

Proxmire withdrew Oliver's Golden Fleece

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earth's sun. The stars are 80 light-years away from the earth. That's 480 trillion miles.

The targeted search will concentrate on a range of frequencies that is relatively quiet against background noise. The targeted region is bounded by hydrogen and water properties. Because of that, Oliver and others have dubbed it the water hole.

In a 1977 NASA Ames report, Oliver suggested that "different galactic species might meet there, just as different terrestrial species have always met at more mundane water holes."

"The probability is low, but the stakes are very high," says Oliver, of the chances that the SETI group will detect signs of extraterrestrial life.

The equipment, under development at Stanford University and the Jet Propulsion Laboratory in Pasadena, is scheduled to be operational by 1988 and will run for 10 years or "as long as the public endorses it. It's a question of our endurance," says Oliver.

A prototype of some of the equipment is being tested in the California Mojave Desert. Next, it will be tested at Arecibo Observatory in Puerto Rico, which has a larger antenna and is more sensitive.

There are tentative plans to launch a second one-way search phase from space, because human-made radio frequency interfering signals, particularly from satellites, are filling up the microwave spectrum, says John Billingham, chief of NASA's extraterrestrial research division, of which SETI is one of eight departments.

SETI officials are optimistic that their search will turn out to be far better than previous attempts. Over the past two decades there have been other efforts to detect signs of extraterrestrial life, but they used extremely limited search strategies. The SETI equipment should do in a few moments what other systems took several months to do, says Oliver. Still, he says, "It's a long-shot. But it would have a hell of a payback."

Oliver maintains the discovery of an advanced civilization would "probably be the greatest discovery in human history."

There are, of course, skeptics.

In 1978, Democratic Sen. William Proxmire of Wisconsin gave the group one of his famed monthly Golden Fleece awards for the "best example of waste, inefficiency or ironic or foolish spending of federal tax dollars."

The senator, who sits on the appropria-

tions committee, thought it was a misuse of public funds "to look for intelligent life in outer space when you sometimes might have trouble finding it in Washington," says Morton Schwartz, one of Proxmire's legislative assistants.

A few years ago, the senator came around and decided not to oppose the SETI project after he heard testimony from NASA that it would not cost more than \$10 million to \$12 million, would have "substantial" foreign involvement and would not be money misspent because the technology could be used for other purposes, says Tom van der Voort, appropriations committee staff member.

If no sounds are detected, researchers will make other valuable discoveries in the universe, says Oliver. But, he and others contend the most exciting discovery would be to find evidence of other civilizations. If intelligent life can be detected from the vast distances of light-years, the probability is it will have "significantly more capability in technology than here," says Ivan Linscott, research associate at Stanford's Space, Telecommunications and Radio Science lab in the electrical engineering department where SETI equipment is being developed.

The rationale behind his assumption is

that extraterrestrial civilizations who have the technology to transmit signals the SETI group can detect are older than earth's civilization, because their sounds would have traveled as far as 80 light-years away to reach earth. Radio sounds from earth have only been detectable for several decades, SETI officials say.

Even though Oliver and his colleagues are "all convinced" there is life in other galaxies, the question for SETI is how much intelligent life, able to communicate, exists in our galaxy and can be detected, says Oliver.

The former Hewlett-Packard vice president is the "best bona fide person to run SETI on this planet," says NASA's Billingham.

Oliver belongs to both the National Academies of Science and Engineering, teaches astronomy at University of California at Berkeley and spent 25 years thinking about how to detect extraterrestrials, says Billingham.

Oliver says he wouldn't be surprised if the search determined there are one million to 10 million extraterrestrial civilizations.

"The question is, are we going to be a galactic recluse or join the network?" asks Oliver.

By LAURIE KRETCHMAR

If E.T. ever phones home, chances are someone from this planet will be listening in.

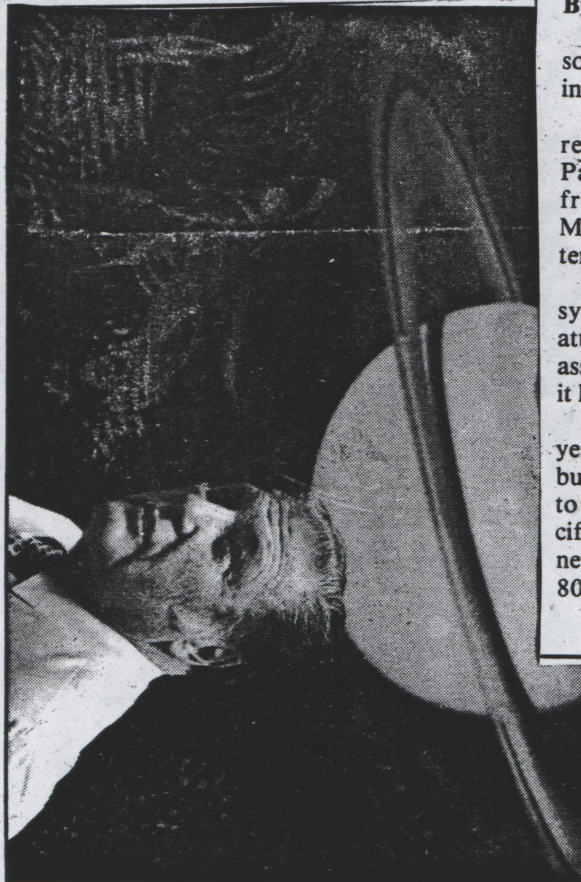
Bernard Oliver, former vice president of research and development at Hewlett-Packard Co., heads a 20-member team from NASA Ames Research Center in Mountain View called Search for Extraterrestrial Intelligence (SETI).

The group's goal is to design automated systems that will attract an operator's attention when the system cannot reliably assign a radio signal to a known origin, be it human or natural, in this galaxy.

Budgeted at \$1.5 million a year for five years, the group is in the third year of building computer hardware and software to search the entire sky, as well as a specific microwave region of the electromagnetic spectrum, for sounds coming from 800 other "nearby" stars, similar to

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The probability of detecting life in outer space is low, but the stakes are high, according to Bernard Oliver.



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He dealt with E.T. long before Hollywood

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