EMBRYOLOGY-GENETICS

Unborn Mice Have Young

Transplantation experiment is expected to aid medical research, including cancer search. Could be repeated for any number of successive generations.

➤ UNBORN female mice, that never lived to see the light of day, have nevertheless become the mothers of new broods of mice, in a unique group of experiments performed by Dr. W. L. Russell and Patricia M. Douglass at the Roscoe B. Jackson Memorial Laboratory in Bar Harbor, Maine, and reported in the *Proceedings* of the National Academy of Sciences. The new transplantation method is expected to aid medical research, especially on hereditary factors in cancer.

The dead embryo mice were enabled to produce living offspring through the transplantation of their still-immature ovaries into the bodies of other female mice, whose ovaries had just been removed. The transplanted organs were accepted by the bodies of the foster-mothers and in a relatively short time were in reproductive condition. When the foster-mother mice were mated they produced litters of young, in normal fashion.

To make sure that the new mice really developed from eggs produced by the transplanted ovaries, two strongly contrasting genetic strains of mice were used in the experiment, giving easily detected differences in color and coat character between the "donor" embryos and the "host" foster-mothers. The offspring plainly showed their kinship to the strain to which the sacrificed embryos had belonged.

Dr. Russell and Miss Douglass point out several ways in which their work may yield scientifically valuable results. It should produce data of value in deciding relative importance of heredity and maternal environment, and also give opportunities to study the effects of hormones, or internal gland secretions, in prenatal development.

Finally, the experimenters point out, "There is no reason to suppose that the method could not be repeated for any number of successive generations, thus leading to an indefinite number of unborn direct female ancestors. This possibility should be of interest to investigators in several fields of research. In studies of the mammary tumor agent, for example, mice could be obtained whose female ancestors, for any number of generations, had not been nursed."

Science News Letter, January 26, 1946

MEDICINE-CHEMISTRY

Protects Penicillin

Phenol compound helps the drug do a better job in fighting germs in infected wounds. Can also be used as a liquid or as an ointment on dressings.

➤ PENICILLIN can do a better job of fighting germs in infected wounds when it is protected by a chemical related to carbolic acid, it appears from a report by Dr. Frank L. Meleney, Miss Balbina A. Johnson and Miss Frances Colonna of New York and Capt. Edwin J. Pulaski, of the Army Medical Corps. (*Journal, American Medical Association,* Jan. 19)

Surprising as it may be to those who have looked on the mold chemical as almost a cure-all for germ diseases, penicillin is powerless against some germs and its anti-germ power is destroyed by substances these germs produce.

Wounds on the battlefield or in peacetime accidents may become infected with these penicillin destroyers and at the same time with germs that are ordinarily susceptible to pencillin. The problem for the surgeon is to determine which germs are present and, if there are penicillin destroyers, to get rid of them so the penicillin can act on the others. If this is not done, and penicillin is used in the wound in ordinary amounts, there is the danger that germs ordinarily susceptible to penicillin will develop penicillin resistance because the amount of penicillin in the wound will be reduced by penicillin destroyers below the level needed to destroy susceptible germs.

In a search for a way to overcome this situation, the scientists tested over 200 chemicals and antibiotic agents for their ability to destroy the germs that destroy penicillin. The carbolic acid relative, parachlorophenol, was the most effective of the antiseptics tested. It does not injure the tissues or cause toxic symptoms, can be used with penicillin and can be used as a liquid or as an ointment on gauze dressings.

Results of tests of other substances, the scientists state, will be reported later.

Science News Letter, January 26, 1946

ENGINEERING

26 Horsepower Engine Built on New Principle

➤ A NEW 26-HORSEPOWER engine for light automobiles, built on a radically new principle from thin sheet-steel stampings instead of heavy forgings and castings and weighing only 59 pounds, has been announced by Crosley Motors, Inc. It is low in first cost, economical to operate, and can drive the new 1000-pound Crosley car at a top speed of 60 miles an hour. At a 35-mile speed it can operate 50 miles on one gallon of gas.

COMPACT ENGINE—The new 26-horsepower Crosley engine is built on a radically new principle from thin sheet-steel stampings and weighs only 59 pounds. Holding the engine easily on his lap is Powel Crosley, Jr., president of Crosley Motors, Inc.