MEDICINE

Infant Without Forebrain Behaves as Normal Baby

➤ BORN WITHOUT a forebrain, a British infant lived three months and behaved much like any normal newborn.

A film record of the unusual baby's short lifespan showed that its feeding, moving and yawning movements appeared normal. On occasion, it even sat up.

The film was shown in Oxford, England, at the first international study group on child neurology, sponsored by the British National Spastics Society.

Most of the 50 attending experts seemed to believe the child's behavior indicated that normal infants behave more automatically than was hitherto realized. The forebrain (cerebral hemispheres) the filmed baby was missing is present in many animals, but its massive size is the most outstanding feature of the human brain.

Dr. J. D. Boyd, professor of anatomy at the University of Cambridge, reported a discovery which makes it far more easy to comprehend the normal and abnormal development of the forebrain.

It has always been difficult to understand why the forebrain can develop abnormally while other parts of the brain have grown in the normal fashion. Dr. Boyd revealed that its growth is controlled by a separate system of growth controllers from those that guide the emergence of the rest of the central nervous system.

Further light on the workings of the brain of the newborn baby was shed by Dr. Alex Minkowski in a report of his recent researches. As director of the Center for Biological Research on the Newborn, in Paris, he has been doing research on the brain waves by making electroencephalographic studies in infants born six months, seven months, eight months after conception, and in full-term infants.

Dr. Minkowski's records show a progressive development up to eight months after conception. The normal brain waves at different ages are now known. Deviation from these may enable experts to recognize early the children who are likely to need special care and teaching.

Science News Letter, October 18, 1958

ANTHROPOLOGY

Mau-Mau Uprisings Alter Kikuyu Way of Life

➤ AS A RESULT of the Mau-Mau uprisings, a whole new way of life has developed among the Kikuyu people of Africa.

This is the observation of Dr. Benjamin E. Thomas, associate professor of geography at the University of California at Los Angeles, who recently returned from Kenya, British East Africa.

He said almost all the rural Kikuyu were moved from isolated huts or hamlets into large villages so that the British could protect them from the Mau-Mau. The British also wished to keep the terrorists from operating from numerous isolated buildings.

"Roads were built to all the new large villages," Dr. Thomas said. "And as a result, the Kikuyu settlements, in the space of a few years, were changed from isolated ones to accessible ones."

While this "villagization" made possible many improvements, such as in education, health, etc., it created new problems. The Kikuyu farmer, although moved to a new home in a village, still retained his old fragmented landholdings. These often consisted of five or ten small plots accessible only by paths across other people's land.

The UCLA geographer noted that a land consolidation program is rapidly gaining acceptance and is radically changing the patterns of land ownership and land use. The Kikuyu are beginning to consolidate the fragmented holdings so that each landowner has a single farm bordering a good road.

"Thus," he concludes, "there has been a 'revolution' in access to transportation in Kikuyuland. Few places in the world have seen such a rapid and widespread change from isolation."

Science News Letter, October 18, 1958

MEDICINE

"Mimic" Lung Infection Found Among U. S. Youth

➤ A LUNG INFECTION that is difficult to diagnose because it "mimics" other diseases, has been found in more than one-third of the young adults in some areas of 22 of the United States.

More than 30,000,000 Americans probably have the disease, histoplasmosis, Dr. Michael L. Furcolow of the Government's communicable disease center at the University of Kansas Medical School, reports in *GP* (Oct.), the publication of the American Academy of General Practice.

Histoplasmosis was regarded as a rare and usually fatal disease until 1945. Now it has been found in 22 states that center on the Missouri, Mississippi and Ohio river valleys. The fungus that causes the disease grows best in damp, shady areas and in soil that has a high organic content, the physician explains. Favorite spots are chicken coops, pigeon roosts, caves, storm cellars and silos.

The lung infection "mimics other diseases," including the common cold, flu, typhoid fever and tuberculosis. At least one antibiotic seems to be effective against the infection while others are being developed and should be available soon.

Many sufferers of histoplasmosis show no apparent symptoms, thus explaining the difficulty in diagnosing or discovering the disease. In mild cases, the patient may have trouble describing the symptoms. He usually runs a fever and just does not "feel good." There may also be chest pains or a cough. These cases last from one to three days and resemble most closely a case of flu.

