

## AGRICULTURE

**More Food Will Come with Better Knowledge of Soil**

➤ **BETTER-FED PEOPLE** through better understanding of soil types and their productive capacities was the program called for at the meeting in Washington of the American Association for the Advancement of Science, by Prof. William A. Albrecht of the University of Missouri.

Early waves of pioneer settlers, and even the bison they drove before them, unconsciously recognized something of the sort, the speaker pointed out. The pioneers turned their backs on the thin, cut-over soils of the Atlantic seaboard and pushed across the heavy clays of the eastern interior out onto the rich prairie grasslands, which the bison had always preferred.

Now, with mechanized, one-crop farming, we are in danger of producing little but energy-foods (sugars and starches), neglecting the high-protein ration necessary for the best health, Prof. Albrecht declared. A more thorough study of crop ecology based on soils, and a more varied agriculture stressing protein production, he declared, is our greatest present land-use need.

There is no inherent, instinctive basis for our choice of foods, Dr. Margaret Mead, anthropologist of the American Museum of Natural History told the meeting. We learn what to like from our parents and our associates, and our preferences are subject to change from generation to generation. This she regards as fortunate, because it is probable that present and future nutritional researches will turn up many things that will be good for us—and we shall have to learn to like them.

Science News Letter, September 25, 1948

## GEOLOGY

**Fossils Aid Temperature Study of Ancient Seas**

➤ **A THERMOMETER** that can reach back into the history of the earth many millions of years and tell the temperature of seas that existed in those ancient days has been discovered.

This thermometer is read by determining the amount of the heavy variety of oxygen in the fossil skeletons of squid-like animals found in the famous chalk cliffs of Dover, Dr. Harold C. Urey, of the University of Chicago's Institute of Nuclear Physics, and Nobelist for his discovery of heavy hydrogen, told the American Association for the Advancement of Science in Washington.

One atom of oxygen 18 times the weight of hydrogen is found in water to every 500 atoms of the ordinary kind of oxygen 16. But the ratio of the two isotopes of oxygen is different after it is used by coral or shell fish in building up its calcium carbonate skeleton. There is more of the heavy sort in the animals than in the sea in which

they lived. And the warmer the ocean the more heavier oxygen.

Dr. Urey and his fellow investigators saw that this meant that the fossils could be used as a very durable thermometer that has been buried for millions upon millions of years. They obtained from museums fossils of belemnite oysters, and other creatures from the Upper Cretaceous chalk deposits in England.

The mass spectrometer, instrument for measuring the weight of atoms, had to be improved until its precision was six times what it was.

Not too definite are the results, but it seems that the 60,000,000 to 70,000,000 years old fossils once lived in a sea that was between 64 and 81 degrees Fahrenheit. This fits in very well with the geological evidence that the ancient seas around what is now Britain were as warm as the tropic oceans of today.

Science News Letter, September 25, 1948

## BOTANY

**Tiny American Wildflower Has Giant Relatives**

➤ **GENTIANAS** are not always tiny blue wildflowers. Fifteen-foot, giant gentians with flowers ranging from pale green to golden yellow have been found in the Andes of southern Colombia and northern Ecuador. They have been found as far north as Costa Rica and as far south as Bolivia.

There are about 30 varieties of these gentian-trees in the rainy mountain forests of Latin America, explained Joseph Ewan, of Tulane University, in a report issued by the Smithsonian Institution in Washington.

The gentian family includes a great many widely differing members, and only a botanist would recognize some of the more fantastic relatives. More than 400 kinds, most of them small wild perennials, are known to botanists.

Science News Letter, September 25, 1948

## GENERAL SCIENCE

**Largest X-Ray Development Lab Honors Scientist**

➤ **THE LARGEST X-RAY** development laboratory in the world has been dedicated in Milwaukee by the General Electric X-ray Corporation.

The new William D. Coolidge laboratory is named in honor of a pioneer scientist in the X-ray field. Dr. Coolidge is director emeritus of the General Electric Research Laboratory, Schenectady, N. Y.

In addition to major contributions to X-ray equipment, Dr. Coolidge is also credited with an important role in the development of the modern incandescent electric light bulb. His work on ductile tungsten in 1908 paved the way for advances in both light bulbs and automobile ignition contacts.

