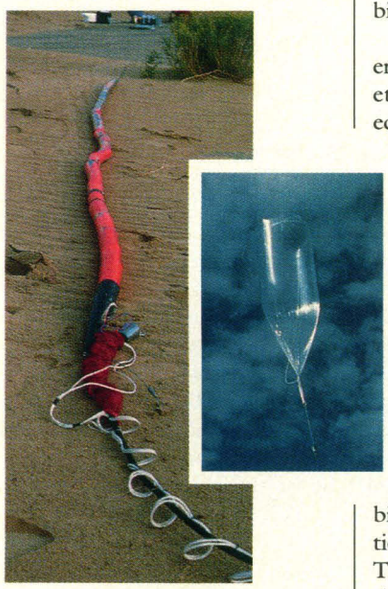
Briefings

edited by CONSTANCE HOLDEN

Snaking Across the Martian Sands

A lot of strange things have happened in the Mojave Desert, but nothing quite like this. Earlier this month a group of scientists and technicians released a helium-filled balloon, and then chased madly after its rope-like tail full of instruments that was being dragged across the desert sand. The exercise was actually a rehearsal for one of the most multinational experiments in the exploration of the solar system.



The Planetary Society

Mars bound. *In the Mojave, the balloon-borne snake slithered and swerved without a hitch. Will it do the same on the red sands of Mars?*

The Planetary Society, a private group based in Pasadena, built the instrumented rope, or "snake" that a French balloon pulled behind it. A Soviet rocket will deploy the balloon and instrument package in the Martian atmosphere as part of the Soviet Mars '94 mission.

During the Martian night, the balloon will fly low over the planet's surface, allowing the instrument-filled snake to measure the composition of the surface and the structure of the subsurface. By day, solar heating will boost the balloon, which carries a camera and meteorological instruments, to higher altitudes.

The trick will be to keep the snake from snagging on a boulder or crevice during the night and prematurely ending the planned 10-day mission. Data from the snake will be relayed back to Earth by Soviet and U.S. spacecraft that will be orbiting the planet.

The involvement of a nongovernmental organization in planetary exploration is unprecedented, according to the The Planetary Society, which is spending about $500,000 on the snake. The 125,000-member group was formed in 1980 by astronomer Carl Sagan and others to encourage space exploration and the search for extraterrestrial life.

Is MCAT Next?

Where will it all end? A biologist who writes test questions for the American College Testing (ACT) Program reports that a sample item was recently rejected because it touched on the "upsetting" subject of fish dissection.

It seems that Nicholas G. Aumen, assistant professor at the University of Mississippi, constructed a series of questions on the eating habits of lake shad, which included experiments analyzing the contents of their insides. But on 4 October he got an apologetic letter from an ACT test specialist explaining that the item could not be used because "detailed information concerning animal experimentation may be distressing and disconcerting to many students." It explained: "Topics that may distract students and interfere with their concentration and performance must be avoided at all costs."

Handwritten annotations on the items submitted reveal ACT's specific concerns. For example, next to a table labeled "shad gut contents" the test specialist wrote, "this may be upsetting to some students!" She also objected to an experiment involving the removal of shad gizzards and esophagi, writing "it is implicit that the animals were sacrificed.... Animal dissection is a controversial subject in high school biology classes!" The questions go on to postulate the findings from giving live shad no food. "This may be construed as starving animals! Distressing!" wrote the specialist. Finally, a question as to why shad collected near a river inlet would have "more detritus in their guts" was labeled "distressing."

Aumen says ACT has made it clear that controversial topics such as abortion must be avoided in test questions, but that its guidelines contain nothing on animal research. "I hereby challenge ACT to adopt an official policy on this issue," he wrote them on 11 October. But he warns that the exclusion of such topics "isolates students from a large portion of the biomedical sciences" and fails to acknowledge that many medical advances depend directly on animal research.

Fermi Award

The Department of Energy's Enrico Fermi Award this year has been awarded to radiochemist George A. Cowan, long associated with Los Alamos National Laboratory, and health physicist Robley D. Evans, professor emeritus at the Massachusetts Institute of Technology. Each scientist is getting $100,000.

Cowan, senior fellow at Los Alamos and director of the Santa Fe Institute, was cited for development of radiochemical techniques and nuclear weapons diagnostics. Evans, on the MIT faculty since 1934, was cited for pioneering work in nuclear medicine. Evans opened up a new field when he discovered radiation effects on the health of radium dial painters in the watch industry.

	U.K.	France	W. Germany
Total expenditure per researcher in pounds	73,000	111,000	128,000
Total support staff per researcher	1.2	1.55	1.77
INDUSTRY			
Total funding	4.7	5.2	11.6 (billion)
Expenditure per researcher	73,000	145,000	145,000
Support staff per researcher	1.1	1.9	1.9
PUBLIC			
Total	4.1	6.8	7.2 (billion)
Civil	2.4	4.7	6.4 (billion)
Military	1.7	2.1	0.8 (billion)
Expenditure per university researcher	48,000	36,000	80,000
Support staff per university researcher	1.02	0.51	1.34
Expenditure per nonuniversity researcher	123,000	125,000	124,000
Support staff per nonuniversity researcher	2.04	1.89	1.63

All figures are in pounds for 1987

Grim times for British science. *Britain's Science and Engineering Research Council (SERC) has just published a report confirming what has become the perennial plaint of British scientists: support is low and getting lower. The report, which compares basic research support on a per-researcher basis in Britain, France, and West Germany, finds Britain to be last "in every sector, and on all measures," according to Harry Atkinson of SERC. The discrepancy is especially pronounced when it comes to university labs.*