In moderately severe cases, the symptoms are much the same but coughing and chest pains are not as common. It is impossible to draw the line between severe cases of flu and moderately severe cases of histoplasmosis, Dr. Furcolow says. The condition usually lasts 10 to 15 days but leaves the patient feeling out of sorts for several days or weeks. The disease is not contagious.

Science News Letter, October 18, 1958

IN SCIEN

EDUCATION

"All-American" Learning May Discourage Gifted

➤ EDUCATION systems overemphasizing the "well-rounded all-American youth" may be discouraging some of the most gifted students.

If the bright student does not fit into a "round mold," perhaps we should let him have "a few sharp edges," a National Education Association report suggests.

The report details the findings of a national conference on the academically talented held in Washington last February under the chairmanship of James B. Conant, president-emeritus of Harvard University.

The report lists the following recommendations made by the national conference.

1. A solid four-year high school course of the academic subjects, science, English, math, modern foreign languages and social studies. The students should be grouped in classes with others of similar abilities.

2. A rigorous counseling program, with guidance based on aptitude and/or intelligence test scores and school records.

3. Special provisions within regular high schools for advanced work. Talented students should take extra courses in summer school. An advanced program should be in effect in many schools to allow talented students to enter college with credit toward graduation already established.

4. Advanced work for talented students on a lower grade level. For example, ninth grade algebra should be available to superior students in the eighth grade.

Science News Letter, October 18, 1958

CONSERVATION

Satellite Towns Could Preserve Countryside

➤ THE SUCCESSFUL CONSTRUCTION of satellite towns that preserve all of the beauty of the countryside can be accomplished by the concerted efforts of officials, experts, citizens and newspapers, Edward J. Meeman, editor of The Memphis Press-Scimitar said, speaking before the National Conference of State Parks meeting, Davis, W. Va.

Interest in the Great Smoky Mountains National Park was sparked by conservationists, Mr. Meeman said, and the same method of handling such a project could be employed in the formation of satellite towns, where the city can move into the country without destroying the beauty and peace of nature.

The planning of such suburban, exurban and rural areas is the great present challenge to the joint efforts of conservationists and planners. Depressing "urban sprawl," Mr. Meeman said, could move to the country as a conserver rather than a destroyer of beauty and peace.

Science News Letter, October 18, 1958

CE FIELDS

MEDICINE

Physician Shortage In U. S. Hospitals

➤ DESPITE AN INCREASE in the number of interns and residents serving in American hospitals, some of these positions still go begging.

Approximately 7,000 students were graduated from American medical schools in 1957. There were 12,325 internship positions to be filled. About 5,000 of these either remained vacant or were filled by graduates of foreign medical schools, the Council on Medical Education and Hospitals of the American Medical Association reports in the *Journal of the American Medical Association* (Oct. 4).

Of the available internship positions, 17% actually remained unfilled. In addition, although the number of residents also increased over the previous year, 18% of the positions offered were not filled, council members Drs. Arthur N. Springall, John Hinman and Willard V. Thompson point out. Their report is based upon data representing the intern and residency situation on Sept. 1, 1957.

The number of hospitals and other institutions offering graduate training increased from 1,372 to 1,400 last year.

Science News Letter, October 18, 1958

VIROLOGY

Volunteers Help in Tests With New Virus

➤ WITH THE HELP of volunteers, a virus, already pinpointed as the cause of respiratory illness in children, has now been found to cause the same illness in adults.

There is evidence that the virus, one of two new hemadsorption types, may be responsible for a substantial amount of influenza-like or "cold-like" illness in many communities.

An experiment in which volunteers had their throats swabbed and sprayed with the virus showed a correlation between illness and the occurrence of a virus infection, a team of scientists reports in *Science* (Oct. 3).

Of the 32 male volunteers, 25 had antibodies to the virus prior to infection. However, 18 developed illness after about one week. All except one man was found to have been infected with the virus.

An interesting discovery made in the study was that there is apparently a long incubation period before the illness "shows." This could be either a property of the virus or a result of using only a small quantity of the virus, the scientists report.

When clinical symptoms, such as nasal obstruction and discharge, coughing, and sneezing, failed to appear by the fifth day, the volunteers were released from isolation. On the next day, six men complained of illness and all were returned to isolation. Examination revealed many had the beginnings of respiratory illness on that day. Furthermore, about one week after the volunteers' premature release, other individuals became ill with a mild "cold-like" illness.