Science News Letter, September 25, 1948

**IN SCIEN**

## PSYCHOLOGY

**Election Winner Is More Popular After Victory**

➤ **NOT MANY PEOPLE** take polls after the election is over. But, if they did, they would find a significant shift to the support of the winning candidate.

Such an after-election poll was actually conducted after Roosevelt was chosen in the last presidential election. More than 2,000 persons were interviewed before the election and the same 2,000 were interviewed again after the election was over. Results were reported to the American Psychological Association in Boston by Dr. Sheldon J. Korchin, of the Veterans Administration Mental Hygiene Clinic in Philadelphia.

Democrats, it was found, became more intense in support of Roosevelt. Republicans moved toward neutrality. Those who, before the election, had been undecided, moved in a pro-Democratic direction.

With each passing year, it was also found, there are more people who "remember" having voted for the winning candidate.

This shifting of support to the choice of the majority is a characteristic of the American culture, Dr. Korchin commented. It is, he said, what gives stability to the American political system.

Science News Letter, September 25, 1948

## BIOCHEMISTRY

**Find Why Streptomycin Fails Against Lung TB**

➤ **WHY THE WONDER DRUG**, streptomycin, gives disappointing results when used to fight pulmonary or lung tuberculosis seems to have been discovered.

The sputum—spit, it is commonly called—protects the germs, tubercle bacilli, against the streptomycin which will destroy them if it can get at them.

When the tubercle bacilli lie on surface lesions such as ulcers of the larynx and vocal cords, the response to the treatment is dramatic, Dr. Herta Schwabacher of the British Ministry of Health Laboratory has reported in *NATURE* (Aug. 28). But tuberculosis of the lungs is proving resistant to streptomycin treatment.

The inhibiting effect may be either mechanical or chemical, Dr. Schwabacher believes, since it is not the result of acid reaction.

No beneficial effects from treating whooping cough with streptomycin have been obtained, presumably for the same reason.

Science News Letter, September 25, 1948

# CE FIELDS

## ANTHROPOLOGY

### Ghost-Haunted Boars Cause Native Wars

➤ NEW GUINEA NATIVES go to war because they are afraid of ghosts.

Both male and female ghosts are liable to raise all sorts of havoc unless properly appeased with a war, the natives believe. This strange cause for war was described by Dr. R. F. Fortune, British anthropologist, to the British Association for the Advancement of Science, meeting in Brighton, England.

The natives may fight in order to send enemies of their dead male friends to the other world. Unless this is done, the superstition holds, the ghosts of their friends will be unhappy. Then, the ghosts are likely to get inside the bodies of wild boars.

Boars possessed by male ghosts run wild, breaking down fences and destroying crops.

Another New Guinea tradition calls for the use of military power to revenge marital unfaithfulness. Ghosts figure in this, too. Ghosts of women whose wrongs have not been avenged may possess married women and persuade them to desert their husbands for lovers over the border.

Dr. Fortune's studies supported the theory of the late Sir James Frazer, famed British anthropologist. Sir James held that primitive warfare arises from a desire to appease the ghosts of friends by sending the souls of enemies to another world. Religious duties and military duties have been linked together from pagan to modern times, he believed.

Science News Letter, September 25, 1948

## PSYCHOLOGY

### People in This Glass House Are Free from Odors

➤ AN ODOR-FREE double glass house for testing the ability to detect smells was described to the American Psychological Association in Boston.

The observer who is having his sense of smell tested must first take a bath and then he is permitted to enter the antechamber of the glass house. There he is dressed in an odorless envelope after which he can go into the inner room.

Experiments with this glass double chamber were reported by Drs. Dean Foster, of Joseph E. Seagram and Sons, and Karl M. Dallenbach, of Cornell University.

The investigators can control completely the air permitted to enter the "Olfactorium," as it is called. It can be pure, odor-free air or odor-bearing air of known humidity, temperature and pressure. The chamber is equipped with air purification

and control apparatuses. Within the olfactorium the scientists can know exactly what the observer may be expected to smell.

