UFO Trouble in *Science*

AAAS President Roberts assures me that the columns of *Science* are available for a reply to its article, "UFO project: Trouble on the ground" (26 July, p. 339). The article is gossip. It is so essentially trivial that the nonfacts, anonymous opinions, and unsupported statements and misstatements it contains are of no particular importance.

At one point, its author declares with unconscious irony that "it is difficult to know what to make of the Colorado fracas." It is at least as difficult to know what to make of *Science*'s editors sending a reporter to Boulder to gather such immateria and solemnly spread it on your pages. This tittle-tattle is what now passes for scientific journalism?

Evidently we have lost touch out here in Colorado with the mainstream of science. We still think that facts, rather than what "some observers believe" are the stuff of science. This being so, we are concentrating attention on preparation of the report on Colorado University's substantial investigation of unidentified flying objects. We have a large volume of data to process and analyze, so the report will take some time to complete. When it is released, we trust the editors of *Science* will read it, and, if they have some lingering respect for scientific method, comment upon it. Meanwhile, they and the readers of *Science* can profitably concern themselves with matter of more import than alleged "fracases."

E. U. Condon
University of Colorado,
Boulder 80302

Scope of State Research

A news item "State research aid," states that the Pennsylvania Science and Engineering Board "claims to be the first state-sponsored science board with funding capabilities" (19 July, p. 247). Sapolsky, in his article "Science advice for state and local government" (19 Apr., p. 280), lists four state agencies which fund research projects. These include the Connecticut Research Commission, the Louisiana State Science Foundation, the New York State Science and Technology Foundation, and the North Carolina Board of Science and Technology. Since March 1964, the North Carolina board has made grants totaling $1,781,325 from state funds for the support of 94 research projects which are expected to benefit the state. These include a regional nuclear structures laboratory, marine geological research, a multiuniversity computing center, and studies of air and water pollution.

Peter J. Chenery
North Carolina Board of Science and Technology, Research Triangle Park 27709

. . . The Connecticut Research Commission has been making research grants for several years. For example, during the fiscal year ending 30 June, it funded 42 projects with a total value of $1,270,328.

John S. Burlew
Connecticut Research Commission,
18 Trinity Street,
Hartford 06115

University of Delaware's Independence

Boffey's article on the University of Delaware (10 May, p. 628) was interesting, but parts of it might give a misleading impression. The fracas between the university and the state budget director was less a demonstration of the university's independence from state control than a richly earned rebuff to the budget director, a staff aide to the Governor. Had the Delaware legislature, where state power is vested, or the Governor himself attempted to control university policy through oversight of its spending, there might or might not have been the same result. But for the budget director to attempt such control is considered a usurpation of power which does not belong to him. The legislature's action in this matter was deeply appreciated by many people. . . .

Marion C. Stewart
407 Brentwood Drive, Carrcroft,
Wilmington, Delaware 19803

Purchase of Computers: Cost and Size Criteria

Mathews' article "Choosing a scientific computer for service" (5 July, p. 23) should serve as a useful, dispassionate counterpoint to the dissonant clamor of competing equipment salesmen and the "buy by brand name" attitudes of many administrators.

But one factor Mathews fails to stress—memory size and the length of the machine's internal word unit—strengthens the case for the large computer. Many practical research problems, especially in the social sciences, demand for their solution core storage capacities in excess of those commonly provided by small or medium machines. Larger computers are designed to operate efficiently with large memory arrays while optional hang-on units for smaller machines can create inefficiencies. Partitioning a large problem (involving either complex processing or large data sets) to make it fit on a small machine increases processing time. It also demands programming talent which, as Mathews notes, is in short supply. The successful implementation of time-sharing also demands large internal memories.

While smaller computers *can* offer savings for engineers and for student use in classes, the case for a proliferation of such machines in an organization of moderate to large size is weak, especially if the machines are disparate in size and come from different manufacturers. Most organizational users would, I think, find it more efficient to have the energies of the local programmers focused on maintaining and improving the services of a central large machine.

Finally, one can only say amen to Mathews' plea to keep old computers around until the natural processes of decay (of machine and of its users) permit graceful retirement.

ANTHONY V. WILLIAMS
Department of Geography,
403 Deike Building,
Pennsylvania State University,
University Park 16802

It is unfortunate that Mathews found it necessary to force the reader to indulge in a guessing game as to the actual identity of the computers mentioned. A table basically equivalent to his Table 1 for all commercially available computers would be a very useful addition to the annual *Guide to Scientific Instruments*. Numerous laboratories have already had to duplicate the work of gathering just such facts for the purpose of determining where to start in the search for the computer best meeting their needs. Of course any such table is bound to be incomplete (as Mathews has stressed) in its characterization of the machines. Anybody who has looked at the field can suggest alternative measures in place of those used by Mathews. The great virtue of Mathews' presentation is that he oversimplifies the complex structure to a set of members which fit in one table easily. Once the most general features are located in such a table the procedures Mathews describes for gathering more details become usable. . . .

ROBERT G. GLASSER
Department of Physics and Astronomy,
University of Maryland,
College Park 20742

Research and Education: IUBS Resolution

The International Union of Biological Sciences at their General Assembly in September 1967 passed unanimously the following resolution submitted by Paul Weiss (United States) and P. Chouard (France):

Considering that

1) The growing momentum of knowledge in the biological sciences and its fundamental bearing on human welfare and destiny calls for increasing efforts at further broadening and strengthening both basic and applied research in biology and its branches;

2) This task requires high-quality education of mounting numbers of qualified students in close contact wtih the sources and practitioners of advancing knowledge;

3) Emphasis on quality, rather than sheer proliferation, of both workers and publications seems of paramount importance for maximum efficiency in this progress;

The IUBS resolves,

1) That research and education be carried on in the closest possible association;

2) That trends toward divergence between the activities of advancing and of disseminating knowledge be vigorously counteracted;

3) That talented research workers be expected to take an active part in the educational process, and that the exemption of research workers from educational functions be made an exceptional dispensation for special cause, rather than a reward for excellence; and

4) That teachers be given opportunities for conducting research by time allowed from their full duties.

To this, F. W. G. Baker, secretary of the International Council of Scientific Unions, added the following postscript: "The possible effects on teachers and research workers throughout the world are eagerly awaited."

PAUL WEISS
Rockefeller University,
New York 10021