

PSYCHIATRY

Abnormal Blood Factor Found in Monkeys

► **BABY MONKEYS** brought up in a bare cage without their mother or even a toy substitute for a mother were found to develop an abnormal factor in the blood plasma like that found in the blood of schizophrenic human patients.

This finding was reported to the American Psychiatric Association meeting in Toronto by a team of scientists. A group of animals reared in an environment with the least stimulation and handling showed evidence of biochemical abnormality, the scientists told the meeting.

The animals reared in isolation and monotony were compared with another group reared in the wild, another brought up with an inanimate, cloth "mother," and a third group that experienced shock conditioning in infancy.

Only the group that was not shocked, but merely let alone in monotony showed evidence of the abnormal blood plasma factor.

The group reporting the experiment were: Drs. Peter G. S. Beckett, Charles E. Frohman and Jacques S. Gottlieb, all of Lafayette Clinic, Wayne State University College of Medicine, Detroit, working in collaboration with Drs. Jay B. Mowbray and Harry F. Harlow, Regional Primate Research Center, University of Wisconsin, Madison.

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PHARMACOLOGY

Barbiturates Better Than Tranquilizers

► **IN SPITE OF** much enthusiasm and propaganda, tranquilizing drugs have very limited effects, Dr. M. Weatherall of the department of pharmacology, London Hospital Medical College, reported in the British Medical Journal, May 5, 1962. The "most successful if not the only successful" drugs for anxious patients are barbiturates, he concluded.

The word tranquilizer appears to add little but glamour to the older term "sedative," Dr. Weatherall said. The number of drugs to which the term has been applied in the past ten years is so large that recently a new agent was advertised as "the successor to the 35 tranquilizers."

Dr. Weatherall said it is difficult to find out exactly what tranquilizers do to patients. They vary in side effects, and vary chemically.

"Broadly speaking," the pharmacologist said, "tranquilizers have been used in three circumstances: for severely disturbed patients in mental hospitals, for psychiatric outpatients and for troubled or troublesome patients in general practice."

The phenothiazines, drugs used on mental patients, have shown little more benefit than can be obtained with a placebo, or dummy pill, researchers have shown. However, this may be due to the fact that small doses are usually given.

A patient taking as much as 600 milli-

grams of chlorpromazine a day, which is a large dose, shows slightly better quieting effects than if he took a placebo.

Miltown and Equanil, which are meprobamate, must be given in massive doses under hospital conditions to show convincing results.

Psychological ill effects of tranquilizers are of two kinds. One is impairment of normal skills; the other is impairment of interpersonal relationships, an effect that has been little studied, Dr. Weatherall said. Practically nothing is known about their influence on behavior in ordinary social contacts such as at home, in a factory or on the road.

Because barbiturates have been used much longer than the so-called tranquilizers, Dr. Weatherall said, their possible dangers are more likely to be fully known.

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GENERAL SCIENCE

National Science Fair Goes to St. Louis in 1965

► **ST. LOUIS, MO.,** will be host to the National Science Fair-International May 4-8, 1965, it was announced at the Seattle World's Fair.

St. Louis' invitation to the international event, conducted annually by SCIENCE SERVICE, was offered at a Science Fair Council meeting. The many activities of scientific interest and unusually excellent facilities for the operation of the Fair won approval of the invitation.

Bids from Dallas, Texas, for 1966 and San Francisco, Calif., in 1967 also were accepted by the Council.

As the 13th National Science Fair-International went into full swing in Seattle at Century 21, May 2-5, preparations already were being made for next year's fair which will be held in Albuquerque, N. Mex. In 1964 the event will go to Philadelphia, Pa.

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EDUCATION

Female Honor Students Are Like Males Who Fail

► **THE SAME TRAITS** that are characteristic of female honor college students in education are the very same ones that are related to failure among male students in the arts and sciences.

If a girl is an honor student in education, she probably has a part-time job, belongs to a Greek society and has frequent dates. But the male student in arts and sciences who is working part time, belongs to a fraternity and has lots of dates, is likely to be doing very badly in his grades.

This was found from a comparison of 290 high- and 215 low-achieving students at the University of Maryland. The study was reported to the Eastern Psychological Association in Atlantic City, N. J., by Drs. Thomas M. Magoon and Martha J. Maxwell of the Counseling Center.

