

The O B S E R V E R

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THE NRAORA ANNUAL PICNIC

The main event — eating

Story on page 5.

Staff

Editor: Ellis Remsberg

Reporters: Mike Waslo
Neil Albaugh
Dr. John Findlay
Carl Davis
Harold Crist
Ralph High
Linda Cross
Mike Byorick
Charlie Rightmire
Wade Poteet
Arnold Davidson

Typists: Norma Brockway
Carolyn Dunkle

Photographer: Gene Crist

Cartoonist: Neil Albaugh

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Editorial Comment

I have been very gratified at the favorable response to last month's Observer. This acknowledgement increases my conviction that the Observer is, indeed, a worthwhile and necessary news media for each individual employee. Cooperation with my repeated insisting has been markedly good.

Since my term as editor began, I have already run into many unique problems and situations inherent in this job. It is experience that I do not regret. Most people, I have found, are not fond of the idea of writing for the paper or displaying their thoughts and talents. Americans in large part are conservative in this respect. They belittle their own abilities so that even they believe they do not have any.

Are you afraid of ridicule or criticism? If so, do not back down, because the man who can accept disapproval as well as acceptance in his work usually has a highly developed character. This is true in all aspects of work. As is the case of most publications in schools and industry, a few of the people carry the load, shoulder the responsibility (although it should not be viewed as a drudgery). I have often thought that if each one of us were to write something for the Observer just once a year that the paper would overflow with articles, the writers would not have reason for dissention, the Observer would not grow stale. Also varied writing personalities could be incorporated and therefore the style of the articles would be constantly changing.

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Editorial Comment (Continued)

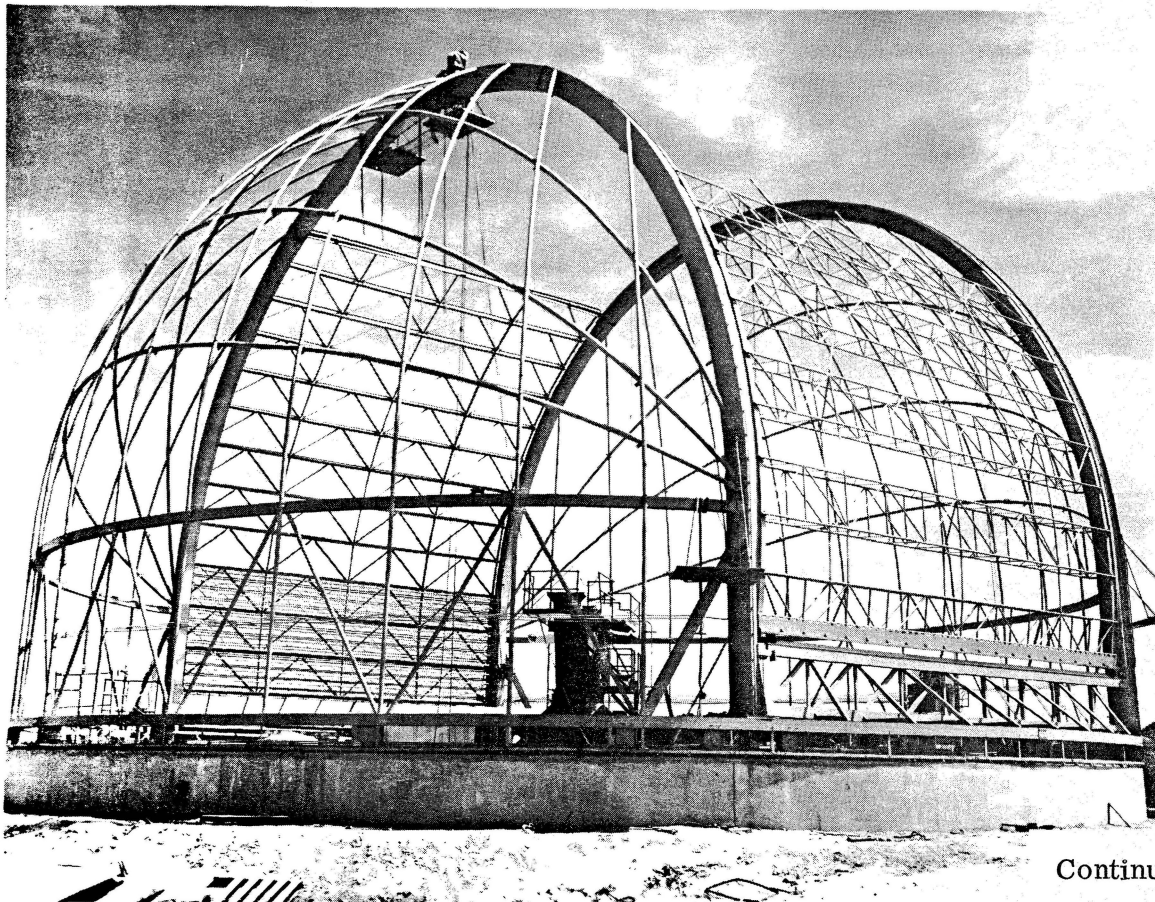
Writing is the formalized method that man uses to express himself. When thoughts are put on paper they become eternal ideas and viewpoints. If a grammar book or dictionary must be consulted, so be them, for in the effort you will have obtained a certain element of pride. You should be proud of your work, as others in turn recognize you for it.

