

# DINOSAURS!



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## DRAMATIC DINOSAUR MURAL 9 FEET LONG -- IN FULL COLOR!

Rudolph F. Zallinger's Pulitzer Prize-winning "Age of Reptiles" mural in the Peabody Museum of Natural History at Yale University can now be a major exhibit in school and libraries, or a spectacular home decoration. Faithfully reproduced on durable plasticized paper, in full color, this fascinat-

ing "sweep through time" identifies and blends together a continuous image of life during the age of reptiles. The original, authenticated by experts, took 4½ years to complete. Size overall: 110" x 19¾"; image size: 108¼" x 15¼".

An accompanying 40-page teaching guide includes a fold-out keyed illustration. \$28 postpaid. By air, postage and handling per mural: \$2. domestic; \$3. else-where.  
Peabody Museum Associates, Dept. SN  
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# OFF THE BEAT

## Visit to the VLA: Rising from ranchland

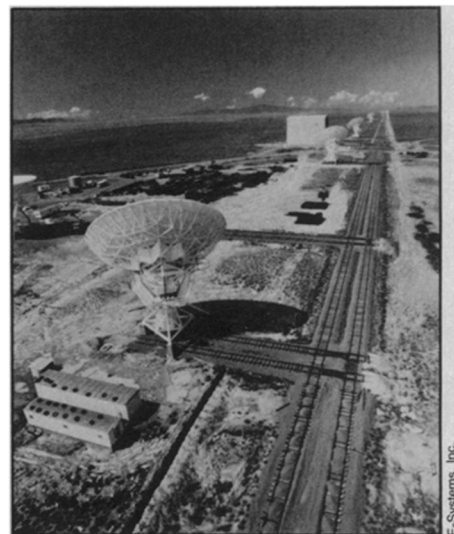
Twenty-eight months ago there was nothing but a surveyor's marker, some earth-moving equipment, a construction trailer and endless expanses of parched grama grass under a cloud-flecked western New Mexico sky. Now, in my first return visit since that early summer day in 1974 just before construction began (SN: 8/24 & 31/74, p. 126), all is changed. The Very Large Array (VLA) radio astronomy center, the largest and most sensitive assemblage of radio telescopes in the world, is fast taking shape.

Even from a distance, the transformation is obvious. A stately row of identical radio telescope dishes, each the size of a good-sized building, intrude incongruously on the horizon. Already there are eight of them, gleaming white in the sun, each 210 tons of steel and electronics perched improbably on three narrow concrete pylons. By 1981, 27 of the 82-foot antennas will be distributed over the landscape in the shape of a Y with arms 13, 13 and 11.8 miles in length, simulating a single dish 27 miles in diameter.

To the visitor standing under one of the massive antennas, it is difficult to believe they are portable. Yet the double row of railroad tracks with short spurs to what eventually will be 72 different foundations from which to choose testify to the fact. A specially constructed transporter, itself weighing 70 tons, carries an antenna down the railway, jacks itself up off the track, swivels its heavy wheel trucks 90° onto the spur, and gently places the antenna in its new location. The flexibility of position is necessary for interferometry.

"The first time we did it it took a little while," says deputy project manager A. R. Thompson, "but now we're getting quite adept."

In his office in the new two-story control building not far from the Y intersection, Thompson talks about the rapid progress. On Oct. 25, 1975, the first signals from the first antenna were obtained, of the source 3C-274 in Virgo. On Feb. 18, 1976, two antennas operated together for the first time, obtaining fringe patterns from 3C-273 and 3C-84. In August, the computers were moved into the control



E-Systems, Inc.

First of 27 VLA antennas face the sky.

building. On Sept. 8, the third antenna was added to the working array, and on Oct. 26 the fourth, enabling four-element interferometry. Thompson says the goal is to have six antennas working together by Christmas and 10 by mid-1977.

The antennas are operated 40 hours a week now, but most of that is for testing. Next year, his goal is 80 hours a week of operation and gradually to build up the proportion devoted to astronomical observations to 75 percent. In 1977, in other words, the VLA will become a fully working astronomical observatory.

Back in Socorro, 50 miles to the east, in a squat building leased to the National Radio Astronomy Observatory by the New Mexico Institute of Mining and Technology, VLA project manager John H. Lancaster speaks with pride of the effort to keep the VLA within budget by acquiring used railroad track and ties from government installations. Ninety percent of the needed track has already been so procured.

As for the entire \$78 million VLA project: "We're on schedule and on cost. January 1981 was the original target date for completion—a date I'm sure we'll be able to hit."

—Kendrick Frazier

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