



North American
AstroPhysical Observatory

North American AstroPhysical Observatory (NAAPO)



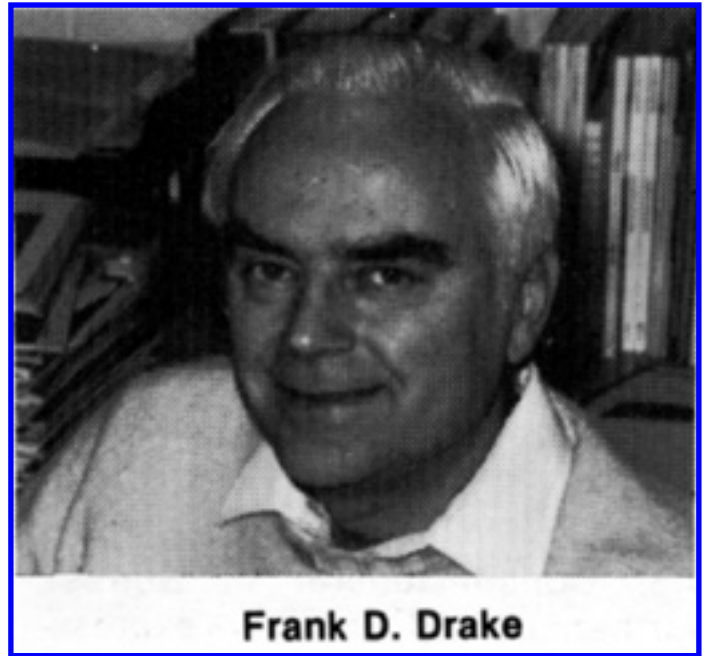
Cosmic Search: Issue 13
(Volume 4 Number 1; First half 1982)

[Article in magazine started on page 8]

Putting the Cosmos on "Hold"

By: Frank D. Drake

What is life for but to dream big dreams, and to work hard to make those dreams come true? This is a very human trait, and of all our modern dreams, one of the most tantalizing is to discover other worlds in space, to be spectators of other civilizations. What an adventure it would be — to know other intelligent creatures who have struggled through an entirely different history! An impossible dream? As readers of **COSMIC SEARCH** know, it is within our grasp. The same know-how which



Frank D. Drake

has given us video-disks, communication satellites, and computers has quietly provided us with a powerful means to discover and study other civilizations in space. Indeed, for six years NASA has been quietly constructing a program of enormous promise to make a deeply sensitive search for the radio signals of other civilizations. Now, just as it is about to swing into full-scale action, this program, the Search for Extraterrestrial Intelligence (SETI), has been given the axe by a single uncomprehending U.S. senator. As of October 1, 1981, new U.S. government funds for SETI have been abruptly terminated.

What is the U.S. SETI program? Designed by a group of top NASA scientists at the Ames Research Center and the Jet Propulsion Laboratory in California, and guided by a group of eminent university scientists, the program has been designed to apply the most modern technology on large radio telescopes to search in depth in the "cosmic haystack" of almost countless stars and radio channels for intelligent signals. To make this possible, a special "spectrum analyzer" has been under construction by world-renowned experts at Stanford University. This device, when finished, can monitor almost ten million radio channels simultaneously for signs of intelligent signals. Attached to it will be a computer which can automatically analyze the data from the spectrum analyzer for a large variety of forms of intelligent transmissions: television signals, radar pulses, spacecraft telemetry, or navigation signals, for example. This computer provides an "early warning" system, so that any sign of an extraterrestrial signal can be checked out right away. These devices not only speed up the pace of the search of the cosmic haystack immensely, but allow tests of a large fraction of all the radio channels where

signals might be expected, something which has not been possible before.

The plan has been to utilize the spectrum analyzer on NASA telescopes at Goldstone, California, to search the entire sky and many radio channels for ETI. Then the equipment is to be moved to the world's most sensitive telescope, at Arecibo, Puerto Rico and to a few other large telescopes to search particularly promising regions of our Milky Way galaxy, including the directions towards the nearest sun-like stars. Radiations no stronger than the strongest we radiate could be detected from distances of many thousands of light years. The entire program would take about seven years, and would require about \$2 million per year, or about 1/3000 of the typical NASA annual budget. Even though we have already searched many millions of combinations of directions in the sky and frequencies for signals, this program would accomplish more than ten million times more searching than all previous searches put together. It would be an astonishing achievement, and the cost per test of the cosmos would be remarkably low.

Now, suddenly the walls have come tumbling down. Senator William Proxmire of Wisconsin, a powerful member of the U.S. Senate Appropriations Committee, has seen fit to attack the SETI program. He has launched criticisms of the SETI program which all readers of **COSMIC SEARCH** will easily find ludicrous. He asks, would not any signals we receive be many hundreds of years old, and therefore not of much interest? (Of course, the signals would probably be thousands of years old, yet would very probably originate from civilizations much more advanced than we, from whom we can learn much, to say the very least.) Might the signals even come from millions of light years away, and thus be from civilizations which may now be extinct, he asks? (Well, there are no stars at that range we might listen to — all the stars in the Milky Way are within 100,000 light-years. In any case, again the signals would contain priceless information from advanced civilizations. And after all, we even learn much from studying extinct civilizations such as those of the ancient Greeks and Romans!)

