



North American AstroPhysical Observatory (NAAPO)



Cosmic Search: Issue 8
(Volume 2 Number 4; Year End 1980)
[Miscellaneous items found throughout the magazine]

Miscellaneous Items

Webpage Table of Contents (Bookmarks) (Internal links to categories of items in this webpage)

- [Information About the Publication](#)
(Editorial Board, Editors, Table of Contents)
- [Miscellaneous Quote](#)
- [Miscellaneous Photo](#)
- [1980 Index \(Volume 2, Issues 5 - 8\)](#)

Information About the Publication (Editorial Board, Editors, Table of Contents)



Year End 1980
Vol. 2, No. 4
Serial No. 8

ISSN 0161-8555

CODEN: COSEDN

Editors, and Others Involved in the Publication

Editor: John Kraus, *Director, Ohio State University Radio Observatory.*

Co-Editor: Robert S. Dixon, *Assistant Director, Ohio State University Radio Observatory*

Assistants: Alice Kraus, Jim Arthur

Editorial Board

- **Richard Berendzen**, *President, The American University*
- **John Billingham**, *Director SETI Program, NASA-AMES Research Center*
- **Ronald Bracewell**, *Director, Radio Astronomy Observatory, Stanford University*
- **Thomas A. Clark**, *NASA-Goddard Space Flight Center*
- **Arthur C. Clarke**, *Sri Lanka, author of "2001, A Space Odyssey"*
- **Norman Cousins**, *Chairman, Editorial Board, SATURDAY REVIEW*
- **Frank D. Drake**, *Director, National Astronomy and Ionosphere Center (Arecibo), Cornell University*
- **Robert E. Edelson**, *SETI Project Manager, Jet Propulsion Laboratory, California Institute of Technology*
- **Donald S. Hall**, *Director, Strasenburgh Planetarium, Rochester, New York; Past President, International Planetarium Society*
- **Theodore M. Hesburgh**, *President, University of Notre Dame*
- **Nikolai Kardashev**, *Space Research Institute, Academy of Sciences, Moscow, USSR*
- **Philip Morrison**, *Physics Department, Massachusetts Institute of Technology*
- **Bernard Oliver**, *Vice President, Hewlett-Packard Company; Director of NASA-Ames Cyclops Project*
- **Cyril Ponnampertuma**, *Director, Laboratory of Chemical Evolution, University of Maryland*
- **Martin Rees**, *Director, Institute of Astronomy, Cambridge University, England*
- **Carl Sagan**, *Director, Laboratory for Planetary Studies, Cornell University*
- **Walter Sullivan**, *Science Editor, New York Times*
- **Vasevolod S. Troitsky**, *Radiophysical Scientific Research Institute, Gorky, USSR*
- **Sebastian von Hoerner**, *National Radio Astronomy Observatory*

About COSMIC SEARCH

COSMIC SEARCH is published quarterly (Winter, Spring, Summer, Fall) by Cosmic-Quest, Inc. Copyright © 1980 by Cosmic-Quest, Inc. All rights reserved. Cosmic Quest, Inc., is a non-profit educational-scientific (tax-exempt) organization.

Subscription price: \$10 for 4 issues in U.S. (and possessions), \$13 elsewhere. Single copies: \$2.50 in U.S. (and possessions), \$3 elsewhere.

Address subscriptions and all other correspondence to: Radio Observatory, Box 293, Delaware, Ohio 43015.

Second-class postage is paid at Delaware, Ohio, and at additional mailing offices.

Opinions expressed by persons writing in **COSMIC SEARCH** are their own and do not necessarily reflect the opinions of the editorial staff.

