

## PSYCHOLOGY

**No Real Decline of Mental Power With Increasing Age**

"AN unfortunate libel" was the term Dr. Irving Lorge, of Teachers College, Columbia University, applied to the popular idea that aged persons decline in mental ability with advancing years.

Speaking before the meeting of the American Association for the Advancement of Science, Dr. Lorge said that the deterioration observed by psychologists and laymen is more apparent than real. It is due to a combination of dimming sight, slowing movements, dulled hearing, and a preoccupation with life's problems cumulatively. It is not a loss of mental power as such, but rather an inability to work as fast with mental tasks, Dr. Lorge said.

Tests given to 143 unemployed adults aged from 20 to 70 years indicated that the apparent decline with age differs when different mental tests are used as the measuring stick, those tests involving speed showing the greatest decline.

*Science News Letter, January 11, 1936*

## PLANT PHYSIOLOGY

**Trees Cool At Heart During Hottest Weather**

TREES are cool in their hearts, even in the hottest weather, Prof. E. S. Reynolds of Washington University, St. Louis, told the American Society of Plant Physiologists.

For several years, Prof. Reynolds has kept an electric thermometer buried in the heart of a cottonwood tree. A second instrument was embedded just where bark and wood come together.

During the great heat of the summer of 1934, when the air temperature was about 110 degrees Fahrenheit, the temperature at the tree's center was only about 60. Whenever, under these conditions, there was a change in the air temperature there was an immediate change in the tree-center temperature, but in the opposite direction.

Temperatures at the junction of wood and bark were warmer than those at the tree-center, but cooler than air temperatures by from 15 to 18 degrees Fahrenheit. This junction temperature tended to rise with that of the air in the early morning, but soon dropped or at least became constant as the tree-center temperature grew lower.

Prof. Reynolds explained this thermostatic phenomenon on the theory that the rapid evaporation of water from the

leaves put a heavy strain on the water inside, thus causing a rapid internal evaporation also. Since temperatures drop during evaporation, the inner tissues of the tree would thus be cooled.

This explanation also gives support to the theory of ascent of sap in trees now most widely accepted by botanists. According to this theory, water is literally pulled up through the slender wood-tubes of the tree as though it were in the form of microscopic wires. Water in such slender columns is no longer "as weak as water," but has a considerable tensile strength.

*Science News Letter, January 11, 1936*

## MEDICINE

**Hedgehogs Used in War Against Common Cold**

NEWEST recruit to the army of animals helping in the fight against diseases in the hedgehog. This prickly animal is pinch-hitting for men and chimpanzees in the campaign against the common cold, just as ferrets were enlisted by scientists in experiments which led to isolation of the influenza virus.

Dr. J. T. Edwards, of the Cattle Testing Station at Pirbright, Surrey, has reported to the Royal Society of Medicine that a number of hedgehogs showed an increase of nasal discharge after being inoculated with secretions from human cases of acute "cold in the head." (*The Lancet*, Dec. 7)

The effect is due, Dr. Edwards seems to consider, to a common-cold virus preparing a way for bacteria, already present within the hedgehogs' nostrils, to multiply and create catarrh. This scientist argues by analogy from his experiments on hedgehogs with the virus of foot-and-mouth disease; he has found that the virus of that disease activates the normal nasal bacteria of the hedgehogs, frequently causing death from broncho-pneumonia or septicemia.

Dr. C. H. Stuart-Harris also reported to the meeting that at the National Institute for Medical Research, London, he has carried out similar experiments, in consultation with Dr. Edwards. He confirms the increased nasal discharge from hedgehogs inoculated with common-cold secretions. But as yet he hesitates to conclude that the effect can be depended on—in other words, that the hedgehog is necessarily a useful animal for common cold experiments. One reason for his doubt is that hedgehogs vary widely in the amount of their nasal secretions.

*Science News Letter, January 11, 1936*

**IN SCIENCE**

## PLANT PATHOLOGY

**Insect Pest of Clover Carries Potato Disease**

CLOVER, one of the most useful of the farmer's crops, may under certain conditions be an unintended ally of a very troublesome potato disease, known as yellow dwarf. At the meeting of the American Association for the Advancement of Science, L. M. Black, plant pathologist of Cornell University, told how.

The virus of the disease is carried by a small insect, the clover leafhopper. This pest prefers to feed on clover, but at need will turn to other plants, including potatoes. Clover is not susceptible to the yellow dwarf disease, though it may harbor it without suffering from it, after the fashion of a human "carrier" of typhoid or diphtheria.

*Science News Letter, January 11, 1936*

## ENTOMOLOGY

**Sounds May Be Used To Combat Insects**

LURING insect enemies to their doom by imitating their mating calls, as hunters now lure deer and moose, was suggested as a new bit of tactics in the endless war between man and the six-legged hordes that endlessly threaten all his works. The immediate enemy concerned is the seventeen-year cicada, but the technique might be used against other singing insects as well.

The suggestion was made by J. A. Hyslop of the bureau of entomology and plant quarantine, U. S. Department of Agriculture, speaking before the American Association of Economic Entomologists. Mr. Hyslop, who regards the seventeen-year cicadas—usually miscalled "locusts"—as a real insect pest, suggested that when the males start singing, presumably to attract the females, it might be possible to frustrate these insect romances and thereby abate their biological consequences, by setting up counter-attractions in the form of other luring sounds, produced by suitable electric mechanisms.