And what about the science fiction speculations that any advanced civilization at some point will build omnipotent robots which will fly to all the distant planets and colonize them? In this scenario, since no such robots have come to the earth, we must be the first and only advanced civilization in the Milky Way. Then it's no use searching, he says. (Well, there are a lot of technical and sociological reasons why such robots don't make sense, as **COSMIC SEARCH** readers know. No matter

what, they are more expensive than the wildest dreams, and return nothing to a civilization which cannot be obtained much more cheaply by other means. All it takes is one Senator Proxmire per civilization to scotch this idea, and I would place my bet that there are many of him!) In another thrust, he says there is no evidence for life in space. (True, and so there was no evidence for America when Columbus proposed a little exploring. The analog is a very close one, only this time we have much better theories to support our proposals than did Columbus.) Behind these questions there are no doubt some truly important concepts and questions, in fact some of the prime questions about extraterrestrial life. But these questions can only be answered by scientific observation. In a universe as complicated as ours, no amount of theorizing will tell us the nature of life in the cosmos.

If They and Their signals are going to be there for millions of years what is the rush? Why not wait until the interest rates go down, suggests Senator Proxmire. The answer is obvious. We live in a troubled world in which economic and technical problems enhanced by our exploding population are looming as an awesome menace to our quality of life and even our existence. We need to know all we can of our universe and of the social systems invented by other sentient beings. There is probably no quicker route to wisdom than to be the student of other civilizations. Furthermore, as humans, it is not enough just to survive, we need to enrich our lives with new knowledge, new vistas, just as our lives are enriched by music, sport, and travel, among other things. Without this a people loses its pride, dignity, and motivation to succeed. Delaying SETI is no more reasonable than turning off all the music, all the plays, all the games until interest rates come down. Besides, on a practical side, the SETI team is assembled, and any hiatus in the program will lead to the dispersal of years of human development and will cause us to have to cope with an increasing level of manmade radio interference.

Yet Senator Proxmire feels he is qualified to make the scientific decision that SETI should no longer be sponsored. Using his seniority and his muddled scientific information, he has succeeded in passing a resolution which would stop all U.S. support for SETI at least for one year, and if he has his way, forever. It is an embarrassment particularly to American history that America would turn away from one of the most promising ventures a civilization can pursue. It reflects on America's political system that basically scientific decisions can be preempted by unqualified politicians instead of scientist administrators such as those who run NASA, one of the most successful scientific organizations of all time. How can this

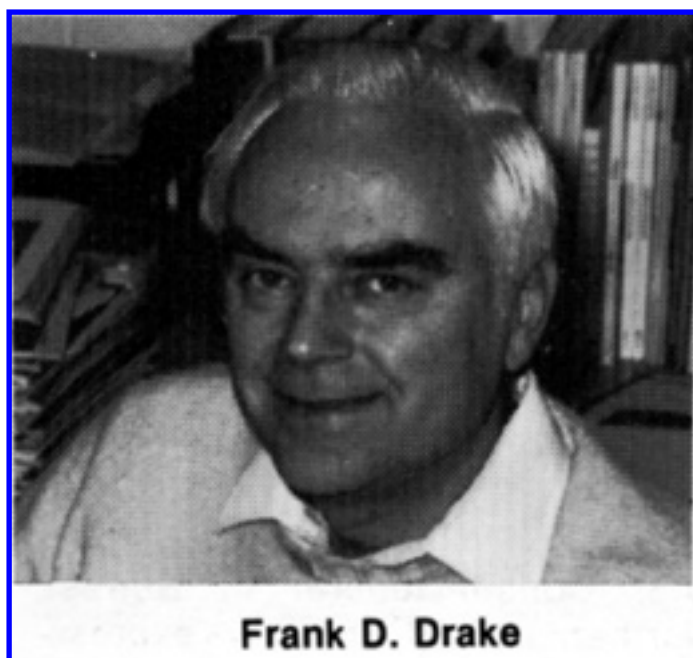
happen? Perhaps because it all makes good publicity back in Oshkosh and Milwaukee, and the chances of the senator's reelection are enhanced, perpetuating a weakness in the system.

The ultimate irony is that while all of this has been taking place, Senator Proxmire has been frantically maneuvering to preserve excess subsidies to dairy farmers. Congress did not want this, but again he prevailed. The cost to the taxpayer, just for the *excess* subsidy, not the basic subsidy, is between \$500,000 and \$1,000,000 per day. Every two days enough funds to run SETI for a year are diverted to this end.

Will we eventually make the right decisions in a matter so minor financially, and yet so deeply profound in its significance? Or will this one bizarre episode delay our entrance into the galactic club? Will we have a chance to realize one of the most exciting of dreams we have dared to dream? Tune in next year, but not today. For now, Americans are not allowed to tune into the cosmos.

In a universe as complicated as ours, no amount of theorizing will tell us the nature of life in the cosmos. The answers can only come from scientific observation.

Based on an article by Frank Drake in the Miami Herald, October 11, 1981 — the day before Columbus Day



Frank D. Drake

Frank D. Drake is Goldwin Smith Professor of Astronomy at Cornell University and a member of the Editorial Board of **COSMIC SEARCH**. Famous for his Project Ozma and for the "Drake Equation", Dr. Drake is the author of many articles and books including "Intelligent Life in Space" (1967). His informative and provocative column has been a regular feature of **COSMIC SEARCH** since the Summer 1980 issue. His article "Reminiscence of Project Ozma" was

featured in the premier issue of **COSMIC SEARCH** (January 1979).

[HOME](#)

Copyright © 1982-2006 Big Ear Radio Observatory, North American AstroPhysical Observatory (NAAPO), and Cosmic Quest, Inc.

Designed by Jerry Ehman.

Last modified: August 10, 2006.