

## CHEMISTRY—MEDICINE

**Manufacture Chemical That Causes One Kind of Cancer**

**F**URTHER progress on the vital problem of what causes cancer is being made at Harvard University through the preparation of synthetic materials which, when applied to experimental animals, can cause cancer to occur.

Dr. Louis F. Fieser and his coworkers, M. Fieser, E. B. Hershberg, M. Newman and A. M. Seligman of Converse Memorial Laboratory revealed the cancer progress before the organic chemistry division of the American Chemical Society at its opening sessions.

The Harvard chemists have been able to make synthetically the cancer-causing coal tar product methylchloranthrene previously made only from bile acid of the body. Artificial manufacture of the substance will aid cancer research by making available quantities of the carcinogenic agent for animal experiments.

It is from such animal experimentation that science hopes to learn the particular pattern in the molecule that is able to start the malignant growth or cancer.

*Science News Letter, May 4, 1935*

## PHYSICS

**Nature's Share-the-Wealth Program to Bring Chaos**

**N**ATURE has its own "share-the-wealth" program, which promises to run the world down to a final state of chaos, Dr. W. F. G. Swann warned the American Philosophical Society.

Huey Long's name was not mentioned as Dr. Swann, director of the Franklin Institute's Bartol Research Foundation, delivered the Penrose lecture, a memorial not to the famous Pennsylvania senator and political boss but to his geologist-brother who left a large bequest to the society.

Degradation of energy is the concept by which scientists designate the gradually running-down process of the universe. Hot bodies lose heat to colder bodies and it is the difference of heat which makes possible the operation of so many of man's machines.

"Nature is like human beings," he said. "Human beings permit sections of society to exist in different states of prosperity, but whenever she gets a chance in the form of a revolution, things so arrange themselves that the revolution reduces the disparity."

Prosperity for nature consists of the

presence of heat without which men's intricate machines cannot operate, Dr. Swann said.

The final state of the "share-the-heat" program of nature may well result in the chaotic state where all things in the universe—like all men in the "share-the-wealth" program—would be equal. Equality of heat, Dr. Swann indicated, means equality of energy for all things. For man the result would be the collapse of civilization. Without differences of energy it would be impossible to boil water, run steam engines and perform the host of other commonplace acts on which civilization is built.

*Science News Letter, May 4, 1935*

## ARCHAEOLOGY

**Thefts Lead Expedition To Discover Unknown Gods**

**F**OLLOWING a trail of sculptures—presumably stolen—that led into the Syrian desert, archaeologists have discovered villages where shepherds 1700 years ago banqueted in honor of forgotten gods.

Ruins of no less than 22 holy places have been found in these villages north of Palmyra, said the expedition leader, Dr. D. Schlumberger, addressing the Berlin Archaeological Society. The desert expedition was undertaken by the Service of Antiquities in Beirut.

The largest holy place contained five rooms for the religious banquets traditional in Syria. The room foundations were especially built to hold the sofa-like beds on which the banqueters reclined. A stone vase such as held wine appeared in one room. The inscription on it, 256 A.D., dates the period when the villages flourished. Incense trays and altars were also found in the holy places.

Syrian and Arabian gods, some unknown to modern scholars, were worshipped here, the expedition has learned. Invocations to these gods are to be seen carved on bas reliefs, the stiff sculptural style of which recalls early Byzantine art. A number of the gods were portrayed riding horseback, suggesting to the archaeologists that the shepherds may have been breeders of the famous Palmyrene cavalry horses, with which Queen Zenobia won many a daring battle.

The mysterious sculptures brought out of this region in 1932, to astonish students of antiquities, are believed to have been stolen from the holy places in these shepherd villages.

*Science News Letter, May 4, 1935*

**IN SCIENCE**

## MEDICINE

**Eye Cataracts Linked to Way Body Uses Sugar**

**A** NEW theory of the cause of cataracts in old people and in diabetics was presented by Dr. Helen S. Mitchell, of Massachusetts State College and Battle Creek College, Michigan, to the American Institute of Nutrition.

Dr. Mitchell found that she could produce cataract in rats within two weeks by feeding them a little more than a third of their ration as galactose. This is a sugar not found as such in nature but formed in the body from milk sugar. As a result of her studies, Dr. Mitchell believes that some cataracts in humans, particularly those occurring in diabetes, are due to faulty handling of sugar by the body.

The cataracts produced in her rats were the same kind as occur in diabetes and in old people. Dr. Mitchell emphasized that her work is only beginning and much more study is needed to solve the mystery of why cataracts form.

She called her work "merely opening the door to much more investigation." Cataracts, she explained, are like "lumps of egg white cooked." They are opaque and cannot be cleared any more than egg white can be uncooked.

*Science News Letter, May 4, 1935*

## ANTHROPOLOGY

**Big Right Hand Does Not Mean Right-Handedness**

**T**HE WELL known facts that 75 or 80 per cent. of us have right hands larger than our left, and that about the same proportion of people are right-handed have no essential connection with each other, Richard H. Post of Smith College told the American Association of Physical Anthropologists. The common assumption that our right hands are bigger because we use them more he proved by statistical studies on a company of soldiers to be unsupported by fact. Plenty of "southpaws" still had bigger rights than lefts, and also longer right than left arms.

