



## NAAPO (North American AstroPhysical Observatory)

"Signals"  
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## Focus Room Emergency Answered by Local Contractor

### Our Gratitude to **ROMANOFF ELECTRIC** by Earl Phillips

On roughly 10/15, the main power feed to the focus room shorted out, causing us to lose power to the focus room and the air conditioner. The reason was basically a bad conduit; it seems that when the original cast iron conduit was laid into the floor, there was no consideration to the possibility that it may disintegrate in the future. The problem is better explained below, which was written by Russ Childers. The situation demanded immediate action, so Earl Phillips immediately began calling contracting companies to ascertain whether or not we could get at least the replacement cable donated. One company, **Romanoff Electric**, responded in a way that we could not even have dreamed of. This is the story of Romanoff Electric Company, which I feel goes a long way towards explaining why they have offered so much to us.

The 440-VAC, 3-conductor cable between the flat control but and the focus room isn't the problem. The wires that join this are the problem. Those supply wires terminate in a fuse/switch box just inside the door of the focus room. A large conduit takes 6 wires (3 for the AC and 3 for the focus room power supply) under the floor of the focus room entrance to the cable tray on the west side of the corridor. The wires were shorting under the floor between the walls of the focus room corridor because moisture gets in from the outside. The AC wires go to the AC fusebox, and the focus room supply wires go to a transformer where the 440 VAC is converted to 120/220 VAC. These wires then go from the transformer to the inner focus room via that cable tray in the floor. Steve Brown discovered that this tray is always filled with water and the conduit has corroded beyond belief. WE will therefore run no cables in the tray, nor under the floor. Instead, all wires will run close to the ceiling, starting at the fuse/switch box just inside the focus room entrance. Six wires (as is the current setup) will run outside, through a hole above the outer doors to the AC fuse box and transformer. Then 3 wires will return to provide the focus room power.

**Romanoff Electric Company** is a local commercial and industrial electrical contractor who has been in the Columbus area for roughly 12 years. They have performed many notable jobs in and around this area; the **Wexner Center**, as well

as the **Nationwide Plaza**. Other jobs in the construction stage now are the new **Convention Center**, as well as the new police department's **Safety Building**. The company's owner, **Noel Romanoff**, has maintained a personal philosophy throughout his life and the life of his company: Do the best possible job that can be done for the customer, at the best possible price, and he will be a happy customer. Above all, put back into the community that you get from, and you are assured of being a happy community member. This philosophy of giving back to the community certainly is obvious in the case of this company. Recently, Romanoff Electric has donated the entire wiring job, from the materials to the labor, to the new homeless shelter here in Columbus. The entire staff, from the field workers to the office girls, have in the past gotten involved in such community projects. For any company to get so whole-heartedly involved in their community is rare these days indeed. When Romanoff Electric was contacted regarding the difficulty the RO was having, they immediately agreed to donate the cable necessary to repair the problem! At the very next RO meeting, Steve Kovach of Romanoff Electric attended to inspect the problem and to offer pointers as to the repair itself! Additionally, he has agreed to put us in touch with other contractors in the area who may be able to donate materials to some of the other projects we have in the works. This sort of response has heretofore been almost unheard of! All of us who have been struggling to keep the radio observatory going on a shoestring heartily thank all the employees of Romanoff Electric Company, and especially Steve Kovach and Gene Belew, for all they have done for us. We wish them continued success in the Columbus area, and hope to continue for a long time the terrific friendship that has begun between Romanoff Electric and the Ohio State University Radio Observatory.

## **HANSON'S CARD TO TAPE PROJECT**

### ***Part III***

(ed.note: this is the third and final installment of the card-to-tape project report by Tom Hanson.)

In addition to the vast bulk of the data which appears to consist of one or the other of the two categories just described (last issue; ed.note), there are a potpourri of curious boxes and trays which include at least 2 boxes of actual SETI data, representing 'interesting' readings which were recorded by the 1130 before it eventually expired.

