

to proceed at as fast a rate as was possible. Otherwise, the basic process is similar to that of the atomic bomb.

The atomic chain reaction was the result of hard work by many hands and many heads. Arthur H. Compton, Walter Zinn, Herbert Anderson, Leo Szilard, Eugene Wigner and many others worked directly on the problems at the University of Chicago. Very many experiments and calculations had to be performed. Finally a plan was decided upon.

Thirty "piles" of less than the size necessary to establish a chain reaction were built and tested. Then the plans were made for the final test of a full-sized pile.

The scene of this test at the University of Chicago would have been confusing to an outsider—if he could have eluded the security guards and gained admittance.

He would have seen only what appeared to be a crude pile of black bricks and wooden timbers. All but one side of the pile was obscured by a balloon cloth envelope.

As the pile grew toward its final shape during the days of preparation, the measurement performed many times a day indicated everything was going, if anything, a little bit better than predicted by calculations.

The Gathering on the Balcony

Finally, the day came when we were ready to run the experiment. We gathered on a balcony about 10 feet above the floor of the large room in which the structure had been erected.

Beneath us was a young scientist, George Weil, whose duty it was to handle the last control rod that was holding the reaction in check.

Every precaution had been taken against an accident. There were three sets of control rods in the pile. One set was automatic. Another consisted of a heavily weighted emergency safety held by a rope. Walter Zinn was holding the rope ready to release it at the least sign of trouble.

The last rod left in the pile, which acted as starter, accelerator and brake for the reaction, was the one handled by Weil.

Since the experiment had never been tried before, a "liquid control squad" stood ready to flood the pile with cadmium salt solution in case the control rods failed. Before we began, we rehearsed the safety precautions carefully.

Finally, it was time to remove the control rods. Slowly, Weil started to withdraw the main control rod. On the balcony, we watched the indicators which measured the neutron count and told us how rapidly the disintegra-