The Observer solicits your patronage and written contributions and commends your interest and efforts.

Yours respectfully,

Ellis E. Remsberg
Editor

The 36-Foot Telescope at Kitt Peak



Continued --

The 36-Foot Telescope at Kitt Peak (Continued)

The photograph on the preceding page shows the state of construction of the telescope and its dome. The photograph was taken about a month ago. As will be seen, the main item which is not yet shipped to Kitt Peak is the 36-foot dish itself. This is being made at the Rohr Corporation in Chula Vista and is in the form of a welded aluminum back-up structure, to the top side of which is welded a 3/8" aluminum surface. The aluminum surface panels were stretch formed to the approximately correct shape before they were welded in position. At this stage of the work it was necessary that the surface was within about 1/8" from the correct shape so that when the surface was machined to the final shape there would still be adequate thickness of the aluminum surface material.

As was expected, the welding process produced very considerable distortions in shape, and Rohr worked for about two months correcting these distortions and bringing the weldment nearly enough to its final shape.

About two weeks ago they started machining the surface on the large specially built boring mill, and this machining work is now continuing. The mill itself provides means of measuring the accuracy of the surface and the hope is still that RMS accuracy of .002" will be achieved.

The dish will then be transported by road on a specially constructed trailer from Chula Vista to the site on Kitt Peak. Special road permits have been obtained from California and Arizona. The load will be certainly the largest in size that has ever been taken over roads on the West Coast. The total trip will take, if all goes well, seven or eight days and there will be a considerable convoy of guard and pilot vehicles.

The erection of the dish at Kitt Peak will only take a few days and at that stage the final parts of the telescope will come together.

The drive system is complete as far as the main drives are concerned, but requires the use of an inline computer for coordinate conversion and a number of other tasks. Claude Bare is taking care of this aspect of the work with Walter Weller providing programming and planning to make sure that the telescope may be driven in any way the astronomers wish.

John Hungerbuhler still has to complete the difficult task of getting a new power line across Kitt Peak to the site of the telescope, but until this is done he has arranged an adequate local power generator. He is also working on providing the necessary access for servicing to the focus of the telescope and on designing and building the rotating and focusing ring to go at the focus and to serve as a mount for the electronic equipment.

The control console and the wiring of the telescope will need the services of the Telescope Operations Division, and it is probable that Omar Bowyer will work on this part of the installation.

H. Hvatum is looking after the general management of the project, and, of course, the first users will be Frank Low and Peter Mezger with their 1 mm and 3 1/2 mm radiometers.

Continued --

The 36-Foot (Continued)

T. Riffe has looked after the business administration for the whole installation, and he and Fred Crews have already set up a small branch organization of the Observatory in Tucson, with Bill Terrell as the telescope operator in charge.

