Action and diplomacy

The proton accelerator being built at Batavia, Ill., says Dr. Robert R. Wilson, director of the National Accelerator Laboratory, will have a final energy of 500 billion electron volts (GeV). Original plans called for an energy of 200 GeV as a first step and later, with additional power supply, 400 GeV. Magnets built for the machine have been tested, and are able to stand the magnetic field strength needed for 500 GeV, so that has become the new second-step goal.

Simultaneously construction of the accelerator has been progressing so rapidly that Dr. Wilson expects to have a beam of accelerated protons by the middle of 1971, a year ahead of the original schedule. But because of budget stringencies, the construction of experimental areas and means for leading the beam out of the ring to external targets has not kept pace with construction of the accelerator ring. When the beam first comes on, the machine will be limited to experiments with targets that can be set up in the ring itself. This will mean that fewer experiments can be set up at one time and the certain arrangements of target and detecting equipment will be prohibited by the ring geometry.

Meanwhile, plans by the international European high-energy physics laboratory CERN to construct a proton accelerator of 300 GeV energy were bogged down in diplomacy.

While the American machine proceeds ahead of schedule, the CERN project still needs agreement on site and support from member governments.

Some governments are not interested; others are wrangling over a site for the new machine. Five locations in five countries are under acrimonious consideration.

Because accelerator technology has progress since the CERN project was first proposed, the CERN designers have taken a fresh look at possibilities for the new machine. They have produced a suggestion for a flexible machine, 250 GeV at first, 500 GeV and maybe 1,000 GeV later on (SN: 4/25, p. 468).

One thing that appears in the new plan is that a magnet ring only 1.8 kilometers in diameter would be required. This could be accommodated on land across the road from the present CERN laboratory in Geneva. The designers are proposing this to the remaining interested governments. It would solve the wrangle over location by disappointing all current contenders equally. Original plans had called for a 2.4-kilometer ring, and there was no place in Geneva to accommodate that.