

MILITARY SCIENCE

Air Defenses Inadequate

► AMERICA'S AIR defenses are not capable of stopping an aerial attack upon this country. Gen. Curtis E. LeMay declared at the Institute of the Aeronautical Sciences meeting in Los Angeles.

The commanding general of the Air Force's Strategic Air Command said:

"Our own air defense system, I believe, is probably the most highly developed in the world today. Yet I do not think that the most optimistic of us feel it is capable of stopping a well-planned and coordinated bombing attack at this time."

The general pointed out that jet fighters, rockets and longer-range anti-aircraft guns have strengthened the capabilities of U. S. air defense systems, but "there have been developments on the other side which favor offense and tend to counteract the advances made (here)."

Referring to America's offensive capacity, Gen. LeMay said bombing accuracy of Strategic Air Command crews had improved 600% in the eight years following

World War II. He attributed the improvement to better equipment and continued bombing practice.

But the general expressed dissatisfaction with some of the electronic nervous systems that give life to modern airplanes.

"The mal-function of a single small vacuum tube in a bombing system can cause a 92-ton atomic bomber, with destructive potential of hundreds of World War II planes, to miss the target," he said.

Some of the electronic equipment, he said, "is just too complex for the function required of it." Although the picture as a whole is "not too bad," making electronic equipment more reliable is a "pressing concern to all of us."

The Strategic Air Command, whose headquarters are in Omaha, Neb., always is held in readiness, the general reported. Its bombing crews get weekly workouts and are kept up to date with revised training programs.

Science News Letter, July 25, 1953

VETERINARY MEDICINE

May Bar Mexican Beef

► AGAINST THE constant warning of the United States, the Mexican government has halted mass slaughter of cattle herds exposed to foot-and-mouth disease which has newly appeared in Mexico.

The warning was double: 1. If eradication by slaughter is not resumed, foot-and-mouth, or aftosa, will become a chronic, debilitating drain on the Mexican economy. 2. If the disease is not wiped out, the U. S.-Mexican border will be permanently closed to live cattle and fresh beef commerce. The United States is virtually Mexico's only foreign outlet for cattle.

The current foot-and-mouth troubles began in Mexico last May when an outbreak occurred in the state of Vera Cruz. Herds totaling some 500 animals were destroyed before popular reaction to slaughter caused the Mexican government to halt its slaughter efforts. Since the initial outbreak, the quarantine area has expanded to a 20-by-30-mile area, with new outbreaks uneradicated.

The Mexicans are banking on vaccination to control aftosa. The U. S. says "control" is not enough, and holds out for complete conquest of the disease. And until the disease is eliminated from Mexico, no livestock or fresh beef will be allowed to pass the border.

Where Mexico can turn for a market for her beef is a big question. Even Europe, where aftosa is well-established, will probably balk at receiving possibly infected animals. Her neighbors to the south will probably set up their own quarantine to protect their own herds from infection.

The U. S. Department of Agriculture has sent Dr. Charles U. Duckworth, internationally known expert on the disease, to Mexico City in an effort to break the deadlocked discussions. He can only tell the Mexicans what he knows as a scientist: that Mexico can be freed of aftosa with the "sanitary rifle;" that any less drastic measures will make the unwanted alien, aftosa, a permanent, unwanted part of Mexico's life.

Science News Letter, July 25, 1953

TECHNOLOGY

Robot Units Monitor Uranium Rolling Process

► A ROBOT system that is ten times faster and up to five times more accurate than previous systems in monitoring critical temperatures during uranium rolling operations has been developed by the Minneapolis-Honeywell Regulator Company, Philadelphia.

The new system is the first ever designed to supervise automatically the production rolling of uranium ingots. Its aim is to improve the accuracy of temperature measurements important in uranium and other rolling processes.

Radiation devices, called radiamatic pyrometers, function as pick-up elements comparable to electric eyes. They detect the temperature of the uranium ingot and relay the information to a series of electronic re-

coding instruments. This information, which may report temperature conditions at several points in the production line, permits a single operator to make necessary adjustments.

The usual procedure is for mill operators to tell temperatures by colored crayon sticks, each with specific melting points. To obtain the ingot temperatures, the operator marks the ingot with the crayon stick. If the crayon stick with a melting point of 1,000 degrees Fahrenheit melts on application, the operator knows the ingot is at least that hot. A crayon stick with the next highest temperature is then applied. If this does not melt, the operator then calculates the ingot temperature lies somewhere in between.

Science News Letter, July 25, 1953

MEDICINE

Find Birth Strain Can Cause Epilepsy

► THE TEMPORARY shutting off of a baby's blood supply from a small portion of the brain during birth may be the cause of many cases of epilepsy.

Dr. F. M. Earle of the University of California at Los Angeles Medical School, Dr. Maitland Baldwin, University of Colorado Medical School, and Dr. Wilder Penfield, McGill University, Canada, studied 157 cases of epilepsy originating in the temporal lobe of the brain. Temporal lobe seizures constitute one of the largest of epileptic groups. Their study suggested that the epilepsy of more than 60% of this group had its origin in the strain of birth.

Apparently a tiny portion of brain tissue, containing three blood vessels leading to the temporal lobe was pushed through a small opening in the undersurface of the brain. This temporarily shut off the blood supply to the temporal lobe, denying vital oxygen to its tissue.

A permanent injury was caused. The injury, however, did not manifest itself in most cases until 15 or more years after birth.

The doctors emphasized that the injury seemed in no way related to instruments used during delivery. Many of the cases studied were normal birth in which no instruments were necessary for delivery.

Science News Letter, July 25, 1953

Science editor wanted for farming magazine

Academic training in agriculture and related fields necessary, plus practical or research experience in soil or agriculture. Writing ability of importance also.

Job involves supervision of research on experimental farm, writing of semi-technical articles plus doing of background research for general editorial program.

THE ORGANIC FARMER
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