Statement of Ownership, Management and Circulation

U.S. POSTAL SERVICE STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION <small>(Required by 39 U.S.C. 3685)</small>		
1. TITLE OF PUBLICATION OSGMD SEARCH		2. DATE OF FILING 10-24-80
3. FREQUENCY OF ISSUE Quarterly		4. ANNUAL SUBSCRIPTION PRICE \$10.00
4. LOCATION OF KNOWN OFFICE OF PUBLICATION (Street, City, County, State and ZIP Code) (Not printers) P.O. Box 293, Delaware, Ohio 43015		
5. LOCATION OF THE HEADQUARTERS OR GENERAL BUSINESS OFFICES OF THE PUBLISHERS (Not printers) P.O. Box 293, Delaware, Ohio 43015		
6. NAMES AND COMPLETE ADDRESSES OF PUBLISHER, EDITOR, AND MANAGING EDITOR		
PUBLISHER (Name and Address) Cosmic-Quest, Inc., P.O. Box 293, Delaware, Ohio 43015		
EDITOR (Name and Address) John Kraus, P.O. Box 293, Delaware, Ohio 43015		
MANAGING EDITOR (Name and Address) N/A		
7. OWNER (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual must be given. If the publication is published by a nonprofit organization, its name and address must be stated.)		
NAME ADDRESS		
Cosmic-Quest, Inc. P.O. Box 293, Delaware, Ohio 43015		
No stockholders		
8. KNOWN BONDHOLDERS, MORTGAGEES, AND OTHER SECURITY HOLDERS OWNING OR HOLDING 1 PERCENT OR MORE OF TOTAL AMOUNT OF BONDS, MORTGAGES OR OTHER SECURITIES (If there are none, so state)		
NAME ADDRESS		
None		
9. FOR COMPLETION BY NONPROFIT ORGANIZATIONS AUTHORIZED TO MAIL AT SPECIAL RATES (Section 133.132, FIM) The purpose, function, and nonprofit status of this organization and the exempt status for Federal income tax purposes (Check one) Scientific-educational Tax exempt status received 7-27-79. Status has not changed since that date.		
<input type="checkbox"/> HAVE NOT CHANGED DURING PRECEDING 12 MONTHS <input type="checkbox"/> HAVE CHANGED DURING PRECEDING 12 MONTHS (If changed, publisher must submit explanation of change with this statement.)		
10. EXTENT AND NATURE OF CIRCULATION	AVERAGE NO. COPIES EACH ISSUE DURING PRECEDING 12 MONTHS	ACTUAL NO. COPIES OF SINGLE ISSUE PUBLISHED NEAREST TO FILING DATE
A. TOTAL NO. COPIES PRINTED (Net Press Run)	9250	7000
B. PAID CIRCULATION		
1. SALES THROUGH DEALERS AND CARRIERS, STREET VENDORS AND COUNTER SALES	2067	2320
2. MAIL SUBSCRIPTIONS	3494	3165
C. TOTAL PAID CIRCULATION (Sum of B1 and B2)	5561	5485
D. FREE DISTRIBUTION BY MAIL, CARRIER OR OTHER MEANS (SAMPLES, COMPLIMENTARY, AND OTHER FREE COPIES)	750	250
E. TOTAL DISTRIBUTION (Sum of C and D)	6311	5735
F. COPIES NOT DISTRIBUTED		
1. OFFICE USE, LEFT OVER, UNACCOUNTED, SPOILED AFTER PRINTING	1348	1265
2. RETURNS FROM NEWS AGENTS	1991	Not available until next issue published
G. TOTAL (Sum of E, F1 and 2—should equal net press run shown in A)	9250	7000
11. I certify that the statements made by me above are correct and complete.	SIGNATURE AND TITLE OF EDITOR, PUBLISHER, BUSINESS MANAGER, OR OWNER John Kraus Editor	

Front Cover

Distant galaxy? No. Storm on Jupiter? No. Big White Spot on the Earth? Yes! Hurricane Allen filling the Gulf of Mexico at noon on August 8, 1980. Tick marks indicate the coasts of Texas at upper left and of Yucatan at lower right. (Photo courtesy NOAA/NESS). See article by James E. Lovelock starting on page 2.



Back Cover

"Big Ear", the 110-meter radio telescope of the Ohio State University. A montage by Jim Arthur.

