

PHYSICS

Neutretto Unnecessary

➤ THE NEUTRETTO is dead. Born of theory to explain a loss of mass when one kind of atomic particle changed into another, it is no longer needed as the result of new and more precise measurements reported to the National Academy of Sciences meeting in Berkeley, Calif.

Dr. Edwin M. McMillan of the University of California's Radiation Laboratory told how measurements of the masses of mesons created in the giant 184-inch Berkeley cyclotron explain how the positive heavy meson decays into a light one without assuming the existence of the now discarded theoretical neutretto (not to be confused with the neutrino).

The neutrino, although as yet undetected,

is still needed and scientists are convinced that it is real. Its neutrality and light weight, causing it to have extraordinary penetration, keep it from being found.

The meson masses determined by the team of Dr. Eugene Gardner and Dr. C. M. G. Lattes, who last March announced creation of artificial mesons in the Berkeley cyclotron, are: Heavy meson, 284 times electron mass, instead of 313; light meson, 215 instead of 212.

The hearts or nuclei of atoms are actually porous rather than opaque as previously believed, it is indicated by other cyclotron bombardment data reported by Dr. McMillan.

Science News Letter, November 27, 1948

MEDICINE

Operation Streptococci

➤ A VACCINE to protect against rheumatic fever, scarlet fever, septic sore throats and other diseases caused by streptococci is now being sought by Army medical scientists.

Their search is part of the all-out offensive against the streptococci announced by Maj. Gen. Raymond W. Bliss, Surgeon General of the Army, at the meeting of the American Public Health Association in Boston. Headquarters for this Operation Streptococci will be at Fort Francis E. Warren, an Air Force Technical Training Center in Wyoming.

The diseases caused by the streptococci could well be the health threat to the armed forces in the next war that malaria was in the last. It would be if the fighting is to be in parts of the world where the streptococci are as prevalent as malaria

germs are in the tropics.

Hope of developing a vaccine against the strep. germs seems to depend on finding a way of stepping up what scientists call the "anti-genicity of M substance." The "M substance" is an acid-soluble protein of the germ which calls up germ-fighting antibodies in the body.

Success of the Army's Operation Streptococci will mean better health for civilians as well as the armed forces. The rheumatic fever and strep-caused sore throats that plagued training camps in the last war are common and dangerous ailments of civilians also. Rheumatic fever, because of its effects on the heart, is one of the most crippling, one of the deadliest and one of the most prevalent diseases threatening the health of the American people today. Gen. Bliss stated that significant findings

from the Army studies will be made known promptly to the medical world.

The medical world, he said, must in turn contribute to keeping the Army healthy. Some sort of draft of doctors will have to be introduced if not enough volunteer to meet the Army's present need for 1,550 physicians plus 870 to replace those who will be lost from the service next spring when they complete their 24 months service under the Army Special Training Program. Expansion of the Army will increase further the number of physicians needed to keep our soldiers, Army civilian employees and their dependents healthy.

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