*Science News Letter, May 4, 1935*

# E FIELDS

## ASTRONOMY

### Superstratosphere Winds Blow at 200 Miles an Hour

**S**UPERSTRATOSPHERE winds blow at 200 miles an hour. A fiery visitor from outer space, flashing into earth's upper atmosphere, made possible the measurements of these winds at the high levels where transoceanic planes should some day fly. At the meeting of the American Philosophical Society, Dr. Charles P. Olivier, director of the Flower Astronomical Observatory of the University of Pennsylvania, told of his computations.

A giant fireball flared through the sky over Texas and Oklahoma in 1933, striking terror into the hearts of superstitious persons. More cool-headed and scientific-minded individuals took measurements, and Dr. Olivier has been busy with calculations based on them ever since.

As the fireball tore overhead, 18 miles up, its long train of smoke was left behind, and gradually broke into knots or clouds. The rate at which these left-behind clouds moved is a measure of the superstratospheric winds. They averaged 200 miles an hour.

*Science News Letter, May 4, 1935*

## ANTHROPOLOGY

### Color Cameras to Record Human Eyes for Science

**B**Y HAVING color cameras look into human eyes, Harvard anthropologists are perfecting a new weapon for discovering the mechanics of heredity in human eye characteristics.

The problem of measuring eye pigmentation and pattern by use of color photography was initiated by Dr. Laurence D. Redway, formerly research associate at the Peabody Museum at Harvard, and it is now carried on by Edward Hertzberg, graduate student in anthropology.

Seeking information concerning man's physical makeup, science can make accurate measurements of many features including height, head length and facial width. Many other individual characteris-

tics such as shape and slope of the forehead, hair color, and color and pattern of the eye, cannot yet be accurately determined.

Relatively crude estimates of these, all tinged with the troublesome personal equation, are most unsatisfactory and it is to develop new and accurate measurements that the present work has been undertaken.

Search for a satisfactory method of recording has begun. Next step will be to find a method of measuring and expressing the actual color values of the color photographic plate. With these problems solved, science has a powerful new weapon for a third step, that of learning the mechanics of heredity involved in the transmission of eye characteristics.

*Science News Letter, May 4, 1935*

## MEDICINE

### Imbecility, Cretinism And Goiter Increasing

**I**NCREASE throughout the nation of imbecility, deaf mutism and cretinism was reported by Dr. Arnold S. Jackson of Madison, Wis., to the American Association on Mental Deficiency.

Because goiter is a first step in the degenerative process of which cretinism, often accompanied by imbecility and deaf mutism, is the last, Dr. Jackson urged that every effort be made to prevent the further increase of goiter. As many as four-fifths of the girls and one-fifth of the boys living in the great goiter belt, which extends from Boston to Seattle, are afflicted with goiter, Dr. Jackson found in a nation-wide survey of the problem. Cretinism, resulting from this type of goiter, is more prevalent in the United States today than at any time in the nation's history. Efforts to prevent goiter, Dr. Jackson stated, have fallen off since the financial depression.

Cretinism is a thyroid gland disorder in which the U-shaped gland in the neck fails to secrete enough of its hormone. The body's fires burn more slowly than is normal, the patient grows fat and is sluggish in both mind and body. When the disease occurs early in childhood, the growth is stunted. Some of the dwarfs of present-day circus troupes and the dwarfs that were court favorites in past centuries were sufferers from this thyroid gland disorder. While goiter, of the kind commonly seen in Switzerland and in the Great Lakes Region of the United States, is a forerunner of this cretinism, not all such goiter cases result in the extreme condition.

*Science News Letter, May 4, 1935*

## ARCHAEOLOGY

### Pharaoh Tried Curse As Political Method

**A** POLITICAL device that worked in Egypt, over 3,200 years ago, was to put a curse on officials who got "out of step."

How the Pharaoh Seti the First used a curse to insure that his plans would be carried out by the next administration was told by Dr. George S. Duncan, Egyptologist of the American University, before the Anthropological Society of Washington.

If future kings on Egypt's throne should dare to upset his work by a new deal, dire consequences might be expected, prophesied Seti, writing the threat on a temple wall for every one to read:

"The gods will become red like the flame of a brazier to consume their flesh, because they have not heard or listened to me. The gods will annihilate those who have violated my intentions."

The oldest peace treaty between two great nations also carried a curse, Dr. Duncan pointed out, and the Hittites and Egyptians who signed the compact in the thirteenth century B. C. kept it.

The Egyptian version in the treaty, in the words of Ramses the Second, warned the Hittite that failure of the treaty would mean "the thousand gods of the Egyptians will destroy his house, his country, and his servants."

Dr. Duncan traced the history of curses, as revealed by inscriptions, through the ancient world, showing that curses were regarded as real, and powerful as poison. Not only Egypt, but Babylonia and Palestine were ridden by the fear of prophetic evils that could be pronounced.

*Science News Letter, May 4, 1935*

## SURGERY

### Russian Surgeon Replaces Lost Finger With Toe

**T**RANSPLANTATION of a toe to replace a forefinger lost in an accident was demonstrated by Prof. M. I. Kuslik of the Vreden Traumatological Institute at the meeting of the Leningrad Surgeons' Society. The patient can now bend his forefinger, which used to be the second toe on his foot, at will. Prof. Kuslik followed the transplantation technic devised by Prof. Vreden which has been successfully used in three similar cases.

*Science News Letter, May 4, 1935*