Previous experiments on smell, they point out, have carefully controlled the physical and chemical qualities of the smelly substances, but have paid no attention to the surroundings. The results, they comment, are comparable to tests of hearing conducted on a busy street corner.

Science News Letter, September 25, 1948

## ELECTRONICS

### Television Receiving Tube Is Now Made of Metal

➤ A TELEVISION RECEIVING TUBE made largely of metal, demonstrated in New York to a group of scientists, is said to be the first successful tube of the type which can be manufactured on a continuous production basis. It is a 16-inch tube for direct-view home receiving sets.

Metal tubes have several advantages over those made entirely of glass, Samuel Kagan, president of Tel-O-Tube Corporation of America, stated. The development was made by this company. Previous attempts to make tubes of this sort have been none too successful because of difficulties encountered in attempting to join glass to metal in an air-tight seal.

The major portion of the outer shell of the new tube consists of a cone of spun chrome-steel alloy. Only the image screen and the neck or stem which houses the cathode-ray gun are made of glass. These are sealed by a secret process to the metal cone, which has the same rate of expansion as the glass.

Science News Letter, September 25, 1948

## AERONAUTICS

### Jet on Plane Supplements Conventional Engines

➤ CONVENTIONAL ENGINES plus jet propulsion feature a new Navy plane. It is designed for carrier operations. Two reciprocating engines are located under its wings, and a turbo-jet engine is in the tail of the fuselage.

In normal operations, the conventional engines will be used. When added speed is needed, the jet can be cut in. The reciprocating engines are Pratt and Whitney Wasp Majors, and the jet is a GE-Allison turbo-jet.

This new plane, which has already completed initial flight tests, was constructed by North American Aircraft Company, Los Angeles. In service it will be known as the XAJ-1. It carries a crew of three, has tricycle landing gear, high wing, and four-bladed propellers. Outer wing panels fold inboard and the vertical tail folds onto the right surface of the horizontal tail.

Performance figures are not yet available, but it will be considerably faster and able to carry a heavier bomb load than present carrier types.

Science News Letter, September 25, 1948

## PSYCHOLOGY

### Childhood Morale Can Help Prevent or Control Fear

➤ TO CONTROL OR PREVENT terror, it is necessary to lay the foundations of morale in childhood, the British Association for the Advancement of Science, meeting in Brighton, England, learned from a psychologist, Mrs. F. M. Austin.

Neurotic fear or imagined terrors were not what Mrs. Austin referred to. She discussed the normal fear caused by such things as the noise of a dive bomber attacking, the feeling of sudden dropping in an airplane, the sensation of suffocation or loss of security.

Here are some of the preventives observed in action in wartime England: Self-assertion, pugnacity, curiosity, desire to be with others, protectiveness, reliance on others, the doing of something, experience, knowledge, habit.

There are other, less tangible influences, that help a person to control his panic. They are, Mrs. Austin said, ideals, ambitions, self-approval, sense of duty, and social approval.

These influences interact, she said. Sometimes one is dominant, sometimes another. The way an adult behaves when face to face with great danger depends, she said, upon the integration and balance of his personality.

Science News Letter, September 25, 1948

## PSYCHIATRY

### Sadism, Masochism Belong In Same Brain-Sick Cycle

➤ SADISM AND MASOCHISM, the desire to hurt and the yearning to be hurt, are opposite faces of the same bad emotional coin. The same emotionally disturbed individual is apt to be both sadist and masochist by turns, Dr. Eilhard von Dörmars of the Association for the Advancement of Psychotherapy told scientists meeting in Washington for a special symposium on cooperation and conflict among living organisms.

Both tendencies exist in the upset individual at the same time, the speaker explained, but we call him sadist or masochist according to which happens to be predominant at the moment. He may start out as a sadist, hurting others to compensate for some lack or frustration in himself. Then a sense of guilt or shame at his cruelty overcomes him, and he exposes himself to hurt or humiliation to compensate for that. Then he may become a sadist again—and the cycle repeats itself without end. In extreme cases, the sadist may actually kill and eat his victim.

In organized societies, Dr. von Dörmars continued, democracy tends to promote the healthy, normal mental state of mind termed symbiosis. Autocracies produce the unhappy sadism-masochism cycle.

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