If all goes well, September and October should see the parts of the telescope come together and the first tests made on the system. By that time the rainy season at Kitt Peak should be over, and there seems to be good hopes that observations will be going ahead during the cold winter nights.

NRAORA Picnic - Held August 14 at the Rec Area

This gala affair certainly deserves the words of "COOPERATION and ENJOYMENT", for this writer at the very last moments of the picnic totaled it up this way. The inexperienced picnic committee headed by Neil Albaugh sought help from some of the experienced picnic planners and all Neil found was cooperation. His meetings brought out vast hoards of experience which needed corrections in some phases, and broadening in others. The fruits of these meetings and cooperation was a picnic which started as published -- 2 PM, Saturday, August 14.

As per table of events, Mr. Jack Plunkett started the boys on their broad jump event and awarded one of Harold Crist's boys the Scout Ax-Knife combination gift. At the same time a girls race was in progress and the Hungerbuhler's found their daughter the winner of a lovely school bag. Jack Plunkett kept the youngsters busy preparing them for the various events, getting the events off on schedule, and was assisted by Bob Vance and Don Hovatter as final judges in the awarding of many fine prizes.

The table of events had a bit for all age brackets. The ladies put on their bit of cooperation and enjoyment in the pop bottle race with some hitting the dirt, some having trouble getting water to flow into their pop bottle, and the screaming finish won

by Mrs. Sidney Smith, who was awarded a lovely electric coffee maker. The ladies putt-putt fold, a five hole low score affair, under the direction of Carl Davis was a success with Carl awarding Mrs. Sidney Smith her second gift of the afternoon, an insulated 1 gallon picnic jug.

The small youngsters had their bit of enjoyment picking up golf balls on the golf driving range. Ingenuity certainly was exposed here by these wee youngsters (or was it the parents). Cooperation by Mrs. Hogg, Mrs. Henderson, in assisting Mrs. Plunkett in this event certainly made it a huge success. Mrs. Hogg furnished all the balloons at this event. We are not certain who blew the balloons up, but someone had to cooperate with a lot of steam.

At 5 PM the schedule called for food, chow, grub, etc., and what food it was. The ladies of the cafeteria, who cooperated with such effort in preparing this tasty, large quantity of food, certainly deserve everyone's thanks. Walt DeBoard's planning and supervision over the food and having it at the picnic site hot or warm was a nice job done. Beaty Sheets, Harry Wooddell, Mrs. Davis, Mrs. Smith, Mrs. Horner (Neil Horner loafing with the watermelons) passed out the food fast and plentiful at a rate or new record time of 35 minutes. Yes, 453 people were served in the record time of 35 minutes. To the girls serving the food, compliments of all types were showered upon you. One fellow told this writer, last year he was in line for "over an hour," and when he got to the food he couldn't eat any. This picnic he stated, "I was in line 25 minutes and ate like a pig."

Cooperation was again expressed by the Electronics Division. At last year's picnic the PA system had its feedback, etc., regardless of where you placed the Mike or gain, and this year's PA system wouldn't work due to a bad Mike. I was told, "It worked when we installed it Friday afternoon." Maybe Jim Dolan will surprise all of us with a good system next picnic.

Continued --

Picnic (Continued) ---

The personnel from the Works Area contributed cooperation again this year, doing all the preparation work prior to the picnic. They hauled picnic tables, benches, fabricated water tubs for various games and filled them with water, limed areas needed, cut grass, etc., and then after the picnic they cleaned up the recreation area. Nice job done by Bob Elliott and his men. Jamie Sheets contributed his truck and time in making the handling of 3,300 bottles of pop very easy.

At about 6 PM the finest golfers in W. Va. met for the 175 yard annual accuracy shot. Don Hovatter took this contest with his prize being a folding lounge chair. In the second contest the distance shot was rigged (won I mean) by Wally Oref and Neil Horner came in second.

