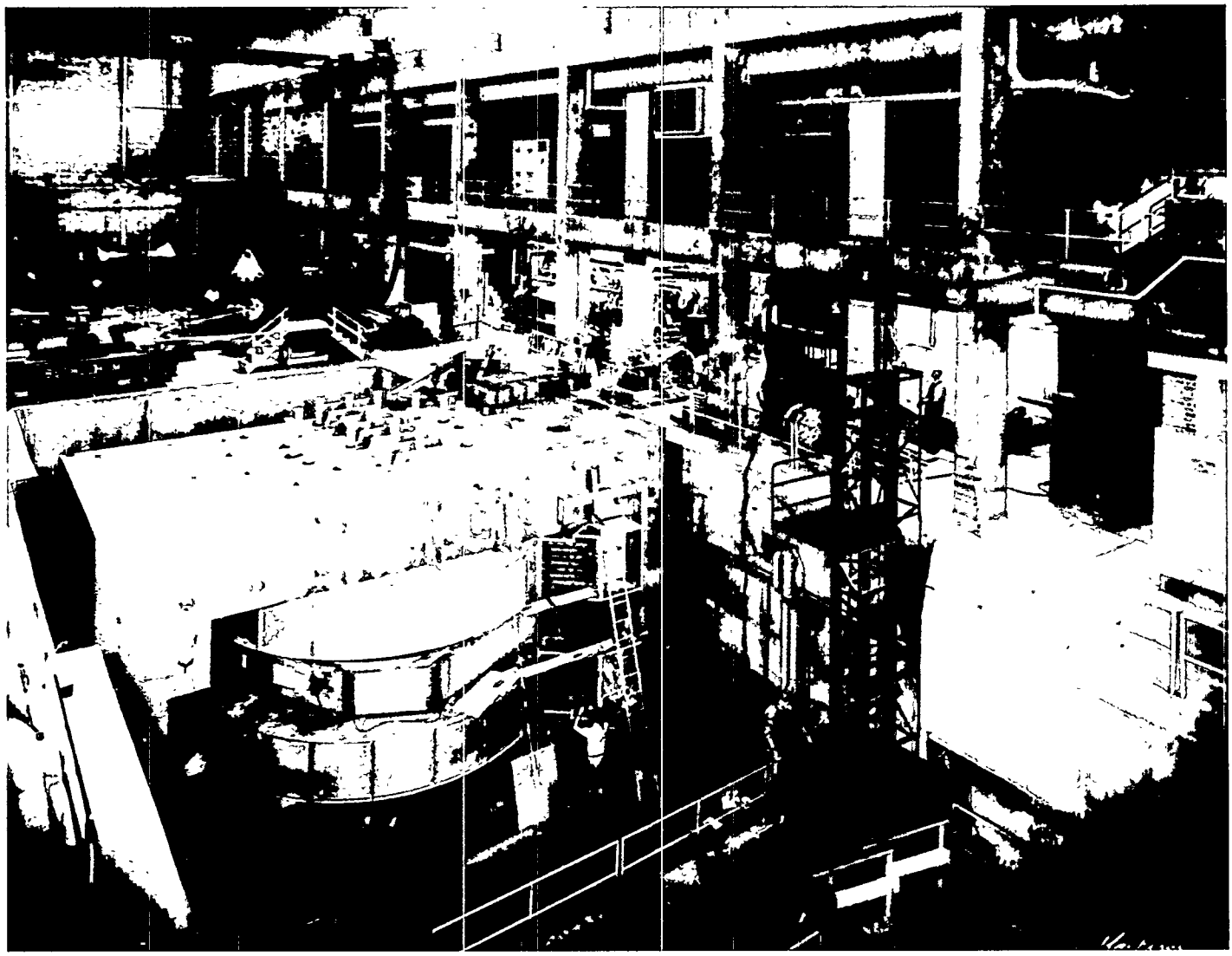

The synchrotron of the University of Chicago as it appeared during construction. A man is standing, center foreground, near the place where beams of pions would emerge and enter the room when pion-scattering experiments were conducted.

Anderson, Fermi, and Marshall are here standing by the cyclotron. Somewhat later in time, the next picture shows Fermi and Andrew Lawson, the Physics Department chairman, entering the Institute building. Three students of Anderson, namely Ron Martin, Morris Glicksman, and Guarang Yodh, are seen in the next photo.

One day soon after I came to Chicago, while we were hunting leaks at the cyclotron, I was sitting in my laboratory reading some reports, when Herbert burst through the door, which, as I have already explained, was often his habit. He demanded, rather truculently, I thought, to know what I was doing. I said politely that I was thinking about building a liquid hydrogen target to study pion-proton scattering. He said, politely this time, that that was a good idea and that I should get going. So I rose from my chair and went across the street to the West Stands to see Earl Long, of the Institute for the Study of Metals, who then was very helpful to me in getting the target built rather quickly out of simple materials. The target, featuring sturdiness and speedy construction rather than mechanical elegance, is shown in my laboratory. I am making some changes to the systems.

Experiments on Pion Scattering

We, namely, Anderson, Fermi, and I, then began to measure the total cross sections of hydrogen for negative pions of several energies, followed by the cross sections for the pion charge-exchange reaction, followed by the deuterium and hydrogen cross sections for several energies of negative and of positive pions.