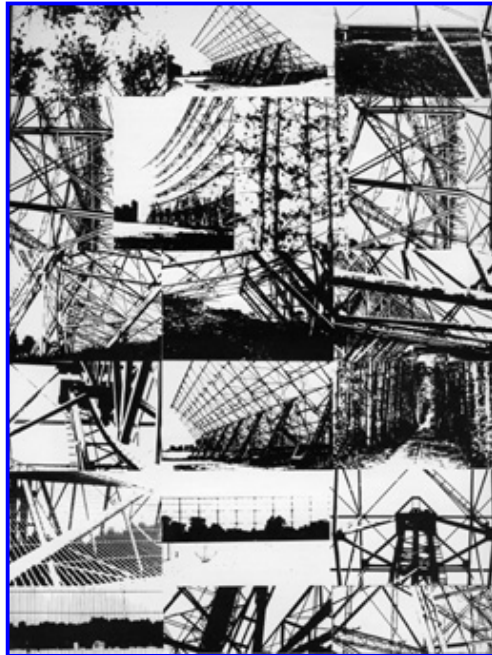


Table of Contents (in magazine)

Item	Pg
The Recognition of Alien Biospheres by James E. Lovelock	2
Strategies of Searching for Extra-Terrestrial Intelligence (Part Two) by Nikolai Kardashev	4
SETI by Frank D. Drake	7
Why is Scientific Writing Unintelligible? by Sharon Dunwoody	8

To All Cosmic Searchers

In its first two years, **COSMIC SEARCH** lost at the rate of about \$2000 per month until our debt reached \$50,000. We could not continue under such circumstances and we seriously considered ceasing publication and declaring bankruptcy.

However, we decided to continue for the present but with such changes as required to hold costs below income. Accordingly, many economies have been effected. Two of the more significant ones are:

- (1) giving up our one and only paid employee and going back to a completely volunteer operation, and
- (2) reducing the number of pages per issue.

We hope these will be temporary.

There are many ways in which you can help:

- (1) by renewing your subscription promptly
- (2) making gift subscriptions
- (3) telling others about **COSMIC SEARCH** and urging them to subscribe and
- (4) making a gift or donation.

COSMIC SEARCH is a non-profit scientific-educational magazine which we believe fulfills an important purpose. In response to a questionnaire sent out recently to a random sampling of our readers, the most frequent statement in almost identical words was: "**COSMIC SEARCH** is a fantastic magazine. Please keep it going".

We will try but we need your help.

Owing to space limitations it is necessary to omit the "Letters" and "College Courses" departments from this issue. However, two new columns have been added, one by Frank Drake and the other about the new Extrasolar Planetary Foundation by George Gatewood.

Because of the small all-volunteer staff and the need to wait until there was money on hand to pay the printing and associated costs, this issue is late. Hopefully, subsequent issues will be more on schedule.

John Kraus

Thank You!

COSMIC SEARCH expresses sincere thanks to the following donors who are helping to make sure that the story of SETI and mankind's future continue to be told in an interesting and factual way.

Planetary Donors

Robert J. Allen, Blythdale, Missouri (2 years)

Jane L. Brooks, Adelaide, S. Australia (2 years)

Amahl S. Drake, Ithica, New York

James C. Killman, Sherman, Texas

David M. Laida, Sierra Vista, Arizona

Arthur J. Morgan, New York, N. Y.

A. V. Shaver, Winchester, Virginia

Paul Simons, Sheboygan, Wis.
Eric W. Six, Iowa City, Iowa
John B. Theiss, Tucson, Arizona
Dennis Wildfogel, Pomona, N.J.
One anonymous

Stellar Donors

George L. Douglass, II, Reno, Nevada
David C. Halley, Colonial Hts., Virginia
Paul Simons, Sheboygan, Wis.
John Teetor, Marion, Ohio
C.L. Turnage, Camarillo, California

Cosmic Donors

Two anonymous

COSMIC SEARCH, published by a non-profit scientific-educational organization, has been granted tax-exempt status by the Internal Revenue Service, so contributions are tax-deductible (but subscriptions are not). On a combination donation-subscription or donation-renewal, the amount over and above the magazine cost is tax deductible. For example, if a donor sends \$30 (qualifying as a "Planetary Donor") and includes a two-year subscription at \$18, the \$12 difference is tax-deductible.

Donation categories are as follows:

Planetary: \$30 per year
Stellar: \$100 per year
Galactic: \$500 per year
Cosmic: \$1000 per year

Contributions, however, will be gratefully accepted in any amount. Checks should be made payable to Cosmic Quest, Inc., P.O. Box 293, Delaware, Ohio 43015.

Miscellaneous Quote

The following quote is not directly associated with any article.