All in all, I'm sure "Enjoyment" was tasted by everyone at the picnic, and to obtain enjoyment, "Cooperation" on the part of many individuals is a necessity. To those who contributed with work, regardless in what part of the picnic it was used, the picnic committee says thanks. If we have overlooked your name or it is not mentioned here, please accept the thanks from all who attended the picnic. Your cooperation is needed in suggestions or ideas so that they may be incorporated into next year's picnic planning.

--- Mike Waslo and Neil Albaugh.

Soft Ball -- Carl Davis

Speaking for the majority of the participants of our soft ball league, this has been one of our best seasons. The standings to date are as follows:

Jim Coe, Captain, won 3, lost 8
 Jim Simmons, Captain, won 7, lost 5
 Carl Davis, Captain, won 8, lost 4

Two more games are to be played which can easily change the standings and force us into a play-off situation.

Observatory Tours -- Charlie Rightmire

The tour season ended on August 15 with a total of 8,520 people registering for the tours. On the last day of the season 426 people registered for the tours; this set a record for the past two years that has been exceeded only by Labor Day of 1963 when over 500 people registered for the tours.

August proved to be a big month for the tours with 1,245 people registering during the week of August 4-8 and 1,300 people registering during the week of August 11-15. We feel that this tour season was quite successful since we had registered 403 more people than in comparable period of tour days in 1964.

During the last six weeks of tours we found it necessary to add a 4:30 tour on various days and every Sunday, and on several Sundays a 2:30 tour was added. Even though extra tours were added we found it necessary to limit the tours to 100 people per tour. As a result, we turned away well over a 1,000 people due to these overcrowded conditions.

Interferometer -- Harold Crist

I have had a very pleasant summer working at the interferometer watching the stars go by, but I must lay aside my telescope, pick up my lesson plan, and work with the stars of the future.

We have just completed a program for Frank Bash where sources near the instrumental meridian were observed. Our present programmer is Dr. Barry Clark, who is the only astronomer who delivers his program by bicycle.

We were sorry to lose two operators this month. Bob Wenzel and D. Distasio have returned to school.

Spencer Everly is all excited these days. He even reported a grouse flying through a window in the 85-2 building. I think he thought it was a mixed up stork, or else he'd been "nippin" the clear springs.

Continued --

Interferometer (Continued) --

Don't worry, Spence, maybe we can track the stork with the interferometer. Dave Williams has made a bird arrow for his bow and I heard him tell Spencer he doubted if he could hit a grouse but he may hit a slow flying stork.

John Weaver had the back window of his car shattered. You know George Grove knocks out his "five brothers" on anything thats handy.

If you see a green flash pass by that's Walter Sawyer. He even broke through the barrier set up for the occultation. Ben Gragg has forced him to ride to work on the handle bars of Dr. Clark's bicycle. He doesn't seem to mind because he now has his corrections completed when he gets to work. Tom Carpenter and Leroy Webb have been vacationing. Gosh, it must be nice.

Ralph Graham's mother-in-law has given him a pony. Now who says mothers-in-law aren't nice. Most of us would get a horse alright but it would have real long ears.

I've often wondered why maintenance day at the interferometer was on Thursday. I'm still not sure but I do know that Bob Viers and Len Howell are day operators every Wednesday.

Plans are to move 85-2 to station 6 this month. Then Dave Hogg's positions and on and offs. You know that old school room won't seem so bad after all.

Well, I must be like the little boy headed for the bathroom, "I better puddle along."

Hope to see you next summer.

300-ft News, Ralph High

Presently, we are continuing the 21 cm galactic survey program of Dr. Westerhout. Also, the variable speed drive control has been installed. However, some problems have been encountered with this system. We hope they will have been solved by the time you read this.

The fishing season is pretty well over and the fever seems to have died. With the cool nip in the air these mornings, some of the people down here can be observed casting their beady hunters' eyes toward the ridges nearby. I hear the fever has also hit the 140-ft crew. If you don't believe me just talk with Howard Brown or Bill Hunter.

Hey, wonder where the 85-2 went? I just looked out and it is not in its usual parking place.

Ray Walker's little boy underwent an operation in Charleston last week. He is recovering ok now.