Girls in education who failed are likely to be living at home and commute. They are unsure of their vocational goal.

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IN SCIEN

VITAL STATISTICS

Population Rate Slowing, Awaiting Next Upsurge

► **THE POPULATION** explosion dust is settling while the nation awaits the next burst, U.S. Public Health Service figures show.

The 1961 birth rate was lower than the two preceding years, the statistics revealed, but experts expect large increases by 1965, when the large number of girls born in 1946 reach childbearing age.

The expansion in population in recent years can be mainly attributed to the decreases in mortality rates, especially in infants younger than one year. The 1961 overall death rate was lower than in 1960 with only 9.3 deaths per 1,000 population, with infant deaths setting a new record low of 25.3 deaths per 1,000.

Statistics also show that although the birth rate did not increase, the marriage rate did. There were 20,000 more marriages this past year than in 1960.

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MEDICINE

Anti-Breast Cancer Serum Produced in Rabbits

► **AN ANTI-HUMAN** breast cancer serum has been produced by immunization with extracts of the cancer, an American physician reported.

Although the serum antibodies have not, thus far, been successfully extracted, several methods have shown that the serum is developed in rabbits after inoculation, Dr. Arthur A. Stein of Union University, Albany Medical College, Albany, N. Y., said.

Research on specific anti-cancer serums has dwindled recently, he said, but a fresh, new approach to the problem has renewed interest again along these lines. Immunologic tolerance, the building up of immunity, for purifying antibodies to fight abnormal growths such as cancer is that new approach.

To purify the anti-human breast cancer serum, Dr. Stein inoculated newborn rabbits with extracts from "normal" breast tissue. Those animals which demonstrated tolerance to the antigens (substances which produce disease-fighting antibodies) of the normal breast were then immunized with extracts of human breast cancer tissues, obtained directly in the operating room during surgery.

Several methods proved that the rabbits built up a serum specific for carcinoma or cancer of the breast, Dr. Stein told the American Association of Pathologists and Bacteriologists in Montreal. Precipitation or separation of an antibody from the serum has so far been unsuccessful.

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CE FIELDS

PSYCHIATRY

Labels Recommended For Children's Disorders

➤ A SYSTEM of labels for psychiatric disorders of children should be developed to provide the psychiatrist with as much information as that given to a medical doctor by the term "measles."

Such a system was urged by Dr. Randall M. Foster of the Los Angeles Probation Department, speaking before the American Psychiatric Association meeting in Toronto.

The diagnosis "measles" conveys to the physician a very specific complex of conditions such as fever, rash and eye irritation. The psychiatric diagnosis should provide information about:

1. Cause, including relation with parents, intelligence and brain damage,
2. Symptoms, especially behavior,
3. Psychodynamics, such as contact with reality,
4. Recommendations, whether the child should be institutionalized or cared for at home, what kind of therapy should be used, and
5. Prognosis, the likelihood that the child will improve with treatment and the possibility of future psychiatric difficulties.

In working out this outline, Dr. Foster sent a questionnaire to 110 members of the Los Angeles Society for Child Psychiatry.

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MICROBIOLOGY

Tuberculosis Immunity Substance Reported

➤ TUBERCULOSIS immunity may be achieved with a newly discovered substance reported at the American Society for Microbiology meeting in Kansas City.

Mycosuppressin, found in the lungs of guinea pigs and rabbits vaccinated against tuberculosis, halts the metabolism and growth of the disease-causing bacteria responsible for TB, two Northwestern University researchers explained.

The immunological role of mycosuppressin was found when Drs. Guy P. and Anne S. Youmans soaked infectious TB germs in the substance for several hours before injecting them into healthy mice. The mice lived up to 25 days longer than those which received untreated germ injections.

In another experiment, growth of the germs was inhibited in test tubes when the germs had been treated with mycosuppressin.

The activity of mycosuppressin shown by these experiments could account for the lack of multiplication of those microorganisms in the tissues of the immunized animal, the husband-and-wife research team explained.

The results were the same whether the substance was taken from the lungs of

guinea pigs vaccinated with BCG, or with a preparation made by isolating non-living particles from inside the tubercle bacilli.

The Northwestern doctors stressed that the research was preliminary, and had been done only with guinea pigs, rabbits and mice. It strongly suggested, however, the role of the new substance in TB immunity.

If the Youmans' theory is correct, it could help explain the vast difference between individuals and between races in their resistance to TB and why it has been found to be unlike almost all other infectious bacterial diseases.

An estimated 1,200,000 persons in the United States have TB with a cost to the country of about \$600 million a year. The death rate has dropped, but there has been a startling rise in the incidence of the disease recently, particularly in the crowded areas of large cities. About 100,000 new cases appear each year, and it is still the leading cause of death among infectious diseases.

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PSYCHIATRY

Unusual Babies Born To Mental Patients

➤ A STRANGE BABY lies quietly awake but not crying for over an hour on the first day of life. Another lies limp in his crib for his first six months.

These underactive and apathetic babies and others who were highly irritable were among 15 born to mentally ill mothers suffering from schizophrenia. They were patients in two New York State mental hospitals.

The infants were examined on their first day of life and at frequent intervals thereafter up to 13 months, and for as long afterward as follow-up could be continued. The study was reported to the American Psychiatric Association in Toronto by Dr. Barbara Fish of Bellevue Hospital and Murray Alpert of New York University School of Medicine.

The infants gradually recovered from their abnormalities of development until at two years of age only the most irritable remained grossly maladapted.

The babies studied were in a group "genetically loaded for schizophrenia," the scientists said.

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GENERAL SCIENCE

Employment of Scientists Continues to Rise

➤ THE NUMBER of scientists and engineers employed by the U.S. industry continues to rise, latest statistics show.

The number rose about six percent during 1960, which is about the same percentage increase recorded the previous year.

Preliminary results from a survey conducted by the U.S. Department of Labor, in cooperation with the National Science Foundation, show that about 850,000 scientists and engineers were employed in the industries surveyed. About 80%—or 658,000—were engineers. Nearly half of the scientists employed were chemists.

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MICROBIOLOGY

New Test Detects "Strep" Bacteria

➤ A FAST TECHNIQUE for identifying "strep" germs that sometimes lead to rheumatic fever and kidney infections if not detected early has been developed. The technique can be widely used for hospital patients, two Stanford University School of Medicine scientists reported.

The test takes less than two hours, while previous methods required from two to five days. If the dangerous strain of bacteria is detected, treatment with the proper antibiotic can begin much sooner so as to protect patients from the serious diseases.

The technique was reported to the American Society for Microbiology meeting in Kansas City, Mo., by Dr. Helene C. Rauch, postdoctoral fellow in medical microbiology, and Dr. Lowell A. Rantz, professor of medicine at Stanford.

The new technique uses a compound that fluoresces with a greenish glow under ultraviolet light. It is bound chemically with an antibody that reacts only to the A strain of streptococci. The A strain is blamed for complications such as rheumatic fever and a kidney condition known as glomerulonephritis.

The test uses antibodies from the blood of rabbits. Mixed with bacteria from the patient's throat, the fluorescent antibodies combine with the germs so they can be seen in an ultraviolet microscope.

The scientists used the test on 767 persons with and without respiratory infections. They found it was 97% effective in identifying the 160 patients with enough A germs to cause serious infections.

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PSYCHIATRY

Study of Unborn May Predict Early Behavior

➤ THE STIRRINGS and heart beat of a baby within the mother's body may possibly be used to predict how the child will behave, even through adolescence.

This was reported to the American Psychiatric Association meeting in Toronto, Canada, by Dr. Lester W. Sontag, director of the Fels Research Institute, Yellow Springs, Ohio.

The Fels Research Institute is making a study of human development over long periods of time, in some instances beginning before birth and extending more than 30 years.

There is a relation, they found, between activity of the unborn baby in the month or two before birth and the social apprehension of the baby when he reaches nursery school age. But the less active babies are the most aggressive preschoolers.

Irregularity in heart rate of the fetus is related to heart rate instability in the same individuals at age 14 to 18 years. And young adults with more irregular heart rates show more conflict over dependency, more compulsive behavior and more anxiety over erotic activities. They vacillate more over decisions and are more introspective.

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