Quote on page 18

Mankind's -Cide Side

We don't like a bug so we use a pesticide,
We don't like a plant so we use an herbicide,
Will these pesticides and herbicides get in the human food chain,
And cause mankind's inadvertent suicide?

Sedgewick Seti

Miscellaneous Photo

The following photo is not directly associated with any article.

Photo on page 20



1980 Index (Volume 2, Issues 5 - 8)

[This index was found on page 20 in the magazine.]

(Last number of listing is page number)

ABC's of Space, 5, 28; 6, 32; 7, 16; 8, 16

Articles

Bell, Trudy E., *The Grand Analogy*, 5, 2
Billingham, John, *Forum: Billingham Interview*, 5, 17
Brown, George H., *Marconi*, 6, 6
David, Leonard, *Putting Our Best Signal Forward*, 7, 2
Drake, Frank D., *Biological Immortality*, 7, 9; *SETI*, 8, 7
Dunwoody, Sharon, *Scientific Writing*, 8, 8
Fleury, Bruce E., *Aliens in Our Oceans*, 6, 2
Freudenthal, Hans, *Towards a Cosmic Language*, 5, 35
Gatewood, George, *EPF Report*, 8, 12
Good, I. J., *The Chief Entities*, 6, 13
Kardashev, Nikolai, *Strategies of SETI*, 7, 36; 8, 4
Kraus, John, *Diana Waves Back*, 7, 27; *Radiation From Above*, 5, 20
Lago, Don, *In the Time Machine*, 6, 30
Lovelock, James E., *Alien Biospheres*, 8, 2
Lurie, Joan, *Science in the Mass Media*, 7, 39
Pankonin, Vernon, *The Radio Spectrum*, 6, 40
Papagiannis, Michael, *IAU Session*, 5, 24
Smith, Marcia S., *Confronting Political Realities*, 7, 30
Stine, G. Harry, *Space Industrialization*, 6, 26
Tarter, Jill, *Communication with ETI*, 6, 18; *Life in the Universe*, 6, 19
Tinsley, Brian A., *Long Term Limits to Growth*, 8, 10
Trimble, Virginia, *It's a Nice Planet to Visit*, 5, 13
College Courses, 5, 46; 6, 38; 7, 40
Donors, 5, 47; 6, 25; 7, 48; 8, ii (inside front cover)
Editorials, 6, 10, 25; 8, 1

In Review (books)

Asimov, Isaac (film) 6, 17

Clarke, Arthur C., 7, 42
Goldsmith and Owen, 7, 42
Grey, Jerry, 5, 34
Hoffman, David (film), 8, 19
von Braun and Ordway, 7, 11

Off the Shelf Reviews

AIAA, 5, 48
Asimov, Isaac, 5, 48
Brown, Hanbury, 7, 35
Burnham, Jr., Robert, 7, 35
Clarke, Arthur C., 5, 48
Clarke, I.F., 5, 48
Cole, Dandridge, Coxe, 5, 48
Dose, Fox, et al, 5, 48
Dyson, Freeman, 5, 48
Edelson, E., 7, 35
Folsome, Clair E., 5, 48
French, A. P., 6, 12
Hallion and Crouch, 7, 35
Hapgood, Fred, 7, 35
Hardin, Garrett, 7, 35
Hartmann, William H., 6, 12
Heppenheimer, T. A., 5, 48
Hoffman, David, 8, 19
Jastrow, Robert, 7, 35
Kaufmann III, W. J., 6, 12
Man, John, 6, 12
National Academy of Science, 6, 12
Powers, Robert M., 6, 12
Sagan, Carl, 5, 48
Silk, Joseph, 6, 12
Stent, Gunther S., 6, 12
Stilley, Frank, 5, 48
Stine, G. Harry, 6, 12
Story, Ronald, 6, 12
Strickland, Glenn G., 7, 35
Sullivan, Walter, 5, 48
Tauber, G. E., 5, 48
Titulaer, Chriet, 6, 12
Wald, Robert M., 7, 35
Wells, Ernest H., 6, 12
Wunder, C. C., 7, 35
Young, Louise B., 7, 35

People, Places, Plans, 8, 13
SEnTInel, 5, 40; 6, 44; 7, 44; 8, 14
Space Happenings, 6, 11

