

## PHYSICS

## Design for Building Powerful Atom Smasher

➤ A DESIGN for building an atom smasher 10 to 20 times more powerful than the world's record holder scheduled to go into operation this year in Russia was reported to the American Physical Society meeting in Washington.

It could speed up atomic particles to energies of 100 billion electron volts, compared to the ten billion volts in the atom smasher Russian scientists are now finishing.

Dr. Lee C. Teng of Argonne National Laboratory, Lemont, Ill., said the "new principle and new magnetic field design" he devised would give a "continuous beam of charged particles at unprecedented high energies with unprecedented high intensity."

He suggests three stages for the accelerator. In the first, particles would be speeded to two billion electron volts, or about 95% of the speed of light. These particles would be continually transferred to a second accelerator with a ring-shaped magnet where they would be speeded up to 20 billion electron volts, or 99.9% of light's speed.

"Another transfer to a second, even larger ring magnet would give an energy" of 200 billion electron volts, he said.

Science News Letter, May 5, 1956

## TECHNOLOGY

## Rubber-Tired Train Built for Arctic Use

➤ A TRAIN that rolls on 10-foot high tires, can be navigated by the stars, and can carry 50 tons of supplies will be used to develop military bases above the Arctic Circle.

The block-long vehicle, called a sno-train, is built to creep over deep snow on tires four feet wide and to travel in sub-zero temperatures. All 16 wheels are powered.

The sno-train was developed by R. G. LeTourneau, Inc., Longview, Texas. It looks more like a huge-wheeled duplex truck with three trailers than a conventional railroad train. A glass "bubble" was built on top of the engine for stellar navigation.

Science News Letter, May 5, 1956

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### The Exceptional Bittern

➤ AN OLD ADAGE says that "the exception proves the rule."

Recently that adage has been tested and proven true. In Dutchess County, New York, a little boy was chased by a strange bird that terrified him. His screams attracted his mother and, little less terrified than her son, she chased the bird into a barn with a mop.

Later she contacted the state police, and one of the officers dispatched the offending bird with a pistol shot.

The story of this bird—the shy, seldom seen American bittern—"attacking" a human being was so out of the ordinary it was "big news." A bittern attacking and possibly causing harm is so exceptional that it proves the rule of his inoffensive nature.

What is true for the bittern is largely true for much or most of the animal life with which humans come into occasional contact. Any report of a person being bitten by a snake or chased by a wounded deer often gets front page treatment.

The reason, simply, is that animal attacks are so rare they excite curiosity. They are the exceptional cases that point out the general harmlessness of wild creatures to man.

Just how often do humans die of snake bite, for instance? In that land of coral snakes and fer-de-lances, Panama, Dr. H. C. Clark of the Gorgas Institute kept a tally of deaths by snake bite there over a period of years.

His astounding conclusion was that more people die by being struck by lightning each year in Panama than succumb to snake bites.

The famous animal photographer, Martin Johnson, was once asked if he did not often fear for his life during his expeditions into the jungles of Asia and Africa. He replied that he felt safer in the jungles than he felt in civilized lands. Shortly thereafter, Martin Johnson perished in the crash of a modern airliner.

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The panda, with the face of a raccoon, feet like a cat and body similar to that of a bear, is one of the rarest of mammals.

## TECHNOLOGY

## Atomic Energy Produces Better Rubber Faster

➤ BETTER RUBBER will soon be produced by atomic energy.

Two-million-volt electrons fired at silicone gum convert it to silicone rubber almost instantly without introducing chemicals that remain in the rubber and spoil some of its desirable properties.

The technique is credited with producing better rubber in two seconds than conventional vulcanizing methods yield in several hours. Its discoverers, Westinghouse scientists H. R. Sheppard, E. J. Croop and Dr. G. C. Gainer, said the method is not yet ready for commercial application.

They predict, however, that irradiation with high-energy electrons will become an important means of vulcanizing silicones on a large scale.

"Vulcanization takes place when the speeding electrons smash into the silicone molecules and cause them to arrange themselves in new patterns," Dr. Gainer said.

Science News Letter, May 5, 1956

## Questions

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PHOTOGRAPHS: Cover and p. 282, American Museum of Natural History; p. 275, Woods Hole Oceanographic Institution; p. 277, General Electric Company; p. 279, Stanford University; p. 288, Olin Mathieson Chemical Company.

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