

SOCIOLOGY

**Prevalence and Effectiveness
Of Birth Control Studied**

RECORDS of 2,000 women have now been analyzed in a careful statistical study of the prevalence and effectiveness of birth control practices at the present time in the American population, being made by Dr. Raymond Pearl of the Johns Hopkins University.

Dr. Pearl points out in his preliminary report in *Human Biology* that it is still too early to say to what extent birth control as actually practiced limits population growth. Some interesting facts, however, have already been brought out in the course of the study, which is supported by the Milbank Memorial Fund.

Results of the study suggest that women who practice birth control are innately more fertile than those who do not or than a random sample of women in general. Some attempt at birth control had been made by 35.8 per cent. of the white women studied and by 15.4 per cent. of the negro women. The methods of contraception actually practiced by the group of married white women made their pregnancy rate only about one-fifth less than that for women not practising birth control. In the case of the negro women, the pregnancy rate per 100 person-years' exposure to risk of pregnancy was actually higher among the ones practising contraception than among those not practising it.

The study is being made among women having their babies at hospitals in large cities east of the Mississippi River. While only 2,000 records have been studied so far, more than 19,000 have been collected, and the record taking will be continued until the end of this year.

Science News Letter, October 15, 1932

PHYSICS

**Physical Basis Sought for
Quantum Mechanics**

A PHYSICAL BASIS for quantum mechanics is being sought by Prof. George Temple, young scientist who was recently appointed to the chair of mathematics at King's College, London.

Quantum mechanics has enabled physicists to calculate and explain many atomic happenings. Prof. Temple believes that it would be much more satisfactory if it were given a physical basis

instead of resting entirely upon certain mathematical fictions, such as vectors and matrices.

"My aim," said Prof. Temple, "is to reformulate the principles of the quantum theory so that they represent a summary of experimental procedure, or experimental results having an immediate physical interpretation. The experimental processes which determine the state of a system together with the associated operations must form the starting point, rather than the state itself or the vector which represents it (a vector being an ordered set of numbers defining a state)."

By means of only two auxiliary hypotheses, first, that a system has a definite probability of changing from one state to another and, second, that this probability is the same in either direction, Prof. Temple deduces the fundamental equations of quantum mechanics.

During the last few years fundamental physical theory had been moving farther and farther away from physical basis. The new theory is a welcome indication that the pendulum has begun to swing in an opposite direction and that the foundations of subatomic physics may become once more understandable to the rank and file of physicists and possibly even to the general public.

Science News Letter, October 15, 1932

CHEMISTRY

**Vitamin D Prepared
In Concentrated Form**

VITAMIN D, in the form of an extract of cod liver oil so potent that ten drops are of equal vitamin D value with three teaspoonfuls of standard cod liver oil, is now available to the medical profession. This natural vitamin D is not an irradiated product and not a cod liver oil concentrate, but an extract of the rickets-preventing principle of the oil. It is stated to be free from objectionable taste.

The new product was developed by Prof. Theodore F. Zucker of the College of Physicians and Surgeons at Columbia University, and the privilege of distributing it through regular medical channels has been licensed to the S. M. A. Corporation in Cleveland. This firm is already distributing the recently isolated primary vitamin A, and expects soon to have a combination of A and D to offer for medical use.

Science News Letter, October 15, 1932

IN SCIENCE

ROENTGENOLOGY

**Insects' Internal Structure
Revealed by X-Rays**

X-RAY PHOTOGRAPHS of insects, believed to be the first ever made, have been taken at the Biological Laboratory at Cold Spring Harbor, N. Y., by Dr. Hugo Fricke and Irwin Sizer. They were made with a specially constructed X-ray tube, using small plates such as dentists use. The pictures show many scientifically interesting details of the internal structure of insects, and it is believed that this method can be used to advantage by students of insect life.

Science News Letter, October 15, 1932

PSYCHIATRY

**Many Seek Hospitals
As Shield From Depression**

NO REAL INCREASE in mental disease has been observed as a result of the depression. Yet the number of patients admitted to Federal hospitals for mental disease in the last two years has increased strikingly. This is because a large group of men who have become victims of the severe economic conditions "have found in the generous legislation of the United States Government a staff upon which to lean in times of trouble," explains Dr. Douglas A. Thom of the Massachusetts Department of Mental Diseases.

"First admissions to all government hospitals increased nearly 30 per cent. in 1931 over 1930," Dr. Thom found.

About half of these first admissions were of patients suffering from both nervous and mental disorders. The increase in patients of this type admitted to government hospitals indicates, in Dr. Thom's opinion, that illness in itself may be a defense in time of trouble.

He found no comparable increase in admissions to state and other hospitals for mental disease from the civilian population, and no evidence that the depression has actually caused any appreciable increase in the amount of frank mental disease.

Science News Letter, October 15, 1932

E FIELDS

ETHNOLOGY

Man Not Lord of Universe In Zuni Indian Code

THE NOTION widespread among human beings, that man is lord of the universe, has never been accepted among Zuni Indians of New Mexico, it appears from a study by Ruth I. Bunzel, just reported by the Bureau of American Ethnology, in Washington.

