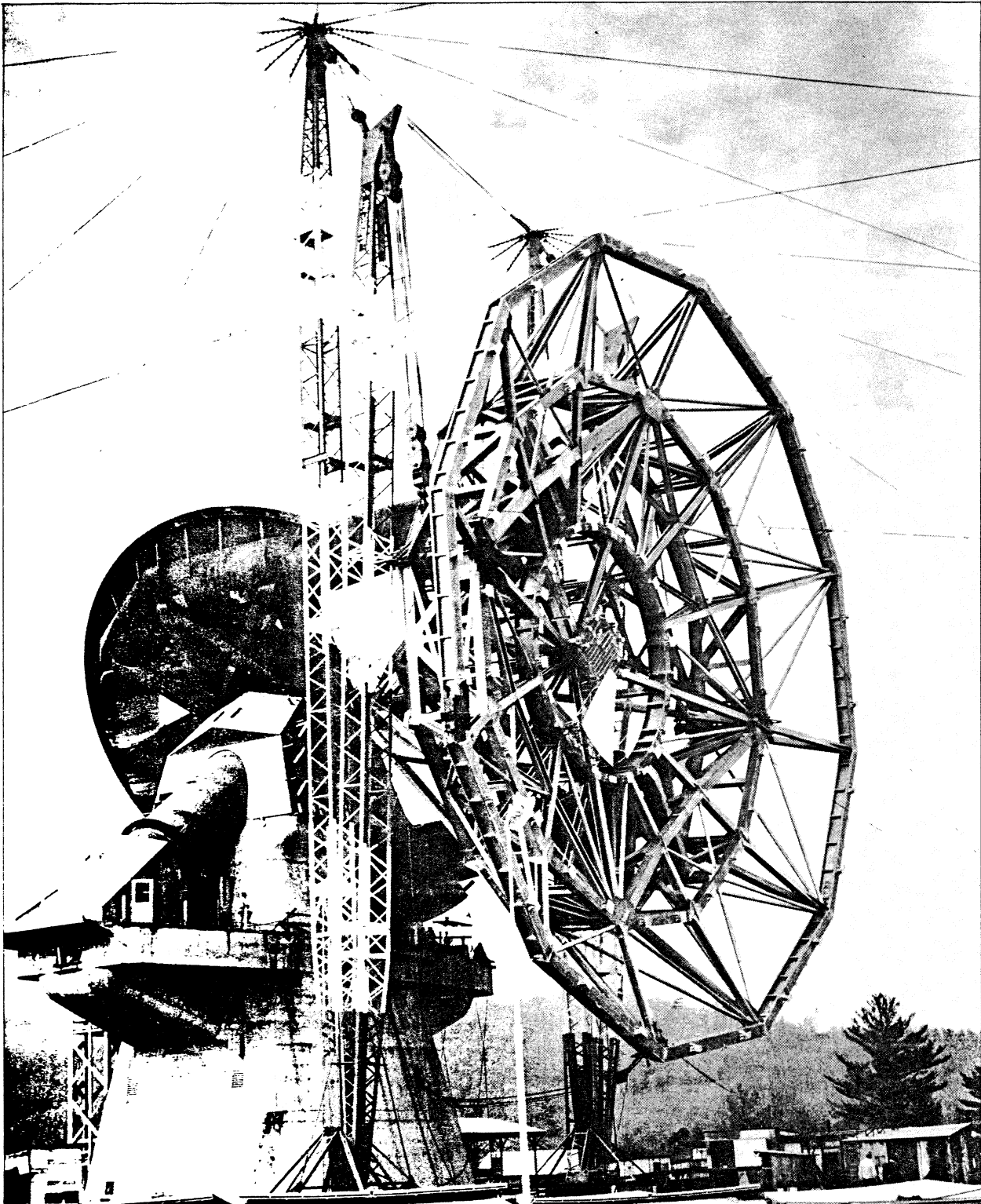


The OBSERVER

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Vol. 4, No. 13

November 25, 1964



LIFTING OF THE ALUMINUM SUPERSTRUCTURE AT 140'

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140' Telescope
Aluminum Superstructure Lift
by
Howard Lambert

On November 4, after many weeks of preparation, the lift of the superstructure was started. This was the lift so long anticipated since it was the final large lift of the job. This lift was witnessed by a large group of people from the lab and by many people from the nearby areas. If any of them were seeking excitement, there was some when the superstructure reached the near vertical position. It had been out of balance to some extent from the beginning of the lift and this out of balance condition was being controlled by a mobile crane which held the heavy side of the structure off the ground and also kept it from swinging freely. At the near vertical position, a cable on the mobile crane parted which allowed the structure to swing away from the crane and hit the ground. Needless to say, there were many varied expressions and colors on faces of bystanders as well as persons working with the lift.