Rumor has it that Dave van Horn is coming back down here with his 2 x 4 to save us from the hoards of Whistle Pigs. Welcome back, Dave.

In closing, has anyone asked you this question lately? You do track those space ships over there, don't you?

Lab Gab by Mike (Super Spelunker) Byorick

Car 12, where are you????

Jerry says that the number of trips he makes daily seems to oscillate with a period of two days from none to infinity.

Digital Lab

Andy is building a clock for the 36-ft in Arizona.

continued on next page

Digital Lab (Continued)--

Bill's 1965-3/4 Mustang finally arrived - with a spotted paint job that made it look more like a leopard than a mustang.

Receiver Lab

Jim Delan got a trip to California to attend an IEEE convention.

The boys are still working on the wide-band cancell diode receiver.

Behrens' Lab

The 2 cm front end has been checked out and looks real good.

Construction on a 6 cm front end has begun by yours truly).

Low Noise Boys

Actually, its been pretty noisy around the low noise lab this past month.

Millimeter Lab

Neil has had to make two trips (so far) to Advanced Technology, Inc. I heard the tiger in his GTO recently escaped leaving a hole in the engine block .

Interferometer Bunch

Art Robichaud is the newest addition to the Lab. He's in charge of design and construction of a new 85-ft scope as well as the Very Large Array.

Bernie (Pasternak) has joined the interferometer group. I wonder if the change has phased him?

Heard Carl Cooper is in the car business . Buys a car for \$350, clean 'em up and then sells them for \$300. What a racket.

Ware's Repair

I'm sure something must have happened in there this past month but I can't determine exactly what.

Ken Anderson of Electro International was married recently.

Cryogenics - Ace

Instrumentation for the 36-ft telescope at 1 mm is now about 75 per cent complete thanks in part to the Messers Dolan and Oliver for a new receiver back end; Omar Bowyer and Martin Barkley for the feed rig; and Wade Poteet (on temporary part time loan from Computer Group) for those jobs which only he can do in his inimitable style.

Dr. Low has been asked to participate in a forth coming balloon flight by the Texas group; this involves placing a special 1 mm receiver on board to measure sky background temperature above most of the earth's atmosphere. The detector, and its special housing (courtesy of M. Wimer) has now been assembled and tested and sent to Dr. Low in Arizona for final assembly in a dewar designed for operation in the near vacuum at 120,000 feet.

Mr. Omar Bowyer, with his tools, boxes, and mechanics is now occupying space in the Cryogenics Lab. All his friends and cohorts are invited to call and consult.

Scientific Staff & Services

Dr. John Findlay will be assuming his responsibilities at Arecibo the beginning of September. He will be on a one year leave of absence from NRAO.

Dr. George Swenson will continue his work here at the Observatory for about one week each month starting in September. The

Scientific Staff & Services (Continued)--

remainder of his time is to be spent on the faculty staff at the University of Illinois.

Dr. Fred Ellis from Louisiana State University has returned to the school after several weeks here. His main concern was the reductions of 300-ft data collected earlier this year.

A number of our scientific staff attended the 119th meeting of the American Astronomical Society August 3-6, 1965 at the University of Michigan.

The dedication of the 140-ft telescope is scheduled for October 13, 1965.

Beaty Sheets was one of the lucky winners of the Gordon Potato Chips contest. Her prize was a Polaroid camera.

Cafeteria News

Ruth Anne O'Brien, who just recently joined the Cafeteria Staff has been transferred to the Computer Group.

Arthea Hamrick has something SHINY on her finger.

Computer News

Paul Hitch, Joe Greenhalgh, and Sebastian Sora have joined the group as programmers. Paul and Joe are California boys, while Sebastian Sora has come from Brookhaven. Welcome to NRAO.

Andy Tanenbaum, student from MIT, at one time worked a 24-hour shift. Status of computer operators at that time was, one on vacation, two sick.

Bill Ogden has a new (?) car now.

Susie Murphy is leaving and Ruth Anne O'Brien is taking her place.

Linda Friel Cross is departing with her husband Jerry for sunny Florida. Linda has been here awhile and I know she will be missed by her fellow workers. Jane Carpenter is her replacement.

