

MEDICINE

Tranquilizer Makes Addicts of Animals

► MEPROBATE, the tranquilizing drug known popularly as either Equanil or Miltown, creates the same type of "withdrawal symptoms" as dope when given in large doses to mice, Drs. Ewart A. Swinyard, Lincoln Chin and Edward Fingl, College of Pharmacy and College of Medicine, University of Utah, Salt Lake City, report in the journal *Science* (April 19).

After continued use of the drug, mice became dependent on increasing amounts of it to get the same effect as on original smaller doses. When the drug was abruptly withdrawn from them, the mice became "hyperexcitable" within four to eight hours, a condition in which human narcotic addicts show nervousness and tremors which may lead to convulsions.

Whether or not psychosis can be brought on by the drug's reactions has yet to be determined, but the findings support the suggestion that the tranquilizer should be added to the list of drugs that cause withdrawal symptoms.

Admittedly, the scientists report, only high dose levels of the drug were used, but this is justified on the basis that human addicts take large doses also, and these large quantities are usually necessary to show dependence on barbiturate drugs in man.

They emphasize, however, that before making any final judgment on the "addiction liability" of the drug, the amount of it needed to obtain beneficial results must be compared with that which brings on the withdrawal symptoms.

The studies imply, the researchers conclude, that the same care should be taken with meproamate that is taken with barbiturates, and all members of the new classes of tranquilizing drugs should be "held suspect" until definitely proved otherwise.

Science News Letter, May 4, 1957

PSYCHOLOGY

Detail Distinction Lack Delays Early Education

► IF a simple system were developed whereby young children could be taught to distinguish one object from another, formal education could begin at an earlier age than at present.

Dr. Wendell E. Jeffrey, psychologist at the University of California at Los Angeles, has just completed experiments which support this idea.

"This inability to distinguish major details is a source of much early childhood frustration," he points out. "And present-day educational doctrine is based upon the idea that a child's schooling must be delayed until certain stages of discrimination development are reached.

In his experiments, two child-like representations of human figures, different only

in that one pointed left and the other right, were used. Children were asked to identify the one pointing left as Jill and the other as Jack. Musical nursery jingles were played over earphones, and if the child made the incorrect response, the music stopped. Many four-year-olds could not learn to identify the figures correctly.

Then by gestures the children were told to punch a button on the left for the figure pointing left and a button on the right for the other figure. The children learned this left-right discrimination readily and were then able to make Jack and Jill identifications easily.

"Once this relatively simple discrimination is learned, more complex ones such as distinguishing "d" and "b," a formidable obstacle to many seven-year-olds, can be learned," Dr. Jeffrey says.

Science News Letter, May 4, 1957

PUBLIC HEALTH

Advises Booster Polio Shot

► CHILDREN should now get a fourth "booster" shot of polio vaccine if they received the recommended series of three shots over a year ago, reports Dr. Thomas Francis Jr., chairman of the epidemiology department at the University of Michigan, Ann Arbor.

Dr. Francis, who evaluated the 1954 field trials of the vaccine, advises the booster as a safety measure "until we have a much firmer picture of the lasting potency of the vaccine."

He suggests children and teenagers get the booster to ensure the vaccine has an opportunity to exert its full effect.

Boosters need not become an annual affair, however, since this is only the third year the vaccine has been used on a national scale. Boosters will probably be needed less frequently as improvements in the potency and consistency of the vaccine are made, he said.

Dr. Francis discounts giving the vaccine credit for the low incidence of polio in 1956, but he adds "there is clear evidence that the severity of polio is less in vaccinated cases."

The decline in polio last year may have been the result of natural variations in the incidence of the disease.

The vaccine should be credited, though, with the sharp drop in the number of paralytic cases in the highly susceptible five-to-nine-year-old age group, he added.

Okays Delayed Polio Shot

► SEVERAL months delay in getting the second of the three polio vaccine inoculations causes no "immunological disadvantage" in school children, Dr. Gordon C. Brown, School of Public Health, University of Michigan, Ann Arbor, reported to the Federation of American Societies for Experimental Biology meeting in Chicago.

Irregularities in administering the vaccine

PUBLIC HEALTH

Water Is Poor Cleanser For Fallout "Dirt"

► RUNNING fresh tap water over skin that has been exposed to radioactive fallout is definitely not the best way to remove the dangerous material, Dr. William J. Friedman, U. S. Naval Radiological Defense Laboratory, San Francisco, Calif., reported to the American Industrial Hygiene Association meeting in St. Louis.

Various methods of cleansing skin contaminated with synthetic radioactive fallout were tested and the least effective of these was running water. Of the watery methods, a detergent and water combination proved to be the best, while a mechanics hand cream was the best of the waterless methods tried, Dr. Friedman reported.

Science News Letter, May 4, 1957

have raised concern over its effectiveness when the three inoculations are not given at the recommended times. The most frequently encountered delay is between the first and second inoculations, Dr. Brown said.

The recommended schedule is to have the second inoculation four to six weeks after the first, and then the third about seven months after the second.

A study was made of school children in the first three grades in Ann Arbor, Mich., who received their first dose of vaccine in April, 1955, but did not receive their second until the following September.

Although 13% of the children had no demonstrable antibody to any of the three types of polio virus studied before the second shot, all had at least some afterwards.

After the second shot, the percentage of children with antibodies to all three types of the polio virus increased from 33% to 85%, results which "compare favorably" with those obtained in children receiving their first two doses at an interval of one month, Dr. Brown concluded.

Science News Letter, May 4, 1957

CHEMISTRY

Make New Group Of Semiconductors

► A NEW GROUP of semiconducting compounds has been made in the Research Laboratories of the General Electric Co., Ltd., Wembley, Middlesex, England, Dr. C. H. L. Goodman reports.

The compounds have the same structure as chalcopyrite, which is a sulfide of copper and iron in complex crystals. The new compounds are combinations of zinc or cadmium with silicon, germanium or tin, and arsenic or phosphorus. Dr. Goodman's report appears in *Nature* (April 20).

Science News Letter, May 4, 1957