The contractor decided not to proceed with the lift at that time and secured the job for the night. On November 5 the structure was lowered to the ground and work was begun on revising lifting apparatus and plans for the next attempt.

The second and final attempt at lifting the superstructure was started on November 10. With lifting apparatus revised, the structure was in good balance and no trouble was encountered during this second attempt. The structure was brought to near final position and again secured for the night. On November 11 the structure was put into final position and bolted to the yoke arms.

This now completes the major lifts at the 140'. It began on May 15, 1964 with the assembled shaft and sphere lift. The superstructure as lifted weighs 266 tons and makes a total of 1,440 tons of steel and aluminum which have been placed atop the pedestal. This of course is not the total weight which will be on the pedestal. The total weight will be in excess of 2,500 tons.

This, to say the least, has been an interesting summer and fall for all of us at the 140'. Others have shown interest and we sincerely hope they are satisfied with the results thus far.

WE ARE.

ENGINEERING ESSENCE

Things have hit a high pitch in our little world of stress, directions, lbs. per inch square, etc. The reason being the 140' Telescope Project is nearing completion. As other groups in The Observatory, 90% plus of our efforts are towards this end. Things such as dish accuracy, hydraulic oil pressure, with this work, and the like discussed over the years are now real numbers.

As one goes down the list of groups connected with this project that helped make it possible, you find such names and companies as: N. L. Ashton, Irving Bowman and Associates, E. W. Bliss, Darin & Armstrong, Franklin Institute, Simpson, Gumpetz & Heger, Inc., Lombard Governor, Pittsburgh Testing, Stone and Webster Engr. Corp., Sun Ship, General Dynamics Co., Kennedy Antenna Division, Westinghouse Electric Corp., Philadelphia Gear Corp., Bethlehem Steel Co., Pacific Crane & Rigging, special committees, and many others. We would like to add one name to the list in bold letters, N.R.A.O. Engineering.

If and when snow starts to fly and you get the urge to get some good outdoors exercise come to the N.R.A.O.R.A.'s Recreation Area with skis on your feet. There, after mid December, 1965, you should find a modern rope ski-tow for the ride up the hill. NOTE: The ride down the hill is up to you.

140'

On the serious side, major lifts have all been completed at the 140' with the successful lift of the superstructure on November 10 and 11. Much work has gone into the project prior to this final lift and perhaps the only item which has not been covered in the "Observer" was the successful testing of the polar drives and brakes at the end of October. The telescope, as completed at that time, was driven East and West at varying rates of speed UP TO 47 DEGREES PER

MINUTE, the structure was FULLY REVERSED FROM EAST TO WEST OR WEST TO EAST WHILE BEING DRIVEN AT 20 DEGREES PER MINUTE and the polar brakes were applied AT 12 1/2 DEGREES PER MINUTE. We who were not present during the tests have been told the pedestal building absorbed the shock when the instrument was reversed and also when the brakes were applied. After the tests were completed the instrument was rotated east and preparations made for the successful superstructure lift which followed.

Mr. Phil Young of Kennedy Antenna Division is at the job site making minor repairs to some panels and observing as his company's representative during panel installation.

All surface panels have been delivered from Kennedy Antenna Division in Cohasset, Mass. This now completes receipt of all major procurement items for the 140'. These panels are now in the process of being installed on the superstructure. George Grove and Al Hollid have returned from their assignments at the Kennedy Antenna plant in Cohasset and things are back to normal (?) now that Al and George are back.

Plans are now being made by PC&R to take down the derricks and complete their remaining items of work on the 140'.

On the light side, I haven't seen any wild turkeys during this hunting season. I did see five the day prior to the season opening. That always seems to be the case. I've been seeing lots of real tasty looking deer lately -- wonder if I'll see any on opening day.

Two car families are getting to be a common thing these days. Three car families are a little out of the ordinary though. Mr. Grabe is about to be a three car man, at least that is what he says. He may need a dealer's license pretty soon, don't you think?

