which holds atomic nuclei together. Discovery of the neutrino should help scientists to gain understanding of this force, which is one of the fundamental properties of matter."

The first scientific publication about the discovery will be a paper by Reines and Cowan which will appear in an early issue of *Science*.

Survey of Engineering Professors

The engineering colleges of the United States have experienced a net loss of 3 percent of their professors to industry within a 2-year period, and this at a time when the engineering colleges need 1300 more teachers to carry the 1956–57 load. This situation was reported to the American Society for Engineering Education by an industry committee headed by A. R. Hellwarth, assistant to the director of employment, Detroit Edison Company.

The committee, acting under the ASEE Relations with Industry Division, reported a net 2-year loss of three professors in each hundred from campuses to industrial employers, with higher salaries being the major lure. During the 2-year period more than 750 left engineering faculties for industry, but 500 left industry for teaching positions.

The survey was based on figures submitted by 62 percent of the 150 colleges and universities accredited by the Engineers' Council for Professional Development. These institutions recorded a gain in teaching strength from 8000 to 8400 during the period, in spite of losses to industrial employers. The present shortage of 1300 would require the engagement of 15 additional professors or instructors for every 100 now teaching.

Mammary Tumor Agent in Mice

In a 10-year study of the occurrence of mammary tumors in more than 4000 female mice of various specific genotypes, scientists at the National Cancer Institute have been able to change the susceptibility of certain strains to breast tumors by genetically controlling the transmission of the mammary tumor agent. This agent, or virus, is also known as the "milk factor," because some 20 years ago a series of experiments at the Jackson Memorial Laboratory, Bar Harbor, Me., disclosed a maternal influence in mouse breast cancer.

When the young of a high-cancer strain mouse were foster-nursed by a female of a low-cancer strain, the young failed to develop cancer at the appropriate age as would have been expected. The experiment was then reversed, and many mice later developed breast cancer. These studies indicated that some factor in the milk was inciting the cancer, and that this "factor" or "agent" seemed to have many characteristics of a virus.

In the search for the specific gene or genes responsible for the transmission of this "milk factor," three strains of mice were used: one that possessed the tumor agent and was genetically susceptible to it; one that did not have the agent but was genetically susceptible to it; and one that neither had the agent nor was susceptible to it. By a system of matings involving cross-breeding, genetic material of the resistant strain was introduced into a susceptible strain and progressively increased in succeeding generations.

The authors, Walter E. Heston, Margaret K. Deringer, and Thelma B. Dunn of the Laboratory of Biology, National Cancer Institute, believe that evidence is at hand indicating that the agent does not remain inactive over a number of generations only to suddenly reappear; the agent did not appear intrinsically or *de novo*; and not all mammary tumors of the mouse are associated with the agent and not all mice with the agent develop tumors. The presence of the agent merely increases the probability that a tumor will occur and its absence decreases this possibility.

News Briefs

■ Heart disease, which causes more deaths in the United States than any other disease, does not rank among the top three most serious illnesses in any Asian country. In Asia, the top killers are epidemic diseases and others such as tuberculosis, beri-beri, cancer, malaria, yaws, and pneumonia.

In Japan, heart disease was the fifth most frequent cause of death in 1954 with a rate of 59.8 per 100,000, the highest rate in Asia. In the United States in 1950, 745,074 persons died of heart disease—a rate of 494.4 per 100,000 population. In 1953, this jumped to 794,120 deaths—a rate of 501.4 per 100,000.

■ The United Nations Educational, Scientific and Cultural Organization has announced that an experimental solar still to remove minerals from water has been erected at Mildura in Australia. The device consists of a glass structure set over a shallow trough of black plastic. Water to be treated is siphoned into the trough and evaporated by the sun shining through the glass canopy. The vapor condenses and drains into storage tanks. It may be possible to use the still to provide an inexpensive method of purifying water from artificial wells for agricultural and household uses in areas that receive little rainfall.

■ The first house in Britain to be heated by solar energy will be ready for occupancy in September. The special heating equipment, details of which are secret, is being installed. Leslie Gardner of the Western Detail Manufacturing Company Ltd., Bristol, is the inventor of the system and designer of the house. He will be visiting the United States this summer, probably in mid-August, when he will go to Detroit and Chicago in the hope of interesting American industrialists in his idea.

■ The nation's new $750,000 magnetic observatory and laboratory opened recently at Fredericksburg, Va. It replaces the old magnetic observatory at Cheltenhem, Md.

■ Both the United States and the Soviet Union have officially endorsed Vienna as the site of headquarters for the proposed International Atomic Energy Agency.

■ Pakistan has started the construction of a national science institute at Lahore, the United Nations Educational, Scientific and Cultural Organization reports. Recently representatives from Australia, India, Britain, the Soviet Union, and the United States attended a ceremony for the laying of the cornerstone.

The institute, the Ismail Science House, is to be completed in a year. It will have a library of 250,000 works, Pakistan's first comprehensive scientific library. It also will have a bibliographic and documentation center, a modern auditorium, a research center, a press and publication department, offices for scientific societies, club rooms, and a cafeteria.

■ The Woods Hole Oceanographic Institution has spent $200,000 converting the former Coast Guard cutter *Crawford* for hurricane research. The vessel left on 1 July for a 6-week cruise.

The *Crawford*, which is 125 feet long and 23 feet wide, has been air-conditioned and is capable of carrying food for 1 month for a crew of 14 and an 8-man scientific staff. The ship has two laboratory areas, and her scientific equipment includes a deep-sea winch with 25,000 feet of 5/32-inch wire, radar, two Long Range Navigation sets (Loran), a Raytheon shallow water echo-sounder, an Edo deep water echo-sounder, a special precision echo-sounder recorder developed at Woods Hole, two small winches for temperature measurements down to a depth of about 1000 feet, a continuously operated motion picture camera that will photograph the sea surface by exposing one frame every second, sea temperature measurement devices,