The Zuni Indian regards himself as equal in the world with the rabbit and the deer and the young corn plant, Miss Bunzel explains. The Indian hunter does not think he has a right to kill animals ruthlessly, even for food. So the deer is stalked ritualistically and killed in a prescribed manner, and when the carcass is brought into the house, it is received as an honored guest, so that the deer will not complain to its fellows.

To the Zuni, all objects have a spiritual essence. They are "living persons." The Zuni recognizes that houses and clothing and pots and pans lack human faculties. But he thinks of them as "raw persons," in contrast to man, who is classed as a "cooked person."

Science News Letter, October 15, 1932

ENTOMOLOGY

Stingless Bees of Panama Go to War for Oil

OIL, which causes great nations to arm themselves for war, is a promoter of conflict also among the strange stingless bees of Panama. So Herbert F. Schwartz of the American Museum of Natural History reports in the monthly journal *Natural History*.

The fondness of these stingless bees for lubricating oil had been noticed by two or three other naturalists on Barro Colorado Island in Gatun Lake, Mr. Schwartz reports. They raid spillings from oil cans, and hang around greasy engines to get it. They pack their hind legs with it, and when they get home they mix it with wax from their own bodies to build honeycomb cells.

The battle reported by Mr. Schwartz was first seen by Dr. Frank Lutz, a fel-

low entomologist in the American Museum. At first it seemed as though it might be a mating flight of the bees, but closer observation showed that the insects were all "neuter" workers, and that they were really fighting. They grappled like wrestlers and bit each other like bulldogs, rolling over and over on the ground as they fell.

The cause of the combat was not far to seek. The bees had found a hole under a box that served as a cover for a gasoline engine, and in passing in and out had come into collision. How the fight started the scientists were unable to discover; and after a short period of intense hostilities the bees themselves seemed to forget all about it, for they were seen afterwards going peacefully in and out, gathering their strange spoil.

Science News Letter, October 15, 1932

PALEONTOLOGY

Two Tons of Fossils Brought To Washington From West

GAME HERDS vaster than Buffalo Bill ever dreamed of, consisting of animals which no man ever saw, roamed the plains of the West some sixty million years ago. Such is the indication of over two tons of fossils which have been brought back to the U. S. National Museum in Washington by Charles W. Gilmore, at the end of a summer's digging in South Dakota and Wyoming.

Horse herds thundered over the plains in those remote days, but they were smaller than the mustangs of yesterday's romances, and had three hooved toes on each foot instead of only one. There were tiny deer that live in the Old World today. There were enormous wild pigs, with skulls a foot and a half long, their jaws set with huge teeth.

The most abundant of the fossils found by Mr. Gilmore were those of oreodonts, a family of mammals that became extinct without leaving any near relatives. They were about the size of small pigs, but had teeth more like those of cud-chewing animals. Apparently they were social beasts, living in herds along the streams.

With all this wealth of herbivorous game, naturally there were beasts of prey. Wild dogs abounded, as wolves and coyotes did a few years ago in the West. But the most terrible of the killers was a species of saber-tooth tiger, as big as a large lion, its jaws armed with slashing dagger-like upper eyeteeth six inches long.

Science News Letter, October 15, 1932

PUBLIC HEALTH

Typhus Fever Attacks Scientist Who Studied It

RACKED by typhus fever, Dr. R. E. Dyer, 46, of the U. S. Public Health Service is lying ill at the U. S. Naval Hospital in Washington, a victim to the disease which he has been investigating for the last two and one-half years.

Working in the laboratories of the U. S. National Institute of Health, Dr. Dyer discovered that the American variety of typhus fever, from which he now suffers, is carried by fleas and not by the body louse which transmits the European variety. He has lately been working on a vaccine to give protection against the disease. The vaccine has been successful in protecting guinea pigs, but has not yet reached the stage of human application, so unfortunately Dr. Dyer himself did not have any benefit from it. Public Health officials believe that Dr. Dyer was working with a particularly virulent strain of germs or of infected fleas when he was accidentally infected.

American typhus fever has a relatively low mortality rate, and Dr. Dyer is expected to recover, but he will probably spend at least two uncomfortable weeks fighting the disease. He was taken ill October 1, but at first was thought to be suffering from influenza.

Dr. E. T. Ceder, one of Dr. Dyer's assistants in the typhus fever investigations, suffered an attack of the disease last year. Dr. Dyer was also one of the men who found that some cases of typhus fever reported in eastern United States were in reality cases of Rocky Mountain spotted fever.

Science News Letter, October 15, 1932

SEISMOLOGY

Nicaraguan Earthquake Centered off Coast

THE CENTRAL American earthquake of Saturday, Oct. 1, had its epicenter somewhat to the south of the often-shaken city of Managua, scientists of the U. S. Coast and Geodetic Survey stated after examining data collected from seven seismological observatories by Science Service. The point of greatest disturbance was just a little off the coast, in latitude approximately eleven degrees north, longitude eighty-six degrees west. Time of origin was 9:59.1 p. m., eastern standard time.

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