For the most part, the scientists report, the illness was mild, with "prompt and uneventful recovery occurring within two to three days."

Drs. Thomas E. Reichelderfer, Robert M. Chanock, John E. Craighead, Robert H. Huebner, Horace C. Turner and Walter James of the National Institutes of Health, Bethesda, Md., and Dr. Thomas G. Ward of the Lobund Institute, Notre Dame University, report the research. The volunteers, from 21 to 46 years old, were inmates at the Maryland State Board of Correction's Patuxent Institution at Jessup, Md.

Science News Letter, October 18, 1958

AERO-MEDICINE

Apparatus May Achieve Gravity-Free State

➤ A NEW APPARATUS to duplicate for several hours the gravity-free state, which future space travelers will experience, can be built at relatively small cost.

Dr. H. J. Muller, Nobel-Prize winning zoologist of Indiana University, reports in *Science* (Oct. 3) that only a short time would be needed to construct the apparatus. It resembles the mechanism used for nullifying gravity in studies on plants, called a clinostat.

Dr. Muller says his suggested combination of "relatively simple devices" would enable scientists to obtain information on the effects of simulated weightlessness maintained for at least a number of hours. This information would thus be available long before the costly direct tests of human reaction to free fall can be carried out by Western scientists.

In the apparatus suggested by Dr. Muller, human volunteers would lie down in a cylinder that would be given a moderate spinning motion about the horizontal axis. The entire body would be enclosed in a skin-tight envelope and immersed in a salt solution having the same specific gravity as the body itself.

The volunteer's head would be encased in a transparent helmet with arrangements for breathing and talking. It would have to be held in the same horizontal axis alignment as the rest of the body but could otherwise be moved. The arms and legs, however, would have considerable freedom of movement.

Dr. Muller suggests that the volunteers, thus under simulated weightless conditions, be given a view, such as room furnishings and a window showing a skycrape, arranged so that it remained in a fixed position with reference to the subject.

Questions that might be answered through use of such apparatus include how individuals differ in their tolerance to free-fall conditions, and in their reactions to the effects of various physiological conditions and diverse drugs when weightless.

Science News Letter, October 18, 1958

PUBLIC HEALTH

Every Third American Harbors TB Germ

➤ ONE OUT OF EVERY three Americans harbors tuberculosis germs that can, under unfavorable conditions, produce active tuberculosis.

Last year alone TB was responsible for 14,000 deaths.

Eventual control of the disease depends upon preventing those now infected with the germ from breaking down into active TB.

Tuberculosis is found most often today in the following groups as listed in the annual report of the National Tuberculosis Association: among persons admitted to general hospitals, correctional and mental institutions and jails; among lower income groups, such as homeless men, those receiving public assistance, and older people in nursing homes and welfare institutions; migrant workers; certain racial groups, and densely populated areas.

The tuberculin test has become the most valuable universal tool for detecting tuberculosis infection, Dr. James E. Perkins, managing director of the TB Association in New York, said. This is a skin test that reveals the presence of tuberculosis infection but does not indicate whether the disease is active. The latest trend has been toward chest X-ray follow-up only for those persons that react to the skin test.

Although new drugs, advances in surgery and modern hospital facilities result in more and quicker recoveries, tuberculosis remains a long-term illness, treatment in most cases requiring at least one year.

Science News Letter, October 18, 1958

MEDICINE

Birth of Large Infants May Indicate Diabetes

➤ MOTHERS OF BABIES that are abnormally large at birth are advised to begin a program of regular examinations and planned dieting to avoid developing diabetes.

It has long been suggested that the birth of a large baby foreshadows the development of diabetes in the mother, according to an article in *Nutrition Reviews* (Oct.), published by the Nutrition Foundation, Inc.

The article refers to several investigations supporting the theory that mothers giving birth to babies who weighed about eight and one-half or more pounds are likely to develop diabetes.

One explanation suggested for the development of diabetes in mothers after the birth of large babies centers around the theory that women who have excess activity of the anterior pituitary produce excess growth hormone, thus explaining the infant's large size. The excess hormone may also be responsible for diabetogenic activity and the eventual development of diabetes in the mother.

Of 27 mothers tested after delivery of large infants, 15% had abnormal blood sugar levels following a glucose test.

Science News Letter, October 18, 1958