Is there anything else about this project which might have motivational value? The issue of preserving computer readable data is one which appears to me to be of significance to our entire society, and certainly to the company I work for. According to our unconfirmed hints which have come my way, the US government may have already lost access to large quantities of data already stored on magnetic media, due to the obsolescence of the computer hardware on which it was written. Whether or not that is true, it is certainly true that there is a rule of thumb in the data processing industry that a magnetic tape can be expected to survive for at least 7 years in a controlled environment. After 7 years, anyone hoping to preserve data recorded on magnetic tape would do well to copy the data onto fresh reels of tape.

Working on the card entry project has helped me gain confidence in my use of TSO (IBM's Time Sharing Option), so that I will not hesitate to use it on the job when it is appropriate. In conclusion, while the card entry project illustrates a volunteer activity meeting the needs of one volunteer in a variety of ways, I think it carries a larger message. For anyone who has an interest in developing skill in applied technology or in project activity, the Radio Observatory provides a wide range of opportunity. It is possible that while technology is most apparent in current activities of Radobs team members, scientific inquiry will eventually attain a more prominent place as the technology issues are solved.

### **COORDINATOR'S CORNER — PEB**



It has been a month now since the term ended and I shifted into the non-instructor mode. Class grades and exam scrutiny occupied a full two weeks and was accompanied by what I can best describe as the term-end crash. My whole system let down and all the germs, toxins and viruses that had been held at bay through the term jumped in and took me down for the count. I am still fighting off a chest cold and sinus drainage. Sleep has become my favorite pass-time.

It is distressing to find the Federal Government has fouled up again. The note from Skip Lewis to the effect that the IRS has driven him out of the philanthropy game leads me to believe there must be a better way to regulate the tax structure. I am deeply distressed that it not only has cost the RO a dedicated contributor, but has embittered a very generous man who has supported many worthy social causes as well. I wish we could return all the favors granted us by having a tax lawyer on our

volunteer list who could take on the cause and appeal the IRS charges and penalties. This is unfair not only to Dr. Lewis, but all beneficiaries of his considerable generosity. We will miss Skip's regular donations and direct support. He has certainly earned the lifetime membership in the RO team.

My PC/AT suffered an IC chip failure in the early fall. Repair took a very long time (just returned to my desk last week) and some files on the hard disc seem to have had a case of the hiccoughs. While most seem unscathed, some refuse to operate as before. I seem unable to recover some of the mailing list. I have pretty well patched it together from back-up discs, but still can not locate some of the recent additions. Ah well, I needed something to do during the holiday break. I will try to include a form in this issue for you to enter any address up-dates you deem meaningful.

--- peb ---

### **Solar Neutrino Flux may be Linked to Sunspots**

A link between the solar neutrino flux and sunspots may have been observed. Observations carried out at the **Homestake** underground observatory, led by **Raymond Davis**, has noticed a drop in the rate of solar neutrinos when sunspots increase, and an increase in the neutrinos when the sunspots are at minimum. The observations were carried out over a twenty year period, and seem to suggest the two may be linked.

Another theory concerning the low neutrino count may be a sort of "personality switch". There are three types of neutrinos; electron, tau, and muon. The sun produces electron neutrinos, and are the only type detectable by the Homestake observatory. Theorists think that the electron neutrinos, on their way out from the center of the sun where they are produced, may somehow change to one of the other types of neutrinos in weak interactions with matter. Since these other types of neutrinos are undetectable, we naturally would not "see" them. Thus the well-known neutrino deficit.

There are two other neutrino observatories set to begin observations, one in the Soviet Union and one in Europe. Their counts will go a long way toward determining the number of neutrinos currently being produced by the sun.