George Grove is in the trucking business now. He bought a pickup truck last

week so he can haul winter provisions for his ranch up in hell's canyon. Is that the proper name, George?

300'

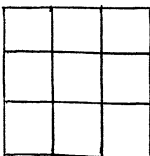
Dr. Turner of D.T.M. continues to observe on 234 Mc., scanning the sky in either eight, five or two minute intervals--with the telescope running at high speed (and the operators too).

(Telephone Conversation) "What's that--you say you found a picture of Miss October taped to the inside door of the autocorrelator cabinet?" "Gee I can't imagine how it got there, unless one of those nasty boys from the Lab put it there." "Oh no sir we normally have out autographed picture of Roy Rogers there." "Yes sir it won't happen again." "Goodby."

Overheard at the focal point after filling the dewar with liquid nitrogen "OK Bob, I think that'll DO-HER."

And Dave Van Horn continues his heart touching battle against almost overwhelming odds in his struggle for life, liberty and a warm, dry mobile home.

Fill in the squares not using the same number more than once, so that each vertical, horizontal and diagonal row totals 15.



Answer on page 4.

DECEMBER N.R.A.O.R.A. ACTIVITIES

Children's Party

The children's Christmas party will be held in the Conference Room on December 20, 1964, from 4 to 6 PM.

Santa Claus will attend with a bag full of gifts for children in the age group of infants to 12 years of age. Refreshments and entertainment will complete the program. The Observatory has 189 children in the age group of 1-12. This should be a grand gathering to begin the Christmas holidays. Harry Wooddell and Norma Brockway are in charge.

Teen-Age Party

This year, the N.R.A.O.R.A. has decided to sponsor a teen-age dance party for the age group of 13-20. Norma Brockway is heading this committee and will ask others for assistance. The teen-age party will be held on Monday, 28 December, in the Conference Room, from 8:30 to 11:30 PM. The music will be furnished by talent from Marlinton under the direction of Sam Brill. There are 54 children in this age group. Each will be allowed to invite one guest of the opposite sex, or they may come as a single. Refreshments will be served. Additional information will be furnished by Mrs. Brockway.

Adult Party

The adult party will be held Saturday, December 26, in the Conference Room from 9-12 PM. The music will be furnished by "Pop" Shaver and Pals from Lewisburg.

Tickets will be available to N.R.A.O.R.A. members only from December 1 to December 16. After December 16, tickets will be available to member-guests. If you plan to go, please get your tickets before December 17th so you can be sure.

Tickets will be priced as:

Couple - \$4.00

Single - \$3.00

You may purchase your tickets from the following members: Richard Hiner--

Works Area; Carl Davis---Downstairs Lab; John Gallagher---Upstairs Lab; Len Howell---Telescopes.

Sidney Smith, Len Howell, and Claude Bare are on this committee.

BASKETBALL

Thirty-four (34) members have signed to play basketball this coming season. Final arrangements have not been made for the school facilities but will be completed before 8 December when the county Board of Education meets. The season should be under way soon thereafter.

Non-playing coaches have been recruited again this year. They are: Jamie Sheets, Herb Hanes, Glen Grandon, and Gene Crist. The referees will be June Riley and Lonnie Ratliff. Mike Waslo is handling the basketball organization. Drawings will be made at the earliest convenience and team listings published. Playing dates will be posted as soon as schedule is approved by the school officials.

CERAMICS

A new kiln has been delivered and the ceramic workshop will again be opened. Regular sessions will be held every Wednesday night, 7 PM to 11 PM, effective December 2, 1964.

A potter's wheel was also ordered but one part of it was broken in shipment. When this part has been replaced we will advise all members when the wheel will be demonstrated.

Also, if enough interest is shown again in ceramic classes, we will have an instructor in to bring us up to date on some of the newer methods and glazes for ceramics. This instructor will be very good in helping new ceramists get started in the classes. Due to every-

one's heavy holiday schedule these special instructions will be given sometime after the first of the year.

If you have any questions regarding ceramics, please contact Harry Wood-dell, Ext. 290.

RED CARS? NO!!

By: Jaap Baars

Last month, we had the possibility to call attention to an important part of daily life. However, the choice of the subject was, although biased by a personal desire, more or less arbitrary.

