

PHYSIOLOGY

Headaches Caused by Stretch Of Brain's Blood Vessels

Either High or Low "Tide" of Brain Fluid May Cause Pain; Regulation of Fluid Intake Is Advised

"TIDES" in the brain make a headache—the "morning after" kind or otherwise, Dr. Temple Fay, professor of neurology at Temple University Medical School, Philadelphia, told members of the American Neurological Association meeting in Atlantic City.

Headaches, it appears, may be classed relatively as wet ones (high tide) and dry ones (low tide). The headache of the "morning after" is a wet one, though not all wet ones are due to alcoholic indulgence. General over-indulgence in food and fluids brings on this kind.

What makes a headache, reduced to simplest terms, is the amount of fluid in and around the brain. Too much or too little of this fluid results in stretching the large blood vessels that supply the brain. The stretching is what hurts. Dr. Fay determined this by stretching the nerves of these blood vessels in the brains of patients undergoing brain operations.

The wet headache—too much fluid in the brain—is most common in the overweight, hydrated person who consumes large quantities of food and fluid and does not eliminate enough fluid. This person should, in general, reduce the amount of liquid consumed to not more than one quart a day.

Some Should Drink More

The headache noted in the common type of underweight, overactive, nervous individual arises when fluid from the body is too rapidly lost from the skin or kidneys and cannot be properly retained in the brain cavity. This type of person, with the advice of his physician, should increase his fluid consumption to three or more quarts per day along with extra feedings.

These directions, Dr. Fay pointed out, apply to the true variety of headache, and should not be followed until medical examination has ruled out other conditions which may refer pain to the head.

The beneficial use of certain drugs for headaches was ascribed to their effect in regulating the fluid and blood volume

relationship within the brain itself.

The large blood vessels which give a headache when stretched are the only structures in the brain that carry pain fibers. Besides stretching because of too much or too little fluid, irritation of these vessels at other places on their path to and from the brain gives rise to pain felt in the head as a headache. Such irritation may arise in the neck, chest or abdomen, and this explains the headaches that may accompany infections in nose, throat or in diseases of the chest and abdomen.

The discovery of the mechanism of headache reported is based on many years of research by himself and other scientists, Dr. Fay pointed out. He also

reported a test, called a cephalogram, for determining whether a headache is of the wet or dry variety.

Science News Letter, June 13, 1936

PUBLIC HEALTH

Water Pollution Problem Made Acute By Recovery

RIVERS and streams of America are being polluted by a third of the nation's population and by reviving industries, despite a quarter century of struggle by health and conservation experts to keep water supplies clean and safe.

This warning was carried to President Roosevelt from a conference of governors, senators and technical authorities held in Washington, D. C. Abel Wolman, Maryland Health Department chief engineer and water resources specialist, revealed the present extent of the threat to clean, drinkable water.

Dr. Thomas Parran, U. S. Public Health Service Surgeon General, listed as regions of acute pollution: Ohio River, the Niagara frontier, the Hudson



MEASURING SUNLIGHT'S INTENSITY

One of four devices of its kind is the new sunlight intensity photoelectric recorder now in use at Massachusetts State College. It is being used in experiments on plant physiology where not only the hours of sunlight but their relative intensity must be known. Miss Della Brownell, assistant to the head of the College weather station, is demonstrating the apparatus to a student.

and Connecticut rivers and the upper reaches of the Potomac.

Water poisoned by sewage and wastes from factories can be made drinkable by purification treatment, but there is a limit to the pollution that can be counteracted by engineering methods. The limit is now being exceeded at several points along the Ohio.

The conference went on record as urging President Roosevelt to sponsor the passage of a Congressional bill, allowing the U. S. Public Health Service to tackle the problem of stream pollution.

Science News Letter, June 13, 1936

PUBLIC HEALTH

No Typhoid Fever Deaths In 24 Large Cities

TWENTY-FOUR large cities have a place on the honor roll of the American Medical Association, having had no deaths from typhoid fever during the year 1935. (*Journal, American Medical Association, June 6.*)

These cities are: Bridgeport, Conn.; Cambridge, Mass.; Elizabeth, N. J.; Erie, Pa.; Fort Wayne, Ind.; Grand Rapids, Mich.; Jacksonville, Fla.; Jersey City, N. J.; Long Beach, Calif.; Milwaukee, Wis.; Newark, N. J.; New Bedford, Mass.; New Haven, Conn.; Omaha, Neb.; Paterson, N. J.; Peoria, Ill.; San Diego, Calif.; Scranton, Pa.; Somerville, Mass.; Springfield, Mass.; Tacoma, Wash.; Trenton, N. J.; Wichita, Kans., and Youngstown, Ohio.

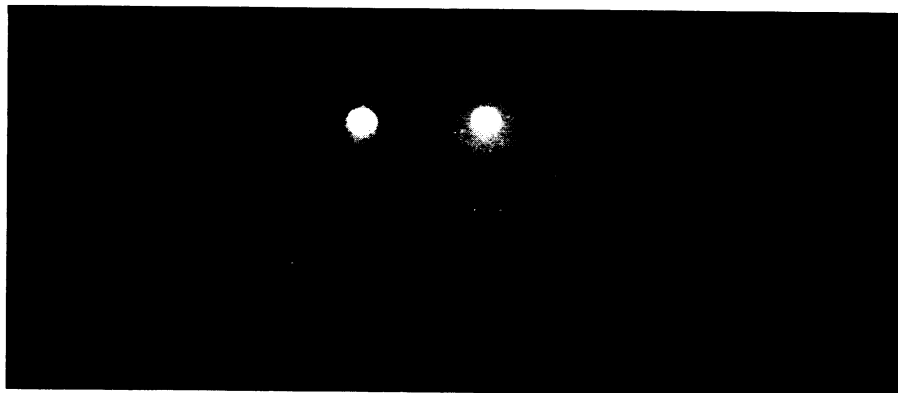
Eight of these cities—five of them in New England—had no deaths either from typhoid or diphtheria in 1935. They are: Bridgeport, Cambridge, Erie, New Bedford, New Haven, Scranton, Springfield and Tacoma.

The total of typhoid deaths for the ninety-three large cities annually surveyed by the American Medical Association was notably less in 1935 than in 1934, 385 as against 470.

At the other end of the scale are seven cities with high death rates from typhoid. In the order of high mortality from the disease, they are: El Paso, Tex.; New Orleans, La.; Nashville, Tenn.; Tampa, Fla.; Norfolk, Va.; Knoxville and Memphis, Tenn. In some of these cities, one-third or more of the reported deaths from typhoid fever were stated to be among non-residents.

Science News Letter, June 13, 1936

Termites attacking woodwork in buildings are able to dissolve lime mortar by means of an acid secretion.



BLINDING GLARE

Scientists have found a cure for this hazard. See illustration on opposite page.

PSYCHOLOGY

"Dimensions of Intellect" Found by Psychologist

SEVEN primary elements that go to make up human intelligence just as the primary colors of the rainbow may be mixed to produce the thousands of beautiful hues with which we are familiar, have just been announced to the scientific world by Dr. Louis L. Thurstone, authority on mental testing at the University of Chicago.

They may eventually outmode present measures of I.Q. and mental age.

Four long years of research with complicated statistical and mathematical techniques enabled Dr. Thurstone to identify and name these seven "primary colors of personality."

They are:

Seven Dimensions

1. Number facility. This is an ability necessary to the accountant and mathematician. As Dr. Thurstone put it, "its appearance as a primary factor is not surprising in view of the common observation that many otherwise intelligent individuals seem to have a mental blind spot in dealing with numbers."

2. Word fluency. Here is a talent necessary for the political speaker, the salesman, the teacher.

3. Visualizing ability. Some persons are visually minded and learn best through seeing things or pictures of them.

4. Memory. Scientific justification does exist for the disputed popular idea that memory is distinct from other mental abilities, and that a person can

be described as having a good memory in general without specification as to what he can remember well. Dr. Thurstone's experimental findings agree with the common observation that people of superior intellect sometimes reveal surprisingly poor memory.

5. Perceptual speed. This is the ability that enables some people to scan a page of names or numbers to find a particular item quickly, while others must examine each item.

6. Induction. Dr. Thurstone explains induction as "involved in several tasks in which the subject must discover some principle or rule that governs the material." More experiments should reveal whether originality and inventiveness are involved.

7. Verbal reasoning. This might also be called deduction or the ability to see relations between words. The experiments showed that this is something different from mere fluency with words.

These "dimensions of intellect" which may revolutionize mental testing and vocational guidance, were discovered after examination of 240 university students who volunteered to take a total of 56 psychological tests. Dr. Thurstone's conclusions were embodied in a report to the American Council on Education.

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The seeds and skins of grapes yield an oil that is finding a number of uses in German industry.