MEDICINE

See Cerebral Palsy Clue

THE CAUSES of cerebral palsy and mental retardation in children are the object of a study of 400,000 women who will be pregnant sometime between now and 1964, the U. S. Public Health Service announced.

Each year, for the next five years, 8,000 volunteer expecting mothers will be observed in 16 institutions throughout the country. Doctors hope to pinpoint the exact cause or causes of cerebral palsy, the muscular paralysis that occurs when the brain or spinal cord is damaged. They may find clues that will lead to the explanation for mental retardation, too, Dr. Richard L. Masland, assistant director at the National Institute of Neurological Diseases and Blindness, said.

The major source of the problem of cerebral palsy, mental retardation and other neurological disorders is now believed to lie in the perinatal period, the time span from conception to about one month following the birth of the baby.

Previously, when one of these disorders was discovered, sometimes not until as much as two years after the birth of the child, attempts were made to review the medical records of both the child and mother. It has been difficult to establish cause and effect relationships in this "retrospective" manner, however.

Now the obstetrical care of the mother and a history of the child's first month will be intensely studied. Actually, more than 1,000 mothers have already volunteered since January of this year.

Each mother will be studied for the following: conditions of pregnancy itself, including infections, trauma, bleeding, drugs, progress of labor; social and economic conditions, emotional stress and medical care. Age, medical and reproductive history, immunological characteristics and genetic background of both parents will also be studied.

The children will be observed for disorders of the nervous system of all products of conception at the time of delivery, or appearing during infancy or early childhood.

A complete study of the first child born to a mother enrolled in the study will not be finished for at least six years.

Science News Letter, June 13, 1959

BIOLOGY

Birds Near Equator Follow Own Reproductive Cycle

SOUTH OF the border a sparrow's thoughts turn to "love" even when it is not spring.

A year-long study of the Andean sparrow indicates that the bird has its own reproductive cycle independent of the season. Birds living near the equator have their own inner rhythm, reproducing twice as often as birds in other regions of the earth, said Dr. Alden H. Miller, professor of zoology at the University of California, Berkeley. Outside the equatorial region, birds have adjusted to their environment so that they nest once a year in the spring.

By banding 160 wild birds, Dr. Miller was able to observe closely the birds' behavior week by week. He also used a simple surgical means to examine their internal organs from time to time.

Since the birds follow their own cycle, some young are produced in every month of the year. The fledglings, Dr. Miller found, matured early and began to nest as early as five or six months of age. The birds have a complete reproductive cycle every six months; they nest for four months and remain dormant for the other two.

Dr. Miller reported on his study to the National Academy of Sciences.

Science News Letter, June 13, 1959

PHOTOGRAPHY

Professional Movie Film Has Increased Sensitivity

A SUPER-SENSITIVE professional motion picture color film has been developed that promises the viewer "more interesting and exciting movies—some of them shot where color cameras could never go before" because of poor light.

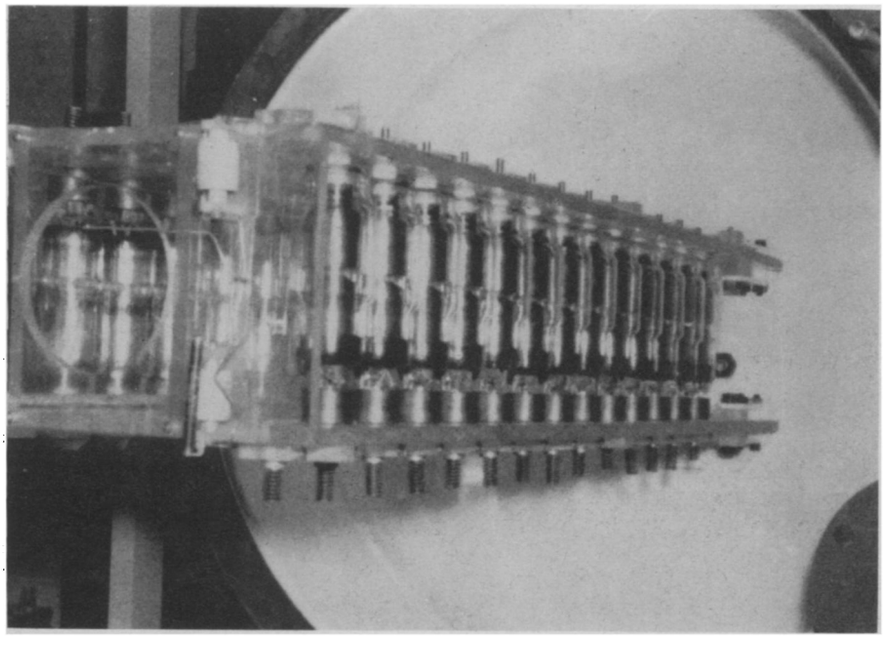
Eastman Kodak Company, Rochester, N. Y., reports that its new negative film is twice as "fast" as existing film yet holds high picture quality by being no more grainy than present films.

It promises substantial savings to the movie industry as well as equal or better quality pictures. For example, the film allows a movie-maker to cut studio lighting in half. When reduction in illumination is not necessary, the increased speed (greater sensitivity) of the film permits the photographer to use a smaller lens opening, which results in greater over-all sharpness in the scenes he photographs.

An important feature of the new film is that it can be processed with the same processing solutions and procedures of currently used films.

Primarily developed for existing 35 millimeter cameras, the film also will be made in 65mm (Todd-AO) and 70mm widths. Standard reel lengths are to be 100, 400, 1,000 and 2,000 feet.

Science News Letter, June 13, 1959



DYNAMITRON ACCELERATOR—This bank of rectifiers, producing 1,000,000 volts of electron in the evacuated beam tube, is the "heart" the new accelerator developed by Radiation Dynamics, Inc. Use of this machine could reduce cost of irradiation processing as much as 90 percent, it is said.

Questions

CHEMISTRY—What efficiency has been achieved with a new improved fuel cell that produces electricity directly from oxygen and hydrogen. p. 372.

GEOPHYSICS — How much time is being gained each day? p. 371.

PUBLIC HEALTH—What maximum permissible level for strontium-90 has been set by an international committee? p. 378.

Photographs: Cover, Florida State News Bureau; p. 370, Radiation Dynamics, Inc.; p. 371, A.E.I. Lamp and Lighting Co., Ltd.; p. 373, The B. F. Goodrich Company; p. 374, U. S. Department of Agriculture; p. 375, Corning Glass Works; p. 378, Fremont Davis; p. 384, Eastman Chemical Products, Inc.