

## SCIENCE NEWS

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## THE DALLAS MEETING OF THE AMERICAN MEDICAL ASSOCIATION

THE American Medical Association began its sessions at Dallas, Texas, on April 20, with some six thousand physicians present.

The chief rôle of the family physician of the future will be to keep his patients well rather than to treat them when they are sick. Preventive medicine and public health education were the text upon which Dr. Wendell C. Phillips, the newly-installed president of the association, based his address at the opening session of the annual meeting of that organization being held in Dallas this week.

Complete eradication of measles, whooping cough, scarlet fever, possibly all the eruptive diseases, as well as all the insect-borne plagues, is a potential development of the future pictured by Dr. Phillips.

The physician of the past, he said, was educated to treat disease. He knew little of preventive medicine, sanitation or hygiene, fields in which national, state and municipal departments have become powerful and controlling factors. The health measures of great industrial organizations, pay clinics and group practice have of late years brought great health benefit to hundreds of thousands.

The publicity work of all these agencies has gradually created a demand from the public for more information about personal health, which should be met by a wide and comprehensive plan of personal and public health education of which the educated physician should be the source and head. Much pressure is being brought to bear at the present time to break down the reticent attitude of the medical profession toward the press. The House of Delegates of the American Medical Association is on record as favoring every measure of public health education and the better class of publications has given its cooperation by publishing only material of this character that has received medical approval.

Periodic physical examination of the healthy as well as the sick is a preventive measure strongly endorsed by the medical profession in the general program of health preservation.

"The family physician of the future," said Dr. Phillips, "must educate his patients and community in preventive medicine and be to some extent a health administrator. His chief rôle and his chief service will be to keep his patients well. Evidently, such service can be made possible only by maintaining intimate, clinical information, well recorded, regarding every man, woman and child who seek his service. And every man, woman and child in every community should have his health recorded in the files of his family physician. Too many of our inhabitants worry through life with only fairly good health, and while they accomplish their daily duties, these fairly well persons may never know the exuberance and happiness of perfect health. Hence, one goal of the

future practitioner of medicine will be the attainment and maintenance of exuberant health, which is the inherent right of every person. A higher average of overflowing good health means a higher average of happiness, comfort, usefulness and economic value of the individual. The superman will never materialize without super-health."

Medical education, Dr. Phillips went on to say, will place more emphasis on the human side and less on the mechanical and technical side than at present. The curriculum of the undergraduate should be extended to include health conservation and the application of the principles of science through the personal relations of the physician and patient.

The address closed with a tribute to the importance of the general practitioner as a factor in the nation's health life and the significant statement that while the service rendered by a physician may not be considered in terms of finance it should be remembered that health conservation is of greater value than the sums paid out for helping the body repair the ravages of disease.

## PAPERS ON THE PROGRAM

PREVENTIVE medicine has scored a real triumph over diphtheria. A survey of the mortality statistics of this once deadly disease reported to the association shows that in 1910-14 only thirteen cities averaged death rates under 10 per 100,000; in 1915-19 only eighteen cities could be so classed; but in 1924 there were thirty-seven and in 1925 forty-nine with diphtheria death rates lower than had ever been known before 1910. There is little doubt but that this amazing reduction can be attributed largely to the increasing practice of immunizing school children with toxin-antitoxin mixtures or with anatoxin. This opinion seems to be borne out not only by observation in single cities like New York where this method has been extensively used, but by the rapid decline in diphtheria mortality throughout the country. Antitoxin, as a curative agent, is due considerable credit but the fact that the death rate has dropped so decisively since the immunization measures have been applied indicates that it is the main factor. According to editorial comment in the *Journal* of the American Medical Association, diphtheria may be an almost negligible factor in the mortality returns of 1930, if the improvement of the last three years continues.

THE active principle of the ovary, or female sex gland, is now being used in treating women for several different diseases. Dr. J. P. Pratt, of the Ford Hospital in Detroit, and Dr. Edgar Allen, of the University of Missouri, gave a report of their most recent observations on the ovarian hormone. It is believed that this substance has an influence on the periodic functions of women. It has not yet been definitely established whether these functions are also controlled by other secretions in the body or by the same substance derived from other sources. This

principle has been used in the study of the physiology of women whose ovaries have been removed and is said to produce a quite definite effect in such cases.

INJECTION of chemicals and certain dyes directly into the veins is useful in combatting generalized infections according to Dr. Hugh B. Young, of Baltimore. Hundreds of successful treatments were cited involving such affections as boils, erysipelas, infections of the joints and abscesses.

An investigation of chorea, commonly known as St. Vitus's dance, a complaint of childhood characterized by twitching of the muscles and convulsions of the body generally, was reported by Dr. Franklyn E. Ebaugh, of Denver. He found that this disturbance frequently followed in the wake of infections. While it has some organic basis the symptoms are aggravated, he determined, by insufficient diet, high altitude, or disturbances of the brain.

The social and economic aspects of mental diseases have never been sufficiently stressed, according to Dr. Theodore Diller, of Pittsburgh, in a talk before the section on diseases of the nerves and the mind. Neurologists, he declared, have concerned themselves too exclusively with the scientific side of mental disease. The social and economic bearings of such a condition are of vast importance, he maintained, and physicians should give more consideration to these points before making diagnosis.

"If a child has been trained to meet reality," said Dr. M. S. Gregory, of Oklahoma City, in a paper before the same section, "then as an adult he or she will meet reality and remain well." Hysteria in grown-ups, he said, is the reaction of a child to conditions outside his control. If a baby gets what it wants by a "tantrum" when young, he reacts in the same manner when grown. In other words, such people stay babies in this respect unless they receive the right training, as children.

People die with cancer of the stomach, said Dr. George B. Eusterman, of the Mayo Clinic, in an address to the section devoted to diseases of that organ, because over half of them wait until it is too late for an operation before they consult a physician. Eighty per cent. of such patients are men, while over sixty-five per cent. of them are from fifty to seventy-five years old.

THE recently discovered liver extract used in reducing blood pressure can now be prepared in a comparatively pure state was the subject of a paper by Drs. A. A. James, N. B. Laughton and A. B. Macallum, of London, Ontario, describing their method of preparing the new remedy. They have succeeded in purifying this substance, which is made from fresh liver tissues, and in freeing it from dangerous chemicals. When injected into the body there occurs a rapid fall in blood pressure more pronounced and of longer duration than can be induced by any other known drug.

Dr. W. J. MacDonald, of St. Catharine's, Ontario, who has been working on liver extracts independently, described their application and their use.

Dr. Ralph C. Major, of Kansas City, described another substance called "guanidine" which produces a rise in

blood pressure when injected into the body. A decided elevation in blood pressure was produced in dogs by extracts made from several different organs of the body. That made from liver was found, however, to be more efficacious than anything else as a depressant. It is thought the method will eventually have great practical value in the treatment of this condition in human beings.

Dr. Joseph L. Miller, of Chicago, pointed out that there are many types of blood pressure that are due to changes in age and in these cases high blood pressure is possibly a necessary phenomenon. There is such great variation in blood pressure at different times even in the same person, he said, that the study of the effect of the various types of treatment is a difficult matter. Dr. Miller also indicated certain changes which are caused by emotional disturbances, by rest and sleep, and even by nightmares during sleep.

VERTIGO and dizziness comprise the latest addition to the ills for which we should be psycho-analyzed. In a paper delivered before the Throat, Ear and Nose Section of the association, Dr. Dana W. Drury, of Boston, recommended for giddiness the mentally analytical methods popularly associated with the famous Austrian, Freud. Dizziness was on the throat, ear and nose program, because the fluid of the semicircular canals of the ear is the source of the sensation of vertigo. It has previously been thought that it might be an indication of something wrong with the glands of internal secretion. A study of 1,100 cases, however, has disproved this theory completely. In one third of the patients causes of this condition were found that were quite unrelated to the ductless glands.

VERY unusual symptoms have been developed in diabetes cases when the necessarily restricted diet has failed to include vitamins A and B. Grave danger has resulted from the choice of diets for such patients not under the careful supervision of a physician. Dr. Michael Wohl, of Omaha, brought about much discussion in the section on pathology and physiology by bringing to light these new facts. Many cases were reported in which the importance of vitamins had been overlooked by patients on special diets.

THE sugar we eat may have a definite bearing on the ability of our joints to resist infection. Dr. Ralph Pemberton, of Philadelphia, speaking of diseases of the bones and joints said that the amount of sugar digested in the body has a well-defined relationship to inflammation of the joints. In more than sixty persons with disturbances of the joints he found a low tolerance for sugar. Dr. Pemberton believes that control of sugar digestion is a factor in the healing of such diseases. The condition is not the same as that which occurs in diabetes, but seems to depend on some changes in the circulation of the blood. Low sugar tolerance was produced experimentally in individuals by changing the circulation through the administration of drugs. By these studies it was determined that sugar taken in through the mouth passes by way of the blood to the fluid of the joints and there is evidence indicating that it aids their resistance to infection.

CANCER is on the increase in the lungs as well as in all the other organs, according to a report by Drs. John A. Lichty, F. R. Wright and E. A. Baumgartner, of Clifton Springs, N. Y., who presented figures to show that while cancer of the lungs is increasing along with cancer of all parts of the body it occurs proportionately less often in the lungs than in any other organ. These views are in direct contrast to those of other observers who maintain that the inhalation of tar and oil particles and the irritation of the lungs following influenza have brought about a marked increase in the number of cases of cancer of the lung tissues. There is no actual proof that the influenza epidemic has had any definite relationship to the growing amount of cancer of the lungs.

