

## SURGERY

**Warns Against Improper Handling of Football Hurts**

**A** WARNING against improper handling of football players injured during a game was issued by Dr. Frederic A. Besley of Waukegan, Ill., before the American College of Surgeons. Dr. Besley is the out-going president of the College.

Broken backs and broken heads—spine and skull fractures in surgical terminology—especially need careful handling and are least apt to get it, Dr. Besley pointed out. The player with either of these injuries may not show at first how seriously he has been hurt. Letting a few other players carry the injured man off the field if his spine is broken is a particularly dangerous practice. If there is any question about the seriousness of the injury, the injured player should be carried off the field in a stretcher.

*Science News Letter, November 5, 1938*

## ARCHAEOLOGY

**Stone Age Gave Mankind Urge To Stone Greatness**

**O**NE OF our curious hand-me-downs from the late Stone Age is a fascination for the tremendous in stone.

During thousands of years of using stone tools, our ancestors must inevitably have become stone-conscious. It would not be surprising that they came to regard anything particularly huge in the boulder line as a marvel and a challenge. But whether they were lured by fear, fascination, or ambition—and it is almost impossible to tell how a Stone Age man actually felt—the urge to battle with stone giants was, and continued to be, almost universal wherever such giants were known.

The passion for dealing with great boulders dates back to the Neolithic, or New Stone Age, when Europeans and other widely scattered groups had enough team spirit or sufficiently strong dictators to engineer a big project. These took the form of giant stone tables constructed over graves. Boulders up to 18 feet long were used.

By 1800 B. C. England's natives were building great stone circles, and some geologists believe that they must have transported some stones all the way from Wales, over 100 miles away, to Stonehenge. These "imported" boulders altogether weighed almost 100 tons.

Meanwhile, Egyptians specializing in obelisks were moving, by sledge and

boat, enormous stone needles bashed out of the quarry. Five hundred tons was their best record, though they began work on one much larger. Beside this figure, the building blocks of the Great Pyramid, averaging a mere two and a half tons, seem tiny. But they make up for it in quantity: over two million such blocks in that pyramid alone.

Mayan Indians in American tropics set up towering monoliths, richly carved. Bolivian Indians made a nine-ton monolithic gateway. Easter Island's natives carved more than 600 great stone faces, 20, 30, even 70 feet tall. On the Island of Yap, stone cartwheels too big to move around became money.

And modern America adds its contribution by carving super-heroic sized presidents on a Dakota cliff.

*Science News Letter, November 5, 1938*

## MEDICINE

**Study Electric Properties Of Ragweed Pollen Protein**

**T**INY quartz particles and oil droplets, covered with the protein of ragweed, are riding up and down in apparatus at the laboratory of Dr. Harold A. Abramson, of Columbia University and Mt. Sinai Hospital, to disclose new facts that may lead to improved methods of treating hay fever and to new methods of skin testing.

In a report to the conference on electrophoresis of the New York Academy of Sciences, Dr. Abramson described his new studies in connection with an address on the history and recent advances in electrophoretic methods.

It is the surface properties of the protein in ragweed which are in part responsible for hay fever, Dr. Abramson said. The surface properties, in turn, are determined by the electrical charge on the surface.

Using a method basically similar to that which Prof. Robert A. Millikan employed in measuring the electrical charge on the electron—one of the all-time masterpieces of physical research—Dr. Abramson makes the protein-coated quartz and oil droplets ride up and down in an electric field. The speed of passage is a measure of the electrical surface properties of ragweed protein found in the pollen.

"On the basis of the electrical charge of ragweed, experiments on the application of the electrophoretic method, that is, electrical introduction instead of injection of ragweed into the skin, to hay-fever therapy are in progress," Dr. Abramson declared.

*Science News Letter, November 5, 1938*

**IN SCIENCE**

## PSYCHOLOGY

**Pitch of Your Voice Goes Up in Anger or Fear**

**W**HEN you are angry you raise your voice in pitch as well as in volume, Drs. Grant Fairbanks and Wilbert Pronovost of the State University of Iowa have found. (*Science*, Oct. 21)

Measurements of the voices of actors portraying various emotions showed that in rage or fear the voice goes up a full octave above the pitch level for indifference, contempt or grief which are in the neighborhood of low C. The pitch range is also greatest for rage and fear, covering about two octaves while indifference covers only half that range.

A total pitch range of over three octaves was used by five out of the six actors in portraying all five emotions.

That the actors' simulations of emotions were probably close to the real thing is indicated by the fact that listeners who heard phonograph recordings of the voices named the emotions correctly in from 66 to 88 per cent. of the judgments.

*Science News Letter, November 5, 1938*

## GENERAL SCIENCE

**Boy and Girl Scientists To Be Organized in U. S.**

**H**IGH SCHOOL science classes will have new life and meaning as the result of the formation on a nation-wide basis of science clubs for young people from 12 to 18 years old, it was announced by Robert T. Pollock, president of the American Institute of the City of New York.

This is an outgrowth of the Institute's 300 clubs with 6,000 members in New York City and vicinity, which conduct an annual Science Fair, discuss current problems at the Science Congress and write for their own journal.

Members of the new organization will be given an opportunity to conduct actual serious scientific research and will contribute to an official "science newspaper," said to be the first of its kind in the country. The organization will be known as The American Institute Science and Engineering Clubs.