## UPCOMING MEETINGS

### At Big Ear

January 5

January 19

February 2

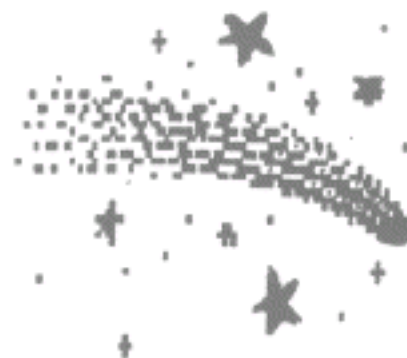
February 16

March 2

March 16

## ***GALILEO* to Boost Knowledge of Asteroids**

Scientists, lacking knowledge regarding asteroids, the body of solar system objects orbiting the sun mainly between the orbits of Mars and Jupiter, have begun a series of observations from satellites. One of these asteroid-observing satellites is **Galileo**, whose main objective is to orbit Jupiter to obtain information about that planet.



On its way to Jupiter, Galileo will pass close to the asteroid **951 Gaspra**, passing between 500 and 1,250 miles. This will occur in 1991. Gaspra is currently believed to be about 10 miles in diameter. In 1993, Galileo will pass near the asteroid **243 Ida**.

Among the many reasons for studying asteroids, is the fact that these solar system bodies are relatively unchanged since their beginning, except for banging off other asteroids. They therefore represent a relatively pristine example solar system. Studying these objects may answer questions regarding the early solar system, and perhaps the question of whether the asteroids are a planet that never coalesced, or one that had been blasted apart by a huge impact a long time ago.

## Meeting Notes ---

Oct. 20, 1990

--- E.P. ---

The meeting began at roughly 10:05 am. Those in attendance were: Tom O'Connor, Phillips, Hirt, Dixon, Langford, Mitchell, Bill Thompson, Backus, Janis, Childers, Paul and Judy Hurm, guests of Dixon, and Steve Kovach of Romanoff Electric.



Dixon reports that he has 2 requests from groups for information on SETI and the hardware used in the radio search. One comes from a group from Jones Middle School requesting info on Big Ear. Dixon brought in a magazine which has an advertisement for a WWV clock for a PC. He feels that this could be quite useful to the focus room timekeeping procedure. Dixon also has a paper from Jill Tarter concerning a "Declarations of Principles" if ETI is contacted. It outlines procedures regarding a reply, as well as the best way to inform the public. Dixon also has a paper from the Amateur SETI Enthusiasts of Chicago, regarding a proposal to NASA to place any info found on a CD-ROM database for distribution to the SETI community. Dixon then reported on the NASA grant we receive annually; it will be increased by \$5k, and Jill Tarter has stated to Dixon that she feels NASA will fund us in the future as long as we come up with different (and hopefully better) proposals regarding the search.

Backus has volunteered to assist in the RFI project. He will effect equipment repairs, and anything else necessary as the need arises.

Phillips reports that he has concentrated on getting the electrical cable necessary to repair the problems in the focus room donated. He has brought as a guest Steve Kovach from Romanoff Electric, a local corporate and industrial electrical contracting company here in Columbus. Steve has generously agreed to supply the cable, as well as the expertise necessary to repair the faulty cable in the focus room. (There will be more on this in this issue.)

Ferryman reports that we are down to the last of our stock of the 8 inch floppy disks

we use for backups. He urges us to purchase more.

Langford reports that he has had much success on the card-to-tape project. He has been working with Andrea Carr at OSU. They intend to attempt to develop a new code to automate the project further.

O'Connor has put forth considerable effort in getting donations of the materials necessary to construct the side shields to the edges of the telescope. He reports that he has met with a lot of favorable response in the Milan, Ohio area. He will be communicating with Mr. Kovach, who will inform him of some local contractors who may like to get involved. O'Connor also reports that he has a friend who works at ICOM, who may be able to donate equipment and/or repairs.

The meeting broke at roughly 11:10 am, with most attending a tour of the facilities by Dr. Dixon. Steve Kovach then met with Childers and Dixon to gather information regarding the repairs of the focus room's main wiring.

