

PHYSIOLOGY

Proteins in Tobacco Injure Sensitive Persons

DISEASE of the blood vessels, irregularity of heart action and migraine headaches may be caused by smoking in persons who are sensitive to tobacco, Dr. Joseph Harkavy of New York City, reported to the Association for the Study of Allergy.

It is not the nicotine of the tobacco that causes trouble in these persons. The nicotine may produce symptoms of poisoning in people generally, but another part of tobacco, the protein in it, may cause trouble for sensitive individuals, just as the protein of eggs, milk or wheat causes trouble in certain other sensitive individuals who are what physicians call allergic.

Dr. Harkavy's work has not gone far enough for him to state definitely how big a part tobacco sensitivity plays in the production of a certain type of heart and blood vessel disease. He thinks that if persons who are sensitive smoke enough they may get the disease. Many persons, however, show sensitiveness to tobacco without any disease symptoms.

The sensitiveness is determined by skin tests such as are made on hay fever sufferers to find what pollens affect them. Over a third of the population is sensitive to tobacco so far as skin tests show, Dr. Harkavy reported.

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MEDICINE

Varicose and Gastric Ulcers Show Similarities

A SIMILARITY between stomach ulcers and the ulcers of varicose veins was pointed out by Dr. Penn Riddle of Baylor University Medical College, Dallas, Texas, at the Cleveland meeting of the American Medical Association. Dr. Riddle believes that these two conditions, which are responsible for much suffering and disability, are very much alike, and he finds that both may be helped by the same type of treatment.

Varicose veins of the legs are the result of poor circulation. The blood, instead of flowing back to the heart, tends to become stagnant in the veins of the legs, giving the familiar picture of swollen veins standing out on the legs. Eventually ulcers form. Ulcers form in the stomach in the same way, he suggests.

A cast and bandage which support the veins and help to pump the blood out of them give relief to the persons suffering with varicose ulcers. A rubber bandage which supports the abdomen similarly gives relief to stomach ulcer sufferers, he has found.

This support is to be used in addition to the standard treatment of stomach ulcers by diet, rest and operation, and not as a substitute for these measures. But if the supportive bandage is used early in the treatment, operation may be unnecessary. If an operation must be performed, the bandage will prevent recurrence of the ulcers, Dr. Riddle thinks.

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ARCHAEOLOGY

Famous City of Rayy Yields First Relics

THE FAMOUS walled city of Rayy, in Persia, has already begun to give up its buried secrets to the American expedition which began digging three weeks ago.

More than a hundred gold coins minted about 1150 A.D. and scores of broken pieces of household pottery have come to light, is the first field report received at the University of Pennsylvania Museum. The University Museum is working jointly with the Boston Museum of Fine Arts to explore the site.

Great discoveries are expected from this city, which has lain in ruins since its destruction by Mongols in the thirteenth century, and which in the tenth century was called the most sumptuous city in the world next to Baghdad. The city, lying about five miles from Teheran, was occupied from prehistoric times, and was the scene of battles and other dramatic incidents in apocryphal books of the Bible.

"Successive fortifications of the acropolis will be studied in the citadel," says the report by Dr. Erich F. Schmidt of the University Museum, field director. "In the governmental district are low elevations partially covered with thousands of stucco fragments which mark the sites of important buildings of the Islamic and possibly the pre-Islamic periods."

The American expedition has permission from the Persian government to excavate not only the walled city but the entire valley of Shah Abdul Azim, an area of fifty square miles.

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SEISMOLOGY

Kurile Islands Shaken By Quake

A SHARP earthquake rocked the region of the Kurile Islands between Japan and Kamchatka on Tuesday, June 12, at 8:51.3 p. m., eastern standard time. From telegraphic reports to Science Service, experts of the U. S. Coast and Geodetic Survey located the epicenter of the quake at 44 degrees north latitude; 147 degrees east longitude. This would fix the center of the disturbance on or near the island of Urup, northeast of Japan and southwest of the Kurile Islands.

American stations reporting the earthquake were: Georgetown University, Washington, D. C.; Fordham University, New York City, and Honolulu, T. H.

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AVIATION

Avoid Propeller "Fatigue" By Study of Vibrations

SERIOUS and sometimes fatal accidents which come as a result of a broken airplane propeller may now in a large part be prevented as the result of a careful study of vibrations.

Almost all propeller failures come as a result of "fatigue," that is, cracks and fissures are slowly formed in the blades under conditions of excessive vibration. Eventually, if the blade is not repaired or replaced a break occurs, which means a forced landing.

Drs. Hugh L. Dryden and L. B. Tuckerman of the National Bureau of Standards have been making a study of the causes of failure at the request of the Department of Commerce. They have devised an instrument which operates on the general principle of a Baldwin telephone receiver. It is placed on the propeller shaft and records electrically the amount of vibration in the propeller at any speed. Thus the critical speeds, those at which the vibration is the greatest, can be avoided by adjusting the throttle.