*Science News Letter, November 5, 1938*

# E FIELDS

RADIO

## Ultra High Frequency Radio Receiver Developed

**D**EVELOPMENT of the first ultra high frequency radio receiver capable of picking up signals ranging from 60 to 132 megacycles in frequency, of importance in connection with new and improved radio air safety aids, is announced by the Civil Aeronautics Authority.

Developed by P. D. McKeel of the Authority's radio development section, the new receiver uses sections of coaxial lines for the radio frequency and oscillator tuned circuits in place of the standard coil and condenser. It takes up a little more space than the more usual type.

No receiver covering the ultra short wave band between 60 and 132 megacycles has been available before. Commercially available sets are limited to the lower portion of the band, which includes most of the ultra short wave bands allocated to aeronautical purposes.

*Science News Letter, November 5, 1938*

HYGIENE

## Daily Skipping Advised For Foot Strengthening

**P**HYSICIANS, especially those specializing in orthopedics, have talked themselves hoarse, it would seem, on the foot-deforming effects of pointed-toed, high heeled shoes. A look into the shop windows must be truly discouraging. Yet they persist in their efforts.

The essentials of a satisfactory shoe are described by one authority as follows: It must grip the heel firmly and have a bar or tie which fits over and grips the instep. The heel should not be higher than one or one and one-half inches. The fore part or vamp should be a little more anatomically correct than the foot, allowing room for the toes to move about.

Such a shoe allows the joints of the foot to move actively in stepping forward, the transverse arch can flatten and reform normally when weight is put on the foot, and the activity of the muscles is preserved.

A more psychological and possibly more successful approach to the problem of getting people to wear correct shoes is suggested by another medical man. He suggests teaching the rising generation to "admire as elegant" the anatomically perfect foot. This foot has a straight inner border and mobile arches. When such a foot becomes fashionable, it is suggested, manufacturers will make shoes to fit the feet.

Daily skipping for ten or fifteen minutes either barefoot or in "gym" shoes is suggested as a method for strengthening the growing feet of children. Both this and the suggestion for running barefoot on the grass or playground seem likely to be one of the more popular pieces of health or medical advice.

Interestingly enough, the German doctor who recommends making these exercises a regular part of the school curriculum prefers running sports to maneuvers which involve prolonged route marches and long periods of standing.

*Science News Letter, November 5, 1938*

MEDICINE

## Brain Abscess Cured By Sulfanilamide

**S**ULFANILAMIDE, the drug sensation of the day, has made a new conquest in the cure of brain abscess and the prevention of almost certain meningitis.

Dr. Paul C. Bucy of Chicago reports the latest spectacular usage of the new drug. (*Journal, American Medical Association* Oct. 29).

A four-year-old child treated at the University of Chicago Clinics was the patient who responded promptly to the sulfanilamide treatment when her critical condition was diagnosed as an abscess of the cerebellum.

Surgeons opened the brain and drained the pus from the abscess. The surface of the cerebellum was swarming with hemolytic streptococci and meningitis seemed inevitable.

Immediately sulfanilamide treatment was begun. In two weeks the little girl was well again.

Dr. Bucy declares that the University of Chicago Clinics in the future will treat all brain abscesses in a similar manner.

A defect will be made in the skull over the abscess, the pus sucked out and sulfanilamide treatment begun. If this suffices, nothing further will be done. If not, the abscess will be opened, evacuated and drained in the usual way.

*Science News Letter, November 5, 1938*

PHYSIOLOGY

## Normal 18-Year-Old Girl Weighed 20 Ounces at Birth

**J**UST a little too long at birth to lie comfortably in an ordinary cigar box, Ruth Thomas of Le Sueur, Minn., now a college freshman, spent her infant days reposing in a shoe box.

Her mother, Mrs. Grace Thomas, believes that her 18-year-old daughter was the smallest baby ever to survive. The baby weighed 20 ounces at birth, it is claimed.

The smallest infant previously on record to survive and develop normally weighed 1 pound 5 ounces. When Mrs. Thomas read this report in the newspapers recently, she was reminded of the fact that her daughter, now an intelligent active girl, had weighed one ounce less at birth.

Dr. Swan Ericson of Le Sueur has sent to the *Journal of the American Medical Association* an affidavit from the midwife, Bridget Shea, giving the weight and details of the birth of Ruth Thomas. The attending physician has since died and his records are lost.

According to the midwife's affidavit, the child, who was born on February 24, 1920, had fingers the size of darning needles and legs no bigger than a woman's second finger.

The infant was so small that it could not be dressed for two months. It was bathed in olive oil by means of small applicators.

The tiny baby's fame spread and 1000 persons came to look at her during her first few months of life.

Dr. Ericson has interviewed the midwife, investigated the scale on which the child was said to have been weighed and finds that it is still accurate.

*Science News Letter, November 5, 1938*

PHYSIOLOGY

## Anger or Other Emotion Shows Up in Brain Waves

**W**HEN you get angry or experience some other emotion, it shows up in your brain waves, the record of electrical activity in the brain, Dr. Hudson Hoagland of Clark University, Worcester, Mass., told members of the Academy of Physical Medicine.

Brain waves from normal persons, Dr. Hoagland found, do not show as much variation under emotional stimulus as brain waves of mentally sick patients. The studies suggest the emotion does not originate in the brain cortex.

*Science News Letter, November 5, 1938*