Today's column has been induced by actual events. Since some time I have been watching the appearance of these brand new, very red cars on our parking lot with some doubt. They remind me too much of the street cars in a well known Dutch city where people say this colour is only to camouflage the blood spots.

Anyway, I was convinced that something was going to happen. Only later, I was informed that both cars had been damaged quite badly. After I learned that no person was injured, I could with some satisfaction consider my theory to be right.

The reason for these accidents lies in the fact that red does not match either with our woods nor the sky nor the road. This ought to be a major consideration if one buys a new car. After all it is not without reason that one can go around here for more than a year in an old black Plymouth without accidents.

Answer to puzzle that is on page 3.

8	1	6
3	5	7
4	9	2

LAB GAB

The millimeter receiver box and mount was taken to Columbus, Ohio to be checked on the antenna at North American Aviation. So far everything checks out OK. The completed receiver will be taken to Columbus later this year.

Frank Perry of Low-Noise lab is now working in Beckley. Ralph Cooper has also left NRAO. He is also in Beckley; working for Melpar.

Carl Cooper has joined the interferometer group.

Digital has built a new time marker system for chart readout.

C. Bare will be on vacation in South Carolina.

There have been some mighty cold hunters in the lab these last few days.

NOTICE:

The NRAORA has received the following pieces of caving equipment: 180' stainless steel ladder in 30' sections; 300' nylon climbing rope; 2 each nylon seat slings; assorted karabiners; brake bars; and carbide lights.

Neil Albaugh has been designated custodian of this equipment by the NRAORA president, and he will be responsible for it.

This equipment is not exclusively for the use of any small group, but it is for the use of any NRAORA member.

Keep in mind, however, that lives depend on the condition of this gear. Treat this gear with the same care you would give your own parachute.

Since some of the Recreation Ass'n members may be caving for the first

time, or at least climbing for the first time, a few rules and suggestions are in order:

1. Never go caving alone.
2. Leave word with someone where you are going and what time you will be back.
3. Carry three sources of light: carbide light, flashlight, candles and matches or lighter. Never depend on only a flashlight.
4. Try to have at least one experienced member along on the trip.
5. Know how to operate a carbide light before you enter a cave.
6. Don't climb either a ladder or rope without proper instruction. It's not as easy as it sounds.
7. Don't try to be a hero and climb hand-over-hand either up or down a rope, no matter how strong you are. Three people have been killed in Schoolhouse and Hellhole this way.
8. Resist the urge to write your name, draw pictures, etc. in the cave. Don't dump used carbide inside; carry a "junk bag" and bury it outside. Let the bats alone; they won't bother you.
9. Don't destroy the formations. Breakage and vandalism will quickly destroy the beauty of a cave. For an example of vandalism, see Stratosphere Balloon Cave.
10. Wear a "hard hat", it saves the head from bumps.
11. Some caves are dangerous in wet weather. Some may flood or have the entrance blocked when water rises quickly.
12. Take nothing but pictures, leave nothing but footprints.

----continued on next page----

Remember: There are old cavers and there are bold cavers, but there are no old, bold cavers.

POPULATION EXPLOSION

The population around Green Bank is exploding--exploding with male babies. That's right--another baby boy has been injected into the scientific community. This time, the blame lies with Jacob Baars, the scientist from Holland. His wife, Marya, contributed to this story too. Anyway, to make a long, long story short, Jan Erik Randolph Baars, 8 lbs 9 oz, was born on November 19, 1964, at Elkins Memorial General Hospital. No one knows for sure why the baby was delivered after 10 1/2 months, but my guess is that our scientist from Holland had better check his sliderule.

KITTENS:

Newly born, real beautiful Persian kittens are available at the von Hoerners' home, in Arbovale.

FOR RENT OR SALE:

60' Trailer, located in Green Bank;
3 bedrooms, 1 1/2 baths. Call:
E. C. Gardner
Dunmore
Phone: 456-4445

WEATHER:

"About the weather man's a fool,
When it's hot he wants it cool,
When it's cool he wants it hot,
Always wants it what it's not."

The *Lavender*
Hill
Mob

starring
ALEC GUINNESS

NOV. 30th
7:30 P.M.

der

"The
BRIDGE"

Brücke

CHILDREN UNDER 12 NOT PERMITTED

A GERMAN MASTERPIECE

"A WAR STORY ONE WILL NEVER FORGET!"... PBG

dec. 14th