### **Meeting Notes ---**

**Nov. 3, 1990**

**--- E.P. ---**

The meeting began at roughly 10:10 am. Those in attendance were: Phillips, Barnhart, Janis, Bates, Goodall, Hanson, Backus, Brown, Childers, and a Jones Middle School attendee Steve Murdock.

Janis reports that he is handling the change from the DEC-20 to the Magnus system, setting up all our accounts and whatever else needs to be done. He says that the personal messages may not transfer, so it is advisable for all to copy their important messages.

Hanson reports that he needs a volunteer to extract the "job" lists from the radobs messages he has taken from the electronic bulletin board. This is a good way for someone new to the organization to get involved while learning what's been going on. If you're interested, send a message to Hanson-t e-mail.

Murdock reports that the Jones group has finally gotten into the bulletin board, but got "kicked off". It seems the hook-up is not the most stable. A volunteer is needed to correct their situation.



Brown reports that he and Russ met with Steve Kovach and Gene Belew of Romanoff Electric, who offered to donate all the materials and expertise to correct the focus room main power feed problem. Brown has also met with reps from OSU who is [sic; "are"] looking into the possibility of donating the labor to repair the problem. This may bring up unnecessary problems, so a likely scenario may be that Romanoff will donate the materials, and we will repair it ourselves. Brown also reports that the icing of the focus room A/C has been corrected; he inadvertently flipped a switch that should not have been flipped.

Childers reports that he has been working with Rodney on the computers. Russ has been following up on his idea of making observations from various positions on the ground plane by the horn cart. He is also still working on the IBM-PC, to control the horn cart movement with it.

Barnhart reports that we must move the 11-780 from Otterbein soon. He says that Ron Leeseberg may get involved with that, as he may be interested in some of the parts. Barnhart also reports that an employee from GE in Cincinnati has contacted him regarding some equipment they are offering to donate to their employees. He has given Barnhart a list of these materials, and if we are interested in any of them, he will attempt to procure them for us.

The meeting broke at roughly 11:20 am, with most going off to their respective tasks.

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### **Meeting Notes ---**

**Nov. 17, 1990**

**--- E.P. ---**

The meeting began at roughly 10:10 am, slightly later than usual because Barnhart was late. Those in attendance were: Bates, Phillips, Leeseberg, Janis, Huck, Hanson, Brown, Ferryman, Langford, Murdock, Childers, Barnhart (late), Chris Bero, who is a OWU student curious of our goings on, his guest Rob Nesbitt, Tom Lowery, Gus & Augie Brunsman, and Jim Smith. Jim & Augie are students from Jones Middle School.

Barnhart reports that he has been offered another 11/23 computer, from a student of his at Otterbein. He will take delivery of this computer as soon as the 11/780 has been removed from Otterbein.

Phillips reports that he has received correspondence from Romanoff Electric regarding the draft of the Romanoff story for signals. They were sufficiently pleased with it to return it with only minor corrections.

Hanson reports that the Digital Equipment Corporation is inviting grant solicitations. Dixon feels we should use this opportunity to ask for maintenance, software, etc. Hanson also reports that he has located a computer that Dixon is pleased with, and will attempt to procure it for us.

Janis reports that Dixon has met with representatives from ESL regarding the Internal Design Study grant. It has been approved (!), and will go towards studying what is necessary to automate the flat movement, as well as the upgrades necessary to achieve this. Janis also handed out instructional papers on the switch-over to the OSU Magnus computer system from the DEC-20 system.

Langford reports that he has read a total of 72 boxes of punched cards into the mag. tape system. He has also prepared a program that will allow for recomputing the checksums for accuracy.

Ferryman reports that he has brought out another PC to the focus room, and will attempt to fire it up and load communications software today.

Childers reports that he has been doing some work with the SETI receiver and has built boxes with Murdock of Jones to cover the exposed gears on the chain drive of the horn cart.

Smith reports that he is attempting to construct a back-up power supply, and will donate it to the RO upon completion! Way to go Jim!

Huck reports that Battelle is ready to give away the screen room, and requires a crew to disassemble and remove it.