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CE FIELDS

MEDICINE

Vitamin A Is Not A Common Cold Preventive

TWO HUNDRED medical students, nurses and hospital staff physicians of Cleveland turned themselves into human guinea pigs in order to settle the question whether vitamin A, sometimes called the anti-infective vitamin, really could help ward off such infections as the common cold.

At the meeting of the American Medical Society, Dr. Gerald S. Shibley and Dr. Tom D. Spies of Cleveland reported the results of the experiment. Evidence indicated that while the vitamin might shorten the duration of a winter cold by two or three days, it did not keep the experimental group from having as many colds as usual. Neither did it lessen the severity of the colds.

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MEDICINE

Study of Timothy Flowers Helps Hay Fever Victims

HAY FEVER victims, who owe their distress to their susceptibility to timothy pollen, are the indirect beneficiaries of researches on the flowering habit of timothy conducted by Dr. Morgan W. Evans of the Timothy Breeding Station at North Ridgeville, Ohio, as reported in the *American Journal of Botany*.

The investigation embraced studies on the flowering habits of the plant, methods of collecting the pollen, and the effect of fertilizers, climatic conditions, and the time of year on the production of pollen.

Timothy blooms, according to Dr. Evans, at very definite periods of the day, usually the largest number of florets opening about sunrise.

The pollen, from which extracts for the alleviation of hay fever are made, may be collected by harvesting the stems on afternoons during the flowering season and placing them with the heads over sheets of paper. On the following

morning the florets usually bloom in much the same way as in the field. The pollen may then be shaken off and collected on the paper.

The largest yields of pollen, Dr. Evans explains, are usually produced on days when the temperature is about normal or above normal, and when there is no rainfall and a relatively high percentage of sunshine. As long as favorable weather continues, the process of blooming occurs at about the same time each day during the flowering season. When the weather becomes cloudy or rainy, and especially if the temperature becomes subnormal, the process of blooming may be suppressed for one or even two days. When favorable weather conditions return, the florets bloom in unusually large numbers.

By growing early and late varieties of timothy, Dr. Evans was able to collect pollen for two weeks longer than usual.

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GENERAL SCIENCE

Six Scientists Added To Science Advisory Board

ROUNDING out the membership of the U. S. Science Advisory Board to include authorities in additional fields of science, President Roosevelt by executive order has added six scientists to the board, increasing its membership to fifteen.

The new members are: Prof. Roger Adams, chairman of the University of Illinois department of chemistry and president-elect of the American Chemical Society; Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research; Prof. Lewis R. Jones, University of Wisconsin plant pathologist; Prof. Frank R. Lillie, zoologist and dean of the University of Chicago's division of biological sciences; Dr. Milton J. Rosenau, professor of epidemiology, Harvard School of Public Health; Dr. Thomas Parran, New York State commissioner of health.

Like the original nine members of the SAB, the new appointees will serve until July 31, 1935.

The Science Advisory Board was created by President Roosevelt on July 31, 1933, to aid him and his department heads in the conduct of science and research in the federal government. It has held numerous meetings to give advice on problems presented to it by government officials.

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ETHNOLOGY

Tone Photography Used To Preserve Indian Music

A NEW way to insure immortality for the ancient native music of America is advocated by Dr. Carl E. Seashore, head of the department of psychology of the State University of Iowa.

The method, which Dr. Seashore has successfully employed to record music of white and Negro singers, consists in using scientific apparatus to photograph the sound waves as a singer's voice is heard. The sound wave picture thus obtained is plotted in wavy lines on a graph, which is, in shorthand, an exact record of the pitch, the intensity of tone, the timbre of the voice, and the tempo.

Everything that is conveyed from the singer to the listener, whether it be information, emotion, or a drive to action, is expressed through these four media in the photographic record, Dr. Seashore states in a report to *Science*.

For his test of the laboratory method of preserving the native American music, Dr. Seashore chose a phonographic record of a song by a Sioux Indian. The phonographic recording was done at the Century of Progress by Miss Frances Densmore, well known for her studies of the music of Indian tribes.

Dr. Seashore believes that the phonographic apparatus can in some instance be taken directly into the field for the recording of Indian songs in villages and reservations.

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PHYSIOLOGY

Toads Aid Scientists In Test of Pregnancy

TOADS of a South African clawed variety may be used by physicians to answer the important question of pregnancy, Drs. H. A. Shapiro and H. Zwarenstein of the University of Cape Town's Department of Physiology have reported to *Nature*.

The test performed by injecting secretions of the patient into female toads takes only about eighteen hours. It is a modification of the well-known Zondek-Ascheim test in which the usual test animal is the rabbit.

The toad tests are also being used to investigate the incorrect functioning of human glands.

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