

SCIENCE NEWS

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INFLUENZA VACCINE

INFLUENZA vaccine of the kind now being given to all Army personnel will be available for civilian use by December 1 or shortly after.

The vaccine is effective against Types A and B influenza. These are the types which have caused epidemics in recent years. Other types of influenza virus exist. Authorities do not know whether the world-wide influenza epidemic in 1917-1918 was due to A or B virus or to some other type.

Army studies, prior to the general vaccination order, showed that about 75 per cent. of those vaccinated were protected against influenza during outbreaks which occurred soon after the vaccination. How long the immunity, or protection, lasts is not definitely known.

The vaccine is given by hypodermic injection under the skin of a single dose of one cubic centimeter (about one fourth of a teaspoonful).

Civilians whose physicians advise them to be vaccinated will find that the vaccine is expensive. Actual manufacturing costs are about 50 cents to one dollar per dose. Retail costs may be three to five times as much.

The vaccine is made from influenza virus grown on chick embryo. The following firms have been manufacturing the vaccine: Lederle, Squibb, Sharp and Dohme, Lilly, Pitman-Moore and Parke-Davis. Some manufacturers have already applied to the National Institute of Health for licenses to manufacture the vaccine for civilian use. Others will doubtless make similar requests soon and it is expected that firms which have not yet made the vaccine may do so in the future.

Influenza at present shows no signs of becoming epidemic this winter. Cases reported to the U. S. Public Health Service since January 1 total about 85,000 compared to some 350,000 for the same period last year. Some widely scattered small outbreaks last spring led Army medical officers at that time to anticipate an epidemic this winter. Although it has not yet materialized, the possibility at that time led to plans for vaccination of all personnel as soon as sufficient vaccine was available. By October there was enough of the vaccine to order general vaccination during October and November.

ITEMS

THE formation of an interim educational, scientific and cultural commission, consisting of the representatives of 15 governments, to bridge over the gap until a United Nations Educational, Scientific and Cultural Organization is fully established has been suggested by the United States delegation to the organization meeting of the UNESCO in London. Another interim commission to examine the problem of controlling atomic research was proposed by the Belgian representatives. Professor G. Magnel, civil engineer from the University of Ghent, states that the Belgian proposal would involve the inspection of all nuclear research laboratories by an inspection service to be set up by each government, which would then report its findings yearly to UNESCO.

NEW treatments for disease are hoped for through use of plants and herbs expected to be discovered by a Soviet medical expedition in the mountainous Altai region of central Asia. The sending of several expeditions to this area has been announced by the U.S.S.R. Academy of Medical Sciences through its secretary, Professor V. V. Parin. Other inquiries under way include a survey of the health conditions in the regions that were occupied by the Nazis. In all, 30 medical expeditions are in the field.

A MODEL of an engine, claimed to be the simplest engine in the world to-day, was demonstrated recently at the Polytechnic Institute of Brooklyn by Zygmunt Fonberg, the Polish rocket expert and inventor of the first bazooka in Poland prior to the war. It is a ram jet motor of new and unusual design. This new engine was designed to help launch gliders into the air. It consists of a cylindrical tube, which appears to be just an empty pipe, mounted on a restraining structure which has a free moving arm to permit the engine to swing in a circle around it when in operation. The lining of the tube expands from a smaller diameter in the front end to a larger diameter at the other end. The space on either side of the lining and the outer wall contains the gas which runs into a nozzle at the forward end of the cylinder. Air mixes with the gas coming through the small holes of the nozzle during combustion, thus providing the force of propulsion.

IN Soviet Russia, 3,900 scientists were graduated from the colleges with the degree of doctor in the years 1937 to 1944; about 20,000 received a master's degree, according to Joseph Agroskin, vice-chairman of the Committee on Higher Education in Moscow. The Soviet Government has been paying particular attention to the matter of training scientists because of the pressing need for teachers of technical subjects in the colleges due to greatly increased student body. In 1929, there were only 26,000 engineers with diplomas in all the heavy industries of Russia. But in the last six years, about 80,000 engineers were graduated. In pre-revolutionary Russia, Vice-Chairman Agroskin said, higher education was for the privileged few of the upper strata. In 1914, Russia had only 91 colleges with 112,000 students. The Soviet Government placed the entire system of higher education on new principles. Nationality and class distinctions were abolished. Education was free. All nationalities were permitted to teach in their own languages in colleges on the territory of their own national republics. Both universities and institutes were opened to all working people. As a result, there are now 772 colleges with 562,000 students. Of these 132 are industrial institutes, 18 transport institutes, 87 agricultural institutes, 68 medical institutes, 115 pedagogical colleges and 29 universities. In 1925, Vice-Chairman Agroskin reported, there were only 17,900 professors and lecturers in all Russia's colleges. Now there are 40,000.