Leeseberg reports that he is in contact with a friend who may be interested in disassembling the 11/780 and removing it from Otterbein. He will be in touch with Barnhart to arrange.

Murdock reports that on 11/10/90, he and Russ Childers and Dave Backus constructed enclosures for the 3 gear shafts on the horn cart. They were constructed to protect the gears from the elements. It is hoped that this will prolong the lifespan of the gears.

The meeting broke at roughly 11:50 am, with most going off to their respective tasks.

## **COORDINATOR'S CORRESPONDENCE CORNER:**

**(Not always such pleasant news . . . .)**

**[A letter from Dr. Skip Lewis, and a reply from Phil Barnhaart]**

### **CHARITABLE DONATIONS**

A month ago the IRS came knocking on my door. They wanted to know about my donations to colleges, churches and various other activities. They examined my checks, my bank accounts and everything they could think about and even had the gall to mention money laundering and illegal drug sales.

I have always been generous with my contributions and that is what drew their attention to me. They promptly denied about \$10,000.00 in donations and many other business expenses as a home office which I conduct all my business. Thus, they slapped me with some \$20,000.00 in back taxes and interest.

I have therefore taken the position that no longer will I be considered as a donor of gifts to church and institutions of higher learning.

I am sorry, but that is the way it is folks. Donations are a thing of the past.

This donation of oil-gas income drew interest. They thought I was giving it to you without counting it as income to me. I, however, proved that it was listed as farm income and taxes had been paid on it.

Good luck to you guys. I have had it with government.

H. J. Lewis, M.D.

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14 December 1990

Skip:

I received with deep regret your note concerning the IRS and governmental incompetence. I am whole-heartedly in sympathy with what you have done, only regretting what it means to the efforts of NAAPO and the Radio Observatory.

I cannot describe the tremendous effect your generosity and support has had upon our group. We have rallied around the spirit with which you entered into this opportunity to put your resources to work for a cause so often ignored by the general public. Fundamental research and education needs the independence and freedom granted by far-sighted sponsors like you, the Carnegies, Rockefellers, Danforths and the Research Corporation (disbursing the Cottrell Foundation funds). We will continue our operations in the full knowledge that you have been largely responsible for getting us through some of the toughest times.

Please feel you are still a pillar of our efforts at the RO and plan to pay us visits to help keep our spirits up. We are working hard toward finally getting NASA support for the SETI program. We will be working hard toward that goal in the next few months.

Keep your eyes on the newsletter and join us any time you want a break and would like to look in on a still active and eager group of seekers after the toughest answers in the universe. We will keep in touch.

Very Sincerely,

Philip E. Barnhart

## REPRINTED FROM THE OCTOBER 1990 IRCC NEWSLETTER

### Meet the Director

[Click on photo below  
for larger version.]



This past summer Dr. Robert S. Dixon's appointment as director of the Instruction and Research Computer Center was confirmed. He joined IRCC in 1972 as a mathematical analyst and has held various positions over the years, most recently as acting director.

"I believe my appointment is an affirmation of the new way we are doing things at IRCC," Dixon says. During his two-year tenure as acting director Dixon shifted IRCC's energies in new directions by putting new emphasis on distributed computing support, adding more public microcomputing labs, welcoming faculty input on future direction, instituting a major

rewrite of IRCC's budget process, and implementing an extensive transition in IRCC services that began last spring.

His goals include developing present and new service areas, encouraging innovative technologies where needs exist, and continuing Ohio State's networking leadership. For IRCC itself, he wants to provide better personnel planning and management and change the IRCC name to Academic Computing Services, which he feels more accurately reflects the center's purpose and activities.

Dixon has authored numerous articles for science publications and journals and has published two reference works. One, *Atlas of Sky Overlay Maps* (the Ohio State University Radio Observatory, 1980), a collection of computer-generated and plotted maps of the entire sky visible from the Northern Hemisphere, is acknowledged as the most accurate and detailed all-sky map ever created.

