

MEDICINE

Why People Are Alcoholic

Latest theory gives double cause: inherited metabolic pattern for handling alcohol plus environment that provides exposure.

► THE CHEMICAL constitution you inherited from your parents plus the environment in which you live determines whether or not you become a Lost Week-ender.

This theory or working hypothesis of the cause of alcoholism is presented by Prof. Roger J. Williams, distinguished vitamin researcher of the University of Texas, in the *Quarterly Journal of Studies on Alcohol* (March).

Jack Spratt and his wife of the nursery rhyme are used by Prof. Williams to illustrate part of his theory, that on the hereditary factors.

"Some people inherently have a strong appetite for fat and can tolerate large quantities of it. Others may have a distaste for fat but crave protein. Such different responses," Prof. Williams says, "must be due to differences in the metabolic machinery of the individuals."

By metabolic machinery, Prof. Williams means the complex mechanisms by which chemicals from food are used to create new body substance and energy. These processes go on by means of enzymes. The fundamental reason why vitamins, or at least many of them, are necessary to life is that they are the raw materials out of which the body must build its enzymes.

Every time an egg cell becomes fertilized and a new organism, chick, rat or human baby, comes into being, it gets from the parent cells the potentialities for producing each enzyme from necessary raw materials. It also gets the poten-

tiality for producing every detail of the metabolic machinery.

The kind of defect in this machinery which results in diabetes, involving failure to handle sugars and starches adequately, is part of a person's metabolic inheritance.

Inherited metabolic machinery also determines, Prof. Williams thinks, the way a person handles alcohol. It may determine whether a person will get violently sick after one drink, whether he gets a laughing jag, or turns morose after drinking, whether he can take an almost fatally big dose of alcohol without showing any sign of drunkenness, and whether or not he becomes addicted to alcohol.

Environment comes into the picture something like exposure to infectious disease. A person may be susceptible to measles, but never get it because he is never exposed to the measles germs. A person with an inherited metabolic machinery that would make him an alcoholic if he started taking alcohol will never become a Lost Week-ender if he never drinks. Most people can drink without becoming alcoholic because they lack this special machinery, just as most people can eat sugar and starches without becoming diabetic.

Prevention of alcoholism would be possible, Prