciate hearing from other scientists and engineers. What obstacles do they encounter in obtaining access to the government's scientific and technical information? Are the results of the government's R & D programs actually available to and utilized by the private sector? What improvements are needed and what recommendations should be made? What specific aspects of government dissemination programs or systems do they find satisfactory, commendable,

or would like to see expanded? These are a few of the questions asked by the task force.

In stating your personal views, please identify yourself as scientist, engineer, librarian, information specialist, manager, or other (specify). Anonymous comments cannot be considered. However, the identity of the contributors will not be disclosed without their permission. If you wish to obtain a brief summary of the responses, please mention this. All replies should be sent to me.

CURRIE S. DOWNIE
*Task Group on Dissemination of
Information, Office of Aerospace
Research, 1400 Wilson Boulevard,
Arlington, Virginia 22209*

Alcoholic Decisions Are Old Stuff

The findings of Goodwin *et al.* ("Alcohol and recall: State-dependent effects in man," 21 Mar., p. 1358), reported on memory tasks performed while sober or under the influence of alcohol. Their findings reminded us of an earlier report (ca. 450 B.C.) concerning the Persians (1). Among his remarks regarding Persian customs, Herodotus states:

It is also their general practice to deliberate upon affairs of weight when they are drunk; and then on the morrow, when they are sober, the decision to which they came the night before is put before them by the master of the house in which it was made; and if it is then approved of, they act on it; if not, they set it aside. Sometimes, however, they are sober at their first deliberation, but in this case they always reconsider the matter under the influence of wine.

The author does not present the data necessary for a statistical evaluation of the quality of decisions made under these circumstances, but the (sober-sober?) Greeks eventually conquered the Persians. Alcohol seems to influence the quality of decisions as well as the quality of recall. There is, after all, nothing new under the sun, so Goodwin *et al.* should be aware of those who preceded them in discussing these fascinating phenomena.

BERNARD CAFFREY
DOROTHY CLEMMER
*Department of Epidemiology, Tulane
University, New Orleans, Louisiana*

Reference

1. Herodotus, *The History of Herodotus*, G. Rawlinson, Transl. (Tudor, New York, 1944), p. 52.