For many years, Dixon also has been associated with the Ohio State Radio Observatory, and has served as assistant director since 1968. The observatory, involved in the field of study called SETI (Search for Extraterrestrial Intelligence), maintains the "Big Ear" project, which uses a radio telescope located near

Delaware, Ohio to scan outer space for signals from other life forms. His SETI activities have made him a frequent source of information for the popular media, and he has been interviewed for TV, radio, newspapers, and magazines. Dixon has three times served as Faculty Fellow in conjunction with SETI projects at the NASA/Ames Research Center in California.

## **E-Mails**

**This is a test page. We are attempting to increase the newsletter content without multiplying pages. If this is too compact, let us know. Can you tolerate more of this?**

[In the original printed version of this newsletter the text below was printed in a very small font, arranged in 5 columns in landscape mode. It was very difficult to read. When I scanned it in and performed OCR (optical character recognition) on it, the software declared MANY errors or uncertainties because of the small font.  
--- Jerry Ehman, webpage editor ---]

From: Tom A Hanson  
Subject: Tuesday at Dreese Hall 11/20  
Date: Sun, 25 Nov 1990

Tuesday's report from Dreese Hall, Room 805, is divided into two sections: Part 1 is devoted to Dr. Dixon's trip to California for the 30th anniversary of SETI research, and part 2 is a summary of everyone else's comments.

Present were Dr. Dixon, Steve Janis, Rodney Ferryman, Dr. Mitchell, Dave Longford and Bill Thompson.

Beginning with Dr. Dixon's monolog:

- 1) Progress is being made on Magnus. A defect in the password change discovered by Rodney and reported by Steve was acknowledged and corrected.
- 2) It is necessary for Radobs members to subscribe to the private.radobs newsgroup. Steve Janis will include information about how to subscribe in mailings to Radobs members who are not yet on Magnus.

3) The DEC 20 will be continued for as long as necessary to bring all Radobs members onto Magnus. However, I note that messages are no longer being echoed to the DEC 20. The DEC 20 is still useful for sending and receiving email (th)).

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The SETI Conference was a wonderful experience

- 1) A plastic (lucite?) paperweight inscribed with the appropriate dates and sentiments was passed around the table. This momento of the occasion was given to all participants.
  - 2) There were 10 speakers — 4 mentioned SETI research at OSU. The past, present and future of SETI research was covered. There was a sense of euphoria due to funding of the \$12 million budget.
  - 3) Honorees were Phillip Morrison and Frank Drake. Drake specifically mentioned OSU for sustaining SETI research during the 'bad years'.
  - 4) The 'notorious' Claudio McKoney (?sp) (an Italian who has allegedly taken ideas originated by Dr. Dixon and used then without appropriate credit) was present at the conference. The Italian and Dr. Dixon exchanged a few words, during which Bob said he had some more ideas and Claudio exclaimed "Splendid! Let's hear them", to which Bob tendered a polite and humorous decline. The long term direction in an academic dispute of this kind is that when Dr. Dixon publishes his papers on the subject at hand, he will omit references to the Italian. When challenged, he will produce copies of correspondence between the two, clearing showing who said what. This is like watching a tree grow.
- 

Stuart Kingsley's talk on Optical SETI at OSU

The talk was described as 'good'. It had been scheduled for an hour, and since it ran to a full two hours, the majority of the audience had to leave to attend prior commitments. About 30 people were present during the first hour.

A possible outcome of Dr. Kingsley's work is that the Perkins Observatory say be

considered as a suitable site for initial research.

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Funds for a Design Study have been appropriated by OSU.

\$20,000 will be allocated to Professor Klein, who will be freed of other responsibilities in order to study automation of the flat reflector at the observatory.

\$10,000 will be allocated to ESL (?Electrical Sciences Lab?) ["ElectroScience Lab"] to study designs for new feed horns.