Fiscal

On the weekend of August 21-22 Ed Wilson visited the World's Fair again.

Hank Grahn and family have returned to Brookhaven after a pleasant three months at Green Bank.

Marriages

On August 20 at 2:00 PM Miss Linda Friel was wed to Mr. Jerry Cross. The ceremony was conducted by Reverend Lively at the Liberty Presbyterian Church near Green Bank. The wedding was very pretty as can be attested by all who attended. Miss Kay Sheets was maid of honor and Mr. Leon Morrison the best man. The couple honeymooned in Virginia.

A shower was given to them on Tuesday evening, August 24, 1965.

Jerry has a BS degree in Electrical Engineering from Carnegie Tech and was here on the summer student program.

The newlyweds will be residing in Gainesville, Florida, where Jerry will be doing graduate work.

Machine Shop

Ed and Jo Ann Gardner were at the World's Fair the week of August 8-14.

continued on next page

Machine Shop (Continued)--

Martin Barkley also visited the Fair on August 24-25. Recently he purchased a new buck sheep.

Observatory Hams Participate in Moon-Bounce Project - Wade Poteet

Observatory radio amateurs, including Claude Bare, Bill Ogden, Leon Morrison, Jim Dolan, and Don Logan participated in two moon-bounce projects sponsored by the Arecibo Ionospheric Observatory. The 1000-ft dish at Cornell's Arecibo, Puerto Rico installation was made available for radio amateur moon-bounce tests under the call KP4BPZ, on July 3, 1965 for a period of approximately 3 hours and on July 24, 1965 also for about 3 hours.

Attempts by the NRAO amateurs to receive the Arecibo signals were unsuccessful on July 3, but on July 24, using the Reber Dish and various spare parts for a receiver, cw signals were heard, although an unstable oscillator made the phone transmissions unlistenable. It seems that the earlier failure to hear Arecibo's signals was due, in part, to a basic oversight on the part of the operators - they couldn't find the moon.

Points of Interest

The editor is considered dangerous. He can be found in a cage in the basement.

The 1965 NRAORA picnic was the first that yours truly has attended. I was pleasantly surprised at the turnout and to me it rates an "A" for its ability to promote good will among the personnel.

Impromptu parties in farmers' fields can be a source of fun, frolic, and frantic getaways.

A DC-3 formerly owned by the Egyptian Air Force landed here on the 25th. It is the private (plush) plane of the Blaw Knox Company. Many witnesses of the landing and take-off had their doubts as to the feasibility of accommodating these "monsters" at the NRAO airstrip.

The major portion of the summer students have departed to their respective homes and universities. I think you'll have to agree that they were a pretty good selection. Office space will be back to normal once more and the Dr's. will moan and groan because, although their supervision was at times a chore, they did accomplish a lot of the tedious paper work and reductions that we all like to avoid.

The Air Force has been on the site this summer keeping track of their "Early Bird Satellite".

Speaking of airplanes, several models of "soaring birds" seem to be making their own paths up North Fork and to farmers' fields via unexpected drafts and thermal air currents.

"The Society for the Preservation of Wooden Toilet Seats" is better known as the "Birch John Society".

Peter Good's movie "The Observatory" has had several showings recently. A majority of the comments have been very favorable. Those of you who are interested in seeing it should make your pleas known. It may be possible to have more showings and, if so, a date and time can be planned.

Has a GTO jinx hit Neil Albaugh?

Mr. Frank Callender returned to Green Bank on the 14th for his family. "Hawaii is wonderful, and I just rid myself of a \$500 heating bill for one thing", he told us.

NRAORA PRESENTS

FLIPPER'S NEW ADVENTURE September 6 Color

Luke Halpin, Pamela Franklin

Enjoyable sequel to the first Flipper film, with the talented dolphin showing off even more amazing tricks. Bring the children; they'll enjoy this movie.

