

PHYSICS

Unknown Within Atom Under Energetic Attack

► THE LAST unknown of science is being explored. This is the region within the hearts of the atoms. The same group of physicists who snatched energy from the atom is attacking this frontier.

The weapons they use are the giant atom-smashing accelerators, the energetic cosmic rays from outer space, and their brains and intuitions.

At the third annual Conference on High Energy Physics held at the University of Rochester, Rochester, N.Y., leaders in atomic exploration from about 50 laboratories discussed what happens in the mysterious atomic nucleus where the laws of everyday physics do not seem to rule.

About 20 or so particles exist in or can be knocked out of the atoms. Some of these are well-known oldtimers, like the electron which is a sort of materialization of electricity, the proton that is the heart of hydrogen, simplest of the atoms, the neutron that although chargeless is the trigger of the atomic bomb. Others are new and stranger, like the pions, the muons, the V-particles, most of which exist for fleeting microfractions of a second after flying out of atomic collisions.

No one can predict what will come out of the intensive investigations that use accelerators costing millions of dollars, or necessitate taking cosmic ray collision photographs by the thousands on high mountains or from high-flying balloons.

The whole atomic energy program arose out of similar experiments. We are betting that the time and money spent on such fundamental physics today will bring similar but unpredictable results.

This is how the giants in physics, including Drs. J. R. Oppenheimer, Enrico Fermi, Carl D. Anderson, E. P. Wigner, E. M. McMillan, H. A. Bethe and several score others, are spending their energies. A couple of hundred other younger physicists are running the giant cyclotrons and other accelerators and dreaming mathematically with tough impracticality.

They are exploring an exciting portion of the universe more important to man than any fanciful trips to the moon.

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ASSEMBLING PHOTO-MAP—To keep accurate track of planning and construction of utilities, the Philadelphia Electric Company is remapping the suburban area, using aerial photo-maps reproduced on plastic sheets, such as the one being worked on here.

BIOLOGY

Baby Otter Settles Down

► PROBABLY THE most traveled otter in the world has now settled down, at least temporarily, in his new home at the National Zoological Park in Washington.

Less than three months ago, this baby giant Brazilian otter, or ariranha, the first ever brought to America and perhaps the first ever kept alive in captivity, was happily playing with his two brothers in the Aquidauana river, in the heart of the Gran Chaco of Brazil.

Two animal collectors, one the famous bearded hunter of jaguars, Sascha Siemel, and Wyman Carroll, his young partner, were hidden near the river, watching them. When the mother carried the cubs into a hollowed-out den along the bank, Siemel and Carroll quickly blockaded the entrance and began to dig into the earth some 15 feet away.

When they had dug down into the main chamber, they tossed a lasso over the mother. The loop fell around her broad, flat tail. In a flash she jumped from the den and broke loose, abandoning the three cubs.

Siemel and Carroll pulled out the litter, caged them, and began the long trek back to civilization. The first leg of the journey with the squealing captives was by dugout canoe. Then the voyage was continued by ox cart, truck and train successively. The runt of the litter died soon after the cap-

ture, but the two survivors thrived on a diet of sugared cow's milk and oatmeal during this phase of the trip.

An Aerovias de Brasil plane then flew the baby giant otters to Miami. But even the temperature of wintertime Miami was too cold for the tropical animals, and one of them died there of a cold.

The remaining cub, which Siemel named Ike because it was captured on election day, arrived safely in Washington by air, and has been installed in its new, warm quarters in the national zoo.

Siemel and Carroll, who flew with the otter to the United States, said Ike was about four months old at the most. It is already nearly as big as an adult North American otter. When fully grown, the giant Brazilian otter may measure six feet in length.

The animal collectors also brought three jaguar cubs back with them. Siemel said he had to kill the mothers to capture the cubs. The usual way the bronzed, 63-year-old man kills jaguars is by stopping their deadly charge with a spear.

Known as the "tiger man" because of his fame as a hunter, Siemel has spent 40 years in Brazil.

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Owls are not blind during the day; they hunt at night because darkness protects them from crows, blackbirds and jays.