---

Dr. Dixon has correspondence to complete upon his return from the conference, which led to a need for 6 letters, 3 papers and attendance at future conferences.

One of the speakers was a Russian who requested information about the WOW signal. Steve Janis will assemble information to be mailed along with Bob's letter.

The Russian turned out to have a sense of humor which delighted the audience. There was a telephone on stage, and it rang at several points during the speech. Whether this was planned is unknowable, but the speaker handled the interruptions adroitly. Meanwhile, he was carefully preparing the audience for a punchline based on one of the conference themes, which was the concept of "better Spade".

For a proper rendering of this anecdote, please ask Dr. Dixon to relate the incident of the Russian and the Cosmic Spade.

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SETI Institute is sponsoring a cruise.

For our affluent friends, SETI Institute is sponsoring a cruise in the south Pacific to follow the track of an eclipse on July 11, 1991.

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From: Tom A Hanson  
Subject: Part 2 of Dreese Report 11/20/90  
Date: Sun, 25 Nov 1990

Rodney Ferryman:

The 'new' PC acquired for Radobs by Dr. Dixon is working well. It is an NCR PC with hard disk and a built in tape drive for backup.

Rodney observed that the PDP 11/23 port used for communication to the PC was found to have been in a 'slaved' state. This led to discussion of a bit of DEC PDP lore, the essence of which is that communications ports must never be left in an uncontrolled state, or there is danger they will generate spurious signals which will consume processor cycles without being detectable. In the PDP 11/70 installation where I spent several years as an application programmer, it was the practice to activate unused ports but to set the baud rate to zero. Dr. Dixon gave the opinion that this reflects a later stage of technology than the 11/23.

Dr. Mitchell:

Inquired about a possible GAP in Radobs Messages. The concensus seems to be that there is no improper 'gap'. People are simply not saying such during the transition to Magnus.

A lengthy discussion of the re-activation of the OSU SETI club followed.

Dr. Mitchell appears to be signing about six different levels of sponsorship. Bill Thompson is the President, Steve Janis Treasurer, Steve Brown Vice President, and Walt Mitchell is the Advisor.

The constitution appears to be missing, so it will have to be re-constructed, using the standard OSU student activities guidelines.

Tom Hanson:

Prospects for obtaining an 11/23 with Q-Bus tape drive continue to look very good, although paperwork is taking time, due to frequent absence of the managers involved. There was a discussion of how the equipment would be moved when the

time comes.

Dave Langford:

Completed a Fortran program to re-compute and validate checksums on punched card data recovered from mag tape. There was a discussion of planned enhancement to compute ASCII checksums using an Assembler module to be developed by Rodney Ferryman. Rodney is also investigating the possibility of generating CRC checksums, as an improvement over the simple addition of character values we are doing now.

Dave is working on a Fortran program to report gaps between boxes of cards which are safely stored on tape, and those which were left behind for Tom Hanson to complete, due to their dog-eared condition. Anyone want to volunteer for this duty? <<grin>>.

Steve Janis:

Discovered and reported failing Magnus password change program. Working on the renewal application for the NASA grant.

Clive Goodall has secured a Teaching Assistanceship for the winter session. He has been given his choice of three months (Dec/Jan/Feb) in which to travel to California to give a colloquium for NASA.

Clive will seek his PhD with a thesis topic of SETI.

Steve has received the printout of Radobs messages for the past three years. Readers are reminded that PC diskettes of these messages may be obtained by contacting Tom Hanson. Please supply five 5 1/4 inch diskettes or three 3 1/2 inch diskettes.

Steve has reviewed all 1990 messages for tasks. Robert Bates will look at 1988 and 1989 messages after he receives copies of the messages from Tom Hanson.

Status of air conditioning repairs is unclear (at both Dreese and RO).

A new building is planned to be built in association with Baker Hall and Dreese

Hall. A covered red walkway between Dreese and the new building is planned.

Bill Thospson:

Master List of Radio Sources — continuing to work on this.

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Designed by Jerry Ehman

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