MAIN ATTRACTION September 20 Color

Pat Boone, Nancy Kwan, Mai Zetterling, Yvonne Mitchell

Here Pat Boone becomes involved with two members of a small Italian circus, while the owner of his crippled wife add to the tangled web of personalities. Excellent circus acts and awesome Alpine scenery.

SEVEN BRIDES FOR SEVEN BROTHERS October 4 Color

Jane Powell, Howard Keel, Jeff Richards, Tommy Rall, Virginia Gibson, Russ Tamblyn

When the eldest of seven uncouth brothers in the Oregon Territory brings a wife home to their farm, the others get restless; so he helps them steal themselves some women. A triumph of musical comedy written directly for the screen, with bright songs and hilarious foot-stompin' dancing neatly integrated into the story.

BRIDGE ON RIVER KWAI October 18 Color

William Holden, Alec Guinness, Jack Hawkins, Sessue Hayakawa

This is a gripping and highly entertaining film. It contains several superb performances, and certainly is not wanting for action. Winner of Academy Awards for Best Picture, Best Actor (Guinness), Director, Cinematography, Screenplay, Musical Score and Editing.

PROUD REBEL November 1 Technicolor

Alan Ladd, Olivia de Havilland, David Ladd

The rough-and-tumble midwest of post-Civil War days in the colorful background of an exceptional tale of the devotion between a father and son. Here is a picture that reaches as far as the human heart -- an unforgettable motion picture experience for the entire family.

UNDER THE YUM YUM TREE November 15 Color

Jack Lemmon, Carol Lynley, Dean Jones, Edie Adams, Imogene Coca

A screen adaptation of the Broadway play about a bachelor-landlord with an apartment house full of glamorous cuties plus one unmarried couple virtuously testing their compatibility. It's primarily a one-joke story and that one is done to the hilt.

REBECCA November 29

Laurence Oliver, Joan Fontaine, Judith Anderson, George Sanders, Nigel Bruce

This Academy Award winner has been adapted from the famed novel by Daphne Du Maurier. Story concerns a young bride who comes to a mysterious manor in England. There she finds that the memory of her husband's first wife haunts her and she tries to discover the secret locked in her husband's heart of what happened to her. Events take a terrifying pace and the result is one of the great transformations of a work of literature to the screen.

KIND HEARTS AND CORONETS December 13

Alec Guinness, Dennis Price, Valerie Hobson, Joan Greenwood

A hilariously funny murder story. Perhaps KIND HEARTS is Guinness' most famous comedy. It is certainly the film which established his reputation. In it, he plays eight characters, each murdered in a distinctly unique way. . . . A rollicking satire of ghoulish humor.

Observatory Wives Tea

The regular monthly meeting of the Observatory Wives will be held Wednesday, September 15, 1 PM - 3 PM, in the upstairs lounge of the Residence Hall. Hostesses will be: Mrs. George Behrens and Mrs. Jim Coe.

Colloquia

Sept. 7 Dr. Halton Arp
Mt. Wilson and Palomar
Observatories
"Optical Observations of Magnetic Fields"

Sept. 9 Dr. Schucking
University of Texas
"Radio Cosmology"

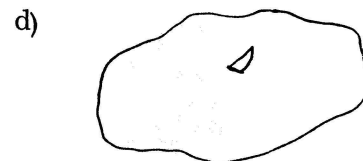
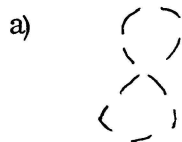
Sept. 23 Dr. Ko
Ohio State University
"Recent Observations with the Ohio State
260-Foot Radio Telescope"

For Sale

1 pair 7 x 50 binoculars in excellent condition with case. Will trade for a pair of 7 x 35. See Jim Dolan.

Maple syrup for sale -- Call Clifford Barkley at the Works Area. Home phone 456-4541.

Carl Heiles has the same things for sale as last month. See last month's Observer.

Doodles

- a) Pieces of eight
b) Cow on cold morning
c) Four mice in a beer can
d) Rhinoceros inside a large paper bag.

