

## Do You Know?

A little-known but increasingly important source of table oil is *okra seed*.

Average *potatoes* of today's favorite varieties contain about 15% starch.

*Raw foods* are good for the teeth because they help clean their surfaces.

Better *sizing*, or surface glaze, of paper results from the use of a new chemical called sodium phospho-aluminate.

*Television* will be available before the end of the year to the areas where half the people of the United States are living.

Some Maine *sardine canners* are using sunflower oil instead of olive oil because of the better taste.

An important advantage in the use of *magnesium piping* for transferring gasoline is that it will not strike a spark as ferrous metal will.

More than 30,000,000 pounds of *animal livers* are used annually for the production of medicines for the relief of anemia and other diseases.

One reason why *natural gas* is a preferred fuel in steel furnaces is that it contains almost no objectionable constituents and leaves no wastes or residues.

*Eggs of fish* and other eggs laid in the sea must be produced in enormous numbers if enough are to survive; one oyster sheds around 30,000,000 eggs in a single season.

A giant sound horn is to be tested at an airport to clear away *fogs*; sound waves will jar the fog particles into rain drops, it is expected.

Quartz tube lamps, filled with the rare gas *krypton*, emit beams that will pierce heavy fog for a thousand feet; they are used on the approach lighting system of the new Idlewild airport on Long Island.

operation on the parotid gland.

Mumps or other infection of the parotid gland as well as operation on it may start the condition. The one-sided sweating while eating is noticed within a few days to three years after the original gland involvement and lasts the rest of the patient's life.

Most likely explanation, the Boston scientists believe, is that the facial sweat glands in contrast to the rest of the body have two

sources of nerve supply. When one is injured the other may become active and indeed overactive.

Relief of severe sweating and flushing may be obtained, the Boston scientists suggest, by alcohol injection or surgical cutting of the auriculotemporal nerve. Details of their studies leading to this suggestion appeared in the JOURNAL OF CLINICAL INVESTIGATION (Sept.).

Science News Letter, November 6, 1948

### MEDICINE

## Siamese Twins Studied

► MARY and Margaret, Siamese twins who have furnished entertainment to circus goers, are now giving doctors new light on the cause of high blood pressure.

At the age of 34 Margaret developed high blood pressure, grade 2. Mary had normal blood pressure at rest, although it was unstable and went up at times, though never as high as Margaret's. Detailed studies of these unique sisters are reported by Drs. Stewart H. Jones, Omar Z. Young-husband and James A. Evans, of the Lahey Clinic in Boston, in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Oct. 30).

The twins are joined at the hips. Their spinal canals communicate. Discovery of this when they were three years old led doctors at that time to decide against trying to separate them by an operation.

The question of separating them now was settled by the twins themselves who flatly refused even to consider it. They feel such a separation would be like having an arm or leg cut off. And the surgeons and orthopedic specialists who examined them at the age of 34 agreed that such an operation was not feasible.

Tests with injections of dyes showed that their blood vessel systems communicate but the degree of exchange of blood in their veins was not determined exactly. It appeared to be moderate.

Mary's slight and Margaret's more severe

high blood pressure could be hereditary, since their mother has high blood pressure. Or it may be a result of chronic kidney infection, since Margaret has kidney stones and a past history of kidney infection. A blood-pressure-raising substance from Margaret's diseased kidneys might travel via the blood communication to Mary and raise her blood pressure slightly.

Margaret is a thin, high-strung, nervous type of person, while Mary is stout, calm and placid. Their intelligence quotients are the same but personality tests showed Margaret tending more toward the neurotic than Mary. Margaret's more exaggerated response to a test for blood vessel tone suggests that chronic anxiety and nervous tension probably play more of a part in causing her high blood pressure while in Mary the hereditary and blood chemical factors probably predominate.

Female sex hormones and temperature-raising substances in fevers associated with infections also travel via the blood stream, studies of the twins showed.

Emotional states apparently are not spread by way of the circulation.

Siamese twins, the doctors conclude from their studies of Mary and Margaret, probably develop from two separate ova and not, as frequently supposed, from a single ovum, or egg cell.

Science News Letter, November 6, 1948

### MEDICINE

## Irritation from Smoking

► THE THROAT irritation caused by smoking cigarettes cannot be told from the irritation caused by various bacteria, chemicals and heat, the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (Oct. 30) states in an editorial.

"It would be a wise physician indeed who could differentiate" between the two, is the way the journal puts it.

Cigarette advertising on the basis that the product advertised does not irritate the throat is "approaching a point where the advertising is no longer significant," the journal states.

