

editorial

Good news: a new national lab

On page 18 in this issue we report on the progress in construction of the Very Large Array Telescope, the mammoth 27-dish radiotelescope being constructed by Associated Universities Inc. under contract to the National Science Foundation. This facility represents a major step forward for astronomers and we congratulate them on the long and dedicated cooperative effort that made it possible. The VLA is expected to do for radioastronomy what the Mount Palomar telescope has done for optical astronomy. Or to draw another comparison, it is the equivalent in high-energy physics of moving up from the Brookhaven 30 GeV accelerator to the 400 GeV accelerator at Batavia.

Things beyond the capability of the present generation of radiotelescope arrays that the VLA will be able to do range from performing surveys of radio sources in interesting areas of both hemispheres, to detecting the formation of stars in dense clouds, and observing the evolution in time of distant galaxies.

One can point to a second parallel between the Batavia accelerator and the VLA in the area of funding decisions. Both facilities have required the investment of a major share (\$76 million in the case of VLA) of each discipline's total funding, requiring cuts or delays in funding for numerous other projects within the discipline. Both facilities have been able to come into being only because the members of the discipline were able to get together in spite of many initial differences and reach a unanimous recommendation (see the Greenstein and Bromley reports) to give top priority to the major facility. More than three years ago the Bromley report emphasized the need for scientists to find ways to come to agreement among themselves on funding priorities within their own disciplines or subdisciplines. Initially when the VLA was first proposed ten years ago there were a number of competing proposals for worthwhile alternatives and there were sharp differences in view among astronomers as to which projects should receive support. In working together from this starting point to reach a final consensus, the astronomers have provided a good example of the process called for in the Bromley report and astronomers deserve our congratulations.

We would take this spirit of cooperation a step further and urge that all physical scientists lend their encouragement and support to the VLA facility—not only because they appreciate the importance of the project to the progress of basic astronomy but also because information from the new telescope may well advance their own disciplines. We have already seen that solid-state physicists, for example, have been able to obtain information about new forms of matter from radiotelescope observations of neutron stars. In a similar vein, the new VLA is expected to provide information that will be useful to a number of disciplines other than astronomy. (One example would be contributions to basic knowledge in plasma physics from observations of plasma processes in extra-galactic sources.) In this sense the VLA should be regarded as a national laboratory serving physical science more broadly.

Finally, in these times when declining research funds are causing American physicists and astronomers in general to feel like poor cousins compared to their peers in other countries when it comes to being able to buy new equipment, it is heartening to note that our country has nevertheless agreed to bear the expense of making this important contribution to fundamental knowledge.

Harold L. Davis