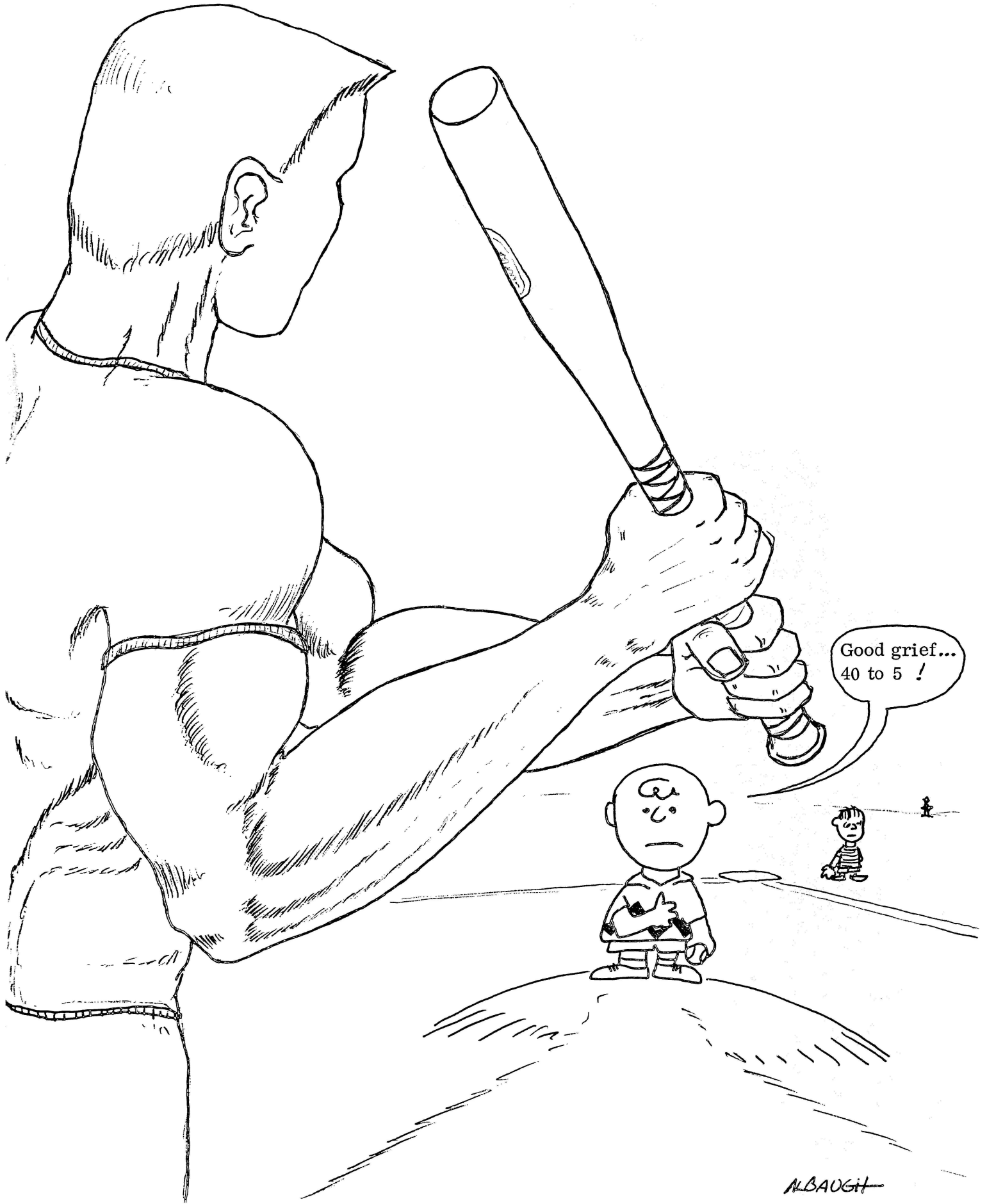
Problem

The man who answered this riddle saved the city of Athens from destruction at the hands of the Sphinx.

Riddle of the Sphinx

What uses four legs at dawn, two in the afternoon and three at twilight?

Hint: This question must be interpreted before the solution is apparent.



Good grief...
40 to 5 !

ALBAUGH