*Science News Letter, January 11, 1936*

# E FIELDS

BOTANY

## Famed Cedars of Lebanon Now Near Extinction

**C**EDARS of Lebanon, those famous, mighty trees that Solomon bought from King Hiram of Tyre to be the roof-timbers of his magnificent temple, are now almost a lost tribe. Once they dominated the whole of the Lebanon mountain pass, but now there are only five rather small groves of them, Dr. Robert M. Warner of Iowa State College informed a botanical audience at the meeting of the American Association for the Advancement of Science.

The surviving groups are found at about 6,000 feet altitude on the western slope of Lebanon. They range from north to south over about fifty miles. The oldest grove is a compact clump of trees covering about fifteen acres, but the others are younger and more nearly open stands.

*Science News Letter, January 11, 1936*

PSYCHOLOGY

## Brain Waves Give First Evidence of Brain Centers

**E**LECTRIC messages obtained directly from a human brain by means of an electrode inserted in the brain tissue have given scientists the first real direct evidence of a very strict division of labor in that important organ directing thought and action. The experiment was performed by Dr. Edmund Jacobson, of the University of Chicago, and was reported to the American Association for the Advancement of Science.

The muscles used in shutting the jaw are controlled in the brain center thus explored by Dr. Jacobson. This was indicated by the creation of the "brain waves" in that area when the subject closed his jaw. No other type of movement caused waves from this area, he found, although the subject moved his tongue, pursed his lips, frowned, clenched his fists, and moved shoulders and neck.

Even opening the jaws seems to have its control in a separate area, for this action caused no waves in the jaw-closing area. Neither did mental acts of re-

membering or doing mental arithmetic.

Dr. Jacobson has been waiting for years for a subject on whom such an experiment could be made, he told the scientists. Animals are not suitable because of the difficulty of training them to just the movements desired and no other at the same time.

The human subject finally obtained was a man who had lost a part of his skull in a previous operation on his brain to remove a tumor. Because of this the experiment was comparatively simple and entirely painless, for the brain itself is not capable of feeling pain.

*Science News Letter, January 11, 1936*

GENERAL SCIENCE

## Link Between Science and Public Urged in England

**T**HAT there is need for "some method of closing the gap between the mind and outlook of the publicist and those of the trained scientist" was urged by Sir Frederick Hopkins, Nobel prize-winner for his pioneer researches on vitamins, in his valedictory address as president of the famous Royal Society of London.

"It is a just claim that in a civilization so largely based on science as that of today, the scientist should have more influence on policy than he has hitherto been allowed," Sir Frederick Hopkins said.

"Not long ago the gap in question was wide; it is now, I think, lessening. Occasionally at least, modern statesmen do seek scientific guidance, and, I think, know better than they did how rightly to obtain it. But it is time, perhaps, that the building of a bridge should begin on the scientific side of the gap. This is a task for organized scientific effort and the pooling of knowledge. As John Stuart Mill urged, knowledge before it can assist public action must somewhere be concentrated."

Sir Frederick Hopkins is a keen supporter for the movement for the establishment in Britain of a scientific news service similar to Science Service in America. He believes that the development of close contact between the scientific world and the general public is a social responsibility which falls, partly, on scientists themselves.

The new president of the Royal Society is Sir William Bragg, world-renowned physicist, who is director of the Royal Institution of Great Britain and of the associated Davy-Faraday Research Laboratory.

*Science News Letter, January 11, 1936*

BOTANY

## Glass and Paper Setup Tests Growth of Plants

**E**ARLY stages in plant growth are studied very conveniently in a simple apparatus made of glass and absorbent paper, by Prof. M. A. Raines of Howard University. At the meeting of the American Association for the Advancement of Science, Prof. Raines showed how it works.

A flat piece of glass is set up, inclined at an angle of about 15 degrees from the vertical. Against it is laid a piece of absorbent paper, its upper edge turned back and dipped into a pan of water. This turned-back edge serves as a kind of wick, keeping the whole sheet moist.

A germinated seed is set between the glass and the paper, near the top. The little plant proceeds to grow just as though it were in the soil. The root system develops nicely flattened out, so that all details of its growth can be observed and measured.

At the end of the growth period, the paper sheet can be lifted away from the glass, with the whole plant system clinging to it, and pressed for storage and future reference.

Thus far most of the cultures have been made with absorbent black paper, Prof. Raines said, but successful cultures have also been made upon sheets of asbestos, and promising experiments have been conducted with sheets of compressed glass wool.

*Science News Letter, January 11, 1936*

PHOTOGRAPHY

## Photograph Shows Area Larger Than Many States

**P**HOTOGRAPHS proving the earth is round, which Capts. Albert W. Stevens and Orvil A. Anderson exhibited on the occasion of the award to them of the National Geographic Society's Hubbard Gold Medal, show as much of the earth's surface as the combined area of Connecticut, Maryland, Delaware, Massachusetts, New Hampshire and New Jersey.

Taken from the record height of 72,395 feet the pictures show the horizon 330 miles away and 244 miles of it. Total land area in the picture is 40,000 square miles.

Capt. Stevens five years ago took the only other picture showing the curvature of the earth when he went up 21,000 feet over South America.

*Science News Letter, January 11, 1936*