It is possible that many people have developed immunity to infantile paralysis through having been mildly infected on some previous occasion. Dr. W. L. Aycock, of Boston, stated that while this disease undoubtedly spreads from person to person, there are some instances in which it may not be due to either direct contact or through a carrier not suffering from the disease. It has been found that it may be transmitted through milk or some other indirect method.

ONLY half of those dangerously color blind are eliminated by the usual tests used to select applicants for train, yard and engine service on railways, according to Dr. Archibald Chace, chief surgeon of the St. Louis Southwestern Railway Lines. He maintained that the devices simulating a lantern were the only type suitable for such tests. The ordinary field tests were of little value because they were made under ideal conditions and not such as would arise in emergencies and result in accident. They should be made under all the circumstances of steam, rain, fog, smoke, daylight, night or dawn that would arise under natural weather conditions by methods planned in advance to cover the 288 possible ways under which signal lamps or flags may be observed, he declared. Dr. Chace, who has had seven years of experience in supervising the examination of applicants for hazardous occupations, emphasized the fact that tests for color blindness require great expertness in their administration in order to achieve their end. He urged that the stations at which such tests are made be reduced to the fewest practical number and that the work be checked periodically. He also made a point of distinguishing between color blindness and color ignorance. "From the standpoint of safety," he asked, "what difference does it make if the engineer can distinguish colors clearly by comparison, if he calls a red light yellow, or a green one blue?"

#### ITEMS

MISSISSIPPI'S new anti-evolution law already faces a challenge on the part of the American Civil Liberties Union, the organization that undertook the defense of John T. Scopes in the famous Dayton anti-evolution trial last summer. Arthur Garfield Hays, member of the Scopes defense counsel, has informed Science Service that the organization is contemplating a test case, but will attack this time by means of a taxpayer's suit, which, though it offers less possibility of the spectacular pro-

ceedings that marked the Dayton trial, at the same time affords a better opportunity for a thorough-going legal test, free from extraneous appeals to religious prejudice and mob emotions. "In bringing such a suit," said Mr. Hays, "it is of course necessary that the initiative be taken by a citizen and taxpayer in the state affected. We are now in communication with a number of interested persons in Mississippi, and as soon as we shall have made the proper arrangements we shall take action." Mr. Hays also stated that the appeal in the Scopes case is still pending before the Supreme Court of the State of Tennessee, but that a hearing may be had some time during May.

THE discovery of super-X-rays, consisting of extremely short-wave radiations coming to the earth from outer space, possessed of tremendously high penetrating power, has been confirmed by two Russian scientists, Dr. L. Mysowsky and Dr. L. Tuwim, who have repeated parts of the experiments performed by Dr. R. A. Millikan in the United States and by Dr. Kolhorster, the German pioneer, in super-X-ray research. Tests were made of the penetrating power of the rays by sinking specially arranged electroscopes beneath the waters of Lake Onega in western Russia, and found that the rays were quenched at a depth of 19 meters, or about 60 feet. This was the depth determined by Dr. Millikan in California mountain lakes, and by Dr. Kolhorster in the Bosphorus during the World War. Waves able to pass through this depth of water, plus the thickness of the earth's atmosphere through which they come on their way from outer space, have a penetrating power, according to the physicists' calculations, that would carry them through six feet of lead.

ACCORDING to Dr. H. H. Turner, professor of astronomy at Oxford University, the atmosphere becomes warm, and actually tropical at very high altitudes. This has been shown by Dr. G. M. B. Dobson, lecturer in meteorology at Oxford, and F. A. Lindemann, professor of experimental philosophy at the same institution, and was made possible by the observations of meteors by W. F. Denning, of Bristol, who has been observing meteors for about 40 years. Professor Turner points out that though aviators can only go a few miles off the earth's surface, and unmanned pilot balloons can go to about 20 miles, the observations of meteors, or shooting stars, extend knowledge up to about 50 miles, when they first become visible, after entering the atmosphere from outside space.

A NEW hot spring has broken out at Mammoth Hot Springs, where the park headquarters are situated, according to a report from Park Naturalist E. J. Sawyer. The new jet comes through a vent about two inches long and three quarters of an inch across, and is depositing travertine limestone over an area varying from 25 to 35 feet in diameter. It is located on the lower part of the great group of limestone terraces, near the rocky cones known as "Liberty Cap." Due to the soft and crumbling nature of the limestone in the Mammoth Hot Springs formation, there is a good deal of shifting about in the location of the springs in this place, but there has been no activity in this particular section of the formation for twenty years or more.