Besides the impossibility of telling wheth-

er the throat irritation is due to cigarettes or to something else, the methods for measuring throat irritation are not standardized.

"Further truly scientific studies and respect for intelligent advertising," the journal says, would do away with the need for more trials before the Federal Trade Commission to determine whether cigarette advertising claims are justified or not.

The manufacturers of cigarettes are reminded by the journal of the "trend in the promotion of alcoholic liquors and their abuse" which finally led to prohibition. Re-

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strictive legislation against cigarettes may come, the journal warns, unless the industry undertakes voluntary policing restriction.

The A. M. A. JOURNAL, like many other medical publications, carries cigarette advertising. This brings in about a dozen protests per year from physicians. On the health aspects of cigarette smoking, the journal says the following:

"Actual surveys indicate that the majority of physicians themselves smoke cigarettes. Extensive scientific studies have proved that smoking in moderation by those for whom tobacco is not specifically contraindicated

does not appreciably shorten life. Post-mortem examinations do not reveal lesions in any number of cases that could be definitely traced to the smoking of cigarettes. From a psychologic point of view, in all probability more can be said in behalf of smoking as a form of escape from tension than against it. Several scientific works have been published that have assembled the evidence for and against smoking, and there does not seem to be any preponderance of evidence that would indicate the abolition of the use of tobacco as a substance contrary to the public health."

Science News Letter, November 6, 1948

DENTISTRY

# Mouthwash Cuts Decay

➤ A MOUTHWASH has been devised by a Philadelphia dentist that has reduced dental decay on an average of 75% in a group of his patients.

Formula for this caries-preventive is: 40 grams of sodium alkyl aryl sulfonate, a synthetic detergent; 80 grams of carbamide or urea; one-eighth of an ounce of flavoring; and one grain of color to one gallon of pure water.

Dr. David J. Goodfriend, in a report to the JOURNAL OF THE AMERICAN DENTAL ASSOCIATION (Nov. 1), states that the mouthwash cleans the teeth and penetrates between them where food particles may be lodged, prevents the formation of decay-producing acid in carbohydrate food particles and neutralizes acids that may be formed.

For the home care of the mouth and teeth he recommends that a mouthful of the mouthwash be swished around and between the teeth for one minute after eating and after toothbrushing.

The mouthwash stops bleeding in addition to its preventive action. Dr. Goodfriend points out this is an aid to dental surgical procedures.

"In a manner which I do not understand," he states, "it will stop bleeding without soiling or contaminating the field

as most hemostatic agents do. Held in the mouth for three to five minutes after tooth extraction, it usually completely controls bleeding and leaves an uninjured wound full of clotted blood. Sprayed on bleeding gingivae (gums) during scaling or cavity preparation, it controls the bleeding and cleans the operative field."

Dr. Goodfriend discovered the effectiveness of his mouthwash after treating 186 of his patients who were especially susceptible to tooth decay. They had abnormalities of bite which required that fixed bite overlays be placed on the teeth for from six months to two years. This device collected many particles of food which encouraged dental decay.

For contrast, Dr. Goodfriend compared the 186 patients receiving the mouthwash with a group treated for the same condition without the mouthwash. In the first group the incidence of caries was reduced by 55% to 95%. "In the control group there was such a high incidence of caries that it interfered with treatment of the bite and frequently caused the loss of teeth," he points out.

This work was done under the auspices of the Edward C. Kirk Research Fund of the University of Pennsylvania.

Science News Letter, November 6, 1948

METEOROLOGY

# Rain-Making with Fire

See Front Cover

➤ SILVER IODIDE smoke particles, created by fire in special burners, give promise as tools for artificial snow and rain makers. In this they may replace dry ice and other substances successfully used during the past year.

Artificial snow-making by the dry-ice method is actually two years old but was first a laboratory process. Later snow was made in super-cooled clouds high above the earth by distributing in them finely-divided

solidified carbon dioxide particles from an airplane. The particles become the nuclei of snowflakes.

The experiment has been tried out several times during the past year in various parts of the United States and under various weather conditions. A degree of success was achieved. Other materials besides dry ice have been tried but this is probably the first time that fire has been employed to generate smoke for snow-making.

The dry-ice method of making artificial snow is credited to Dr. Vincent J. Schaefer,

# SCIENCE AT WAR

By J. G. CROWTHER

Chairman, Association of British Science Writers

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THE first detailed account of science's contribution to the war effort, based on the official archives and documents assembled by the Scientific Advisory Committee to the British Cabinet. Because of the close and intimate collaboration between the American and British forces during World War II, this volume is of fundamental interest to the American scientist, as well as to the intelligent layman interested in science.

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