NAAPO (North American AstroPhysical Observatory)

"NAAPO News"
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KENNETH JONES GIFT ACKNOWLEDGED

NAAPO acknowledges with deep gratitude the generous donation received recently from Kenneth Jones of West Tisbury, Mass. This money will go a long way in bringing the data processing activities up to steam.

We thus welcome a new name to the NAAPOnews mailing list. It will be a long time before the asterisks disappear from the address file under Ken's name. A suitable toast will be offered at the next working session.

LEACH AND BARNHART SHARE MSDC HONOR

October 16 - 18 saw the third annual meeting of the Midwest Space Development Conference at the Worthington Holiday Inn. On a program that included astronauts and space entrepreneurs there appeared two representatives of NAAPO. Ms. Susan Leach, Ohio's Teacher of the Year for 1987 and original trustee of NAAPO spoke to the Educator's Section on the Partners in Learning project of the Upper Arlington Schools. Phil Barnhart spoke the next day to the Technical Section on the status of modern cosmological thought.

A joint award (a handsome, brass plaque with names) . . "for their cooperation in space education which will lead their students to the space frontier" was presented to Ms. Leach and Dr. Barnhart. At least the assumption is that Susan got hers. Barnhart didn't make it to the banquet and received a plaque at the lunch the next day.

FLAT REFLECTOR GETS WORK-OUT PREPARING TO MOVE

The staunch members of the radio telescope crew spent a clear afternoon climbing the flat reflector and trying out the controls that move the 32 x 110 meter flat reflector at Big Ear. Months of disuse and insect deposited mud have left three of the bays' lower brake systems inoperative. The lower brakes were installed to prevent falling of the flat reflector in case of cable or winch failure. The system is wired so that if the lower brakes are not released the winch drives can not be engaged. It thus becomes necessary to get all lower brake assemblies to operate.

After struggling unsuccessfully for two hours with #5, which seemed to be the simplest, it was discovered that a simple extension cord had been attached to the lower brake solenoid -- apparently because the underground cable from the control house had experienced an open! This was disconcerting news, as the remaining lower brakes may suffer similar distress. It will be necessary before trying to move the flat to clear up all wiring problems. This will be difficult work and as the winter weather moves in may be chilly as well.

There is also the possibility that mud-daubing wasps have plugged some air vent holes with pieces of Delaware County real estate. We were unable to find the appropriate holes during our inspection so will have to set of on this venture next time out.

A work session will be planned for the near future to track down these and other control problems with the flat reflector. Apparently 6 of the 9 bays are ready to move. We will continue to update the progress.

TWO WORKING SESSIONS REPORTED

[Your editor has slipped into what is turning out to be a monthly publishing schedule. This is not the intention, it is just the way the time fits in with the exam schedule.]

NAAPO Working Session
3 October 1987

IN ATTENDANCE:

Mitchell
Helwig, D
Huck
Fisher, Dave
Janis
Backus
Dixon
Bolinger
Barnhart

ANNOUNCEMENTS:

The revised ESL proposal for an updated estimated cost of renovation of Big Ear for NASA has been sent to the VP for Research at OSU. It is a matter of wait it out to learn what happens next.

A check from Malcolm Jones is in the mail. Dixon will get an address for Jones to Barnhart for proper acknowledgement.

On 18 Oct, the day after the next working session, there will be an open house at Big Ear and Perkins for the attendees at the Midwest Space Development Conference being held at the Worthington Holiday Inn. (Upon hearing this announcement, Mitchell left for Tucson and Dixon left for England. This left Barnhart with the task of pulling a crew together to ride herd. The crew responded admirably.)

STATUS REPORTS:

Dreese Lab: Huck and Ave report the 11/23 is progressing rapidly toward intallation readiness. There needs to be some housekeeping on the cables and labels (supplied by

Backus) installed.

The 11/44 is in need of installation of the SYSGEN routine. This would be a one day task for Abel but may drag out a bit until firm communication is established with him in Pasadena.

Bolinger has installed a power distribution junction box in the focus room to accommodate the 11/23 when it is moved in.

Huck has requested purchase of a pair of 100 MHz scope probes and a temperature controlled 25 Watt miniature soldering iron for use in Dreese. When accurate specs are available, this will be ordered.

Otterbein: Barnhart reported a lack of progress on the MicroGroup project. At the close of the session Engle drove into the RO to announce he had completed installation of an IBM PC/XT with operating hardware and software to get the all computer controlled monitoring and recording on line. At about the same time, programming commenced to bring about this wonder of wonders.

The MicroGroup has added some interested student volunteers. Dave Fisher is attending his first working session today. Further progress will be reported as the results pile up.

Telescope Site: The concensus was that we should aim for a move of the 11/23 into the focus room sometime in November. A rental truck will be arranged at the first November working session.

Arrangements to try to move the flat reflector will be made for a date in the next two weeks. Barnhart will contact Kraus and Teiga to consult on the proper procedures and precautions.

Meeting adjourned at 11:05.

NAAPO Working Session
17 October 1987

IN ATTENDANCE:

Fisher
Helwig
Bolinger

Barnhart
Backus
Huck
van Horne
Trejo, Raquel

ANNOUNCEMENTS: Barnhart introduced Raquel Trejo who is a lab technician at Battelle. She is interested in the possibility of helping with any of the tasks at the radio observatory that might fit her abilities. She attended the working session to find out what some of these might be.

Mitchell is not yet back from an observing run to Kitt Peak. Dixon still languishes in balmy England.

van Horne and Backus both requested to be placed on the mailing list. The editor said he would consider it.

STATUS REPORTS:

Dreese Lab: Cable labels have been ordered. Ink problems are still being reported for the West recorder. The 11/44 is up and running. Instruction sets from both DEC and Abel are incomplete.

Otterbein: The MicroGroup got a start, at last, but bogged down when instruction sets for the programs in place turned up absent. Engle was called to Mexico for a week to straighten up some mismanaged power reactor and has not been able to comply with many needed bits of software instructions. He has included a few glitches on the disc that makes operation somewhat aggrevating. Progress WILL be reported at the next working session.

SITE: The session to move the flat was a great learning session. The flat did not move much. Lots of people stared at it for considerable time. There seems to be a continuing problem of sticking lower brakes that prevent operation of the moving procedure. Until we clear up the brake problem, we are not going very far with the flat. There may be some pneumatic as well as electrical repair called for. There may also be some mechanical sticking of the brake shoes as well. Wasps did not bother any of us. They may have sealed some air relief passages, however. Work will continue.

There seems to be a shortage of hand tools on site for easy access. This may be a job for a tool hound somewhere.

The water pump seems to have pumped the well down below the intake at some time. Either it has lost its prime, or there is no water to pump, or the pump itself nay be burned out. We may have to consult a plumber. Any volunteers?

The suggestion was made to look into the possibility of a second phone line for the computer. The cost will be examined and we will discuss this at a future meeting.

Electrical prints were found for the telescope control system. An attempt will be made to get these onto disc storage by means of the AutoCAD program now operating in the MicroGroup.

Suggestion was made for Dixon to contact the church about moving the bus engine from the parking lot.

Next working session; November 7 1987, 10 am. At Big Ear. (Barnhart will not be able to attend this meeting.)

DIXON RETURNS SOMEWHAT POORER

Early Monday morning a message appeared on the electronic mail bulletin board to the effect that Bob Dixon had returned safely from the British Isles. After surviving the first English hurricane in history, a SETI conference, much British civility and a robbery in Soho, he is impressed with the British transportation system, courtesy, hospitality and great tourist attractions. He remains appalled at the ". . . culture shock to return to JFK airport in New York and be immersed in the swill of totally fouled up airline situations, taxi drivers who refuse to take you, airport employees who are surly and indifferent, etc."

His account of the Brighton Conference leads to some interesting possibilities. He managed to slip in a bootleg paper on the "radio camera" which sparked the greatest response of any in the SETI technology session. He even elicited a suggestion that a proposal to NASA stands a chance of consideration for funding independant of the SETI grant. This sounds like a very profitable trip.

While we fill Bob in on what has happened since he left we will have to wring from him the details of being a 'victim' and the star of the SETI show. More of this later.

SPARKLING OPPORTUNITIES

Occasionally items of interest become available and are communicated to this newsletter. We will continue to make known these items and opportunities. Feel free to contact either the person offering the item or service or this office. We will be happy to put you in touch with the appropriate party.

FOR SALE

Atari 800XL (56K memory, 6502 processor)

+ color monitor (Commodore 1702)
+ color printer (Okinate 10 color)
+ 4 color plotter (Atari 1020 - draws lines, not dot matrix)
+ disc drive (Atari 1050)
+ U-Print parallel printer interface
+ touch tablet (Atari CX77 electronic sketch pad)
+ software
    - DOS 2.5
    - DOS 3.0
    - Spartados with disc enhancer (would work better with hard disc)
    - Paper Clip Word Processor
    - Action! (high level language C/Pascal mutation -- very fast)
    - Action! toolkit (includes floating point software)
    - Music Construction set
    - Atari Macro Assembler
    - Synfile data base program
    - Flight Simulator 11 with extra scenery disc (Colorado)
    - A drawing program in cartridge for CX77
    - 3 games in cartridge (Pac-Man, OIX, Eastern Front -- no instructions)

$600.00 Negotiable!

Contact: Jim Bolinger
469 Deerwood Ave., Gahanna, Ohio 43230; or
805 Dreese Labs, 2015 Neil Ave., Columbus, Ohio 43210 [(614) 292 6789]

AVAILABLE

ONE 8 - FOOT ASH DOME (great for small telescope)

Price: You Haul it Away (it is probably not dis-assemblable)

Contact:

Jeff Hunt
1460 N. Farnsworth
Aurora, Illinois 60505
(312) 851 5353

MARCON MAY CONVENTION PLUGGED

At the last meeting Tom van Horne mentioned the May Convention of MARCON (which stands for "March Convention" of a Sci Fi/Science group - - figure that one out) is now being formulated. He mentions a number of interesting speakers and events being planned, e.g., David Brin, a Sagan/Tipler debate, etc. Be ready to mark the convention on your calendar. There is a lot to do and who knows you might meet someone quite different.

MSDC TOURS TWO OBSERVATORIES

Following the Midwest Space Development Conference close on October 18 about 45 conferees toured the Radio Observatory. About half of these then spent an hour in the Perkins Observatory. It was a very interested group and a number of people expressed interest and some surprise at the existence of the installation. It has been a very useful public relations benefit to have such groups visit the observatories. It is difficult to estimate where the effects of such a visit might lead.

COMPLETION OF SPACE WORLD COVERAGE

In the last issue of NAAP0news we included Maura Mackowski's description of Big Ear's and Bob Dixon's battle to stay on the air in SETI. This issue we include a boxed item in which Maura describes the consortium and a bit of the background for its formation.

SPACE WORLD, August 1987

SETI or Not to Tee

The closest that Dixon ever came to having his receiver switched off was not because of a technical snafu or dry-up of funding. His darkest moment came when Big Ear faced obliteration by a small, white pitted spheroid-the dreaded ***golfball***.

"The Big Ear site is on a 100-acre parcel of land owned by Ohio Wesleyan University, a small private school," Marty Solomon, director of Ohio State's Instruction and Research Center explained. "A few years ago they sold off some land to a developer who wanted to build condos and expand the golf course that was there."

"Big Ear was told to move," Solomon said. "Bob got out in front of the fight with the developer."

George Foster, a local entrepreneur, electrical engineer, private pilot and self-described "old geezer" who holds almost 60 patents and is a long-time friend of Big Ear's inventor, John Kraus, follows the work at Ohio State. He took a personal interest in the problem and put his contacts and clout to work for Big Ear.

"The news media from all over the country picked up the story," Martin Solomon said. "The headlines read: 'Is Big Ear Going to Be Deafened?'"

Professor Philip Barnhart, chairman of the physics department at Otterbein College in Westerville, Ohio, helped organize a partnership of colleges that contribute personnel to run the Big Ear program.

"To save it from destruction and help pick up the pieces, a consortium was formed in the spring of 1986," Barnhart explained. "The members include Otterbein College, Oberlin College in Oberlin, Ohio, Manchester College in North Manchester, Indiana, the College of Wooster in Wooster, Ohio, St. Mary's College in Halifax, Nova Scotia, Ohio University at Athens, Ohio and Denison University in Granville, Ohio."

Susan Leach, Ohio's 1987 Teacher of the Year and a runner-up in the Teacher-in-Space program, was another who joined in the rescue.

"Our school system is a firm believer in service-oriented projects," Leach said. "When I saw what was happening I called Bob Dixon and asked what we could do to help."

"The newspapers took pictures of my students writing letters to the newspaper, President Reagan and Carl Sagan. We sold 300 t-shirts that said 'Help Save Big Ear - E.T. May Be Calling' and showing the telescope with the words 'I'm sorry, that number is no longer in

service ...'"

"We were impressed that we could make a difference," Leach said.

A big difference. The university negotiated a 15-year lease with the golf course developer. Big Ear was safe for the time being from the threat of men in loud plaid pants. But what about tomorrow? How many other dangers lurk around the corner?

Two, in Bob Dixon's opinion.

He worries, for one thing, about electromagnetic interference-the results of too many broadcasts, electromagnetic garbage generated by the myriad appliances and vehicles found in homes, businesses and on the highways, and dozens of satellites beaming right down OSU's throat.

Secondly, there's that eternal nemesis, the empty wallet. Aside from a $15,000 NASA grant, renewed on a year to year basis, Big Ear lives on the contributions of the consortium and the charity of a few patrons of the sciences.

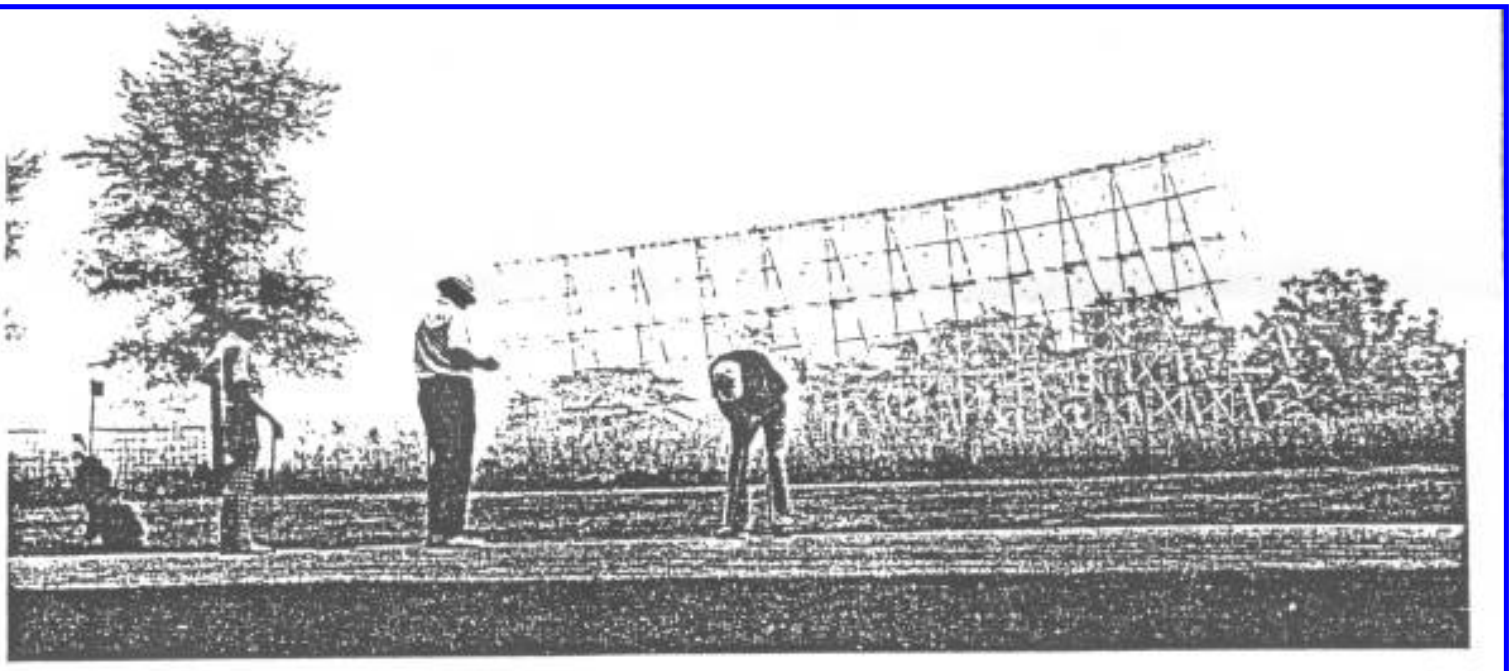
Philip Barnhart ascribes the dearth of dollars to two factors. In an age of tight budgets, the "glamour" projects and the more established "classical" optical astronomy programs take the lion's share of the funds, he believes.

"This is the era of 'big science'," Barnhart said. "The federal money is going to the large national labs such as Kitt Peak, the Fermi lab and Green Bank."

"They're not the kind of operation which science depends on, but they do eat up money hand over fist," he said.

"Stops and starts are so inefficient," Dixon said. "You can't just find and train people, let them go when the money dries up and hope to pick them up in a few years when its there. We need a long-term commitment to space exploration."

It's frustrating. There's so little money, so little time and so many things to do."-*MJM*



Hostile aliens armed with clubs threatened OSU's radio antenna before plans to expand a nearby golf course were canceled. (Photo: David Stichweh, Otterbein College)

[Note. To see a larger version of the above photo (in which you will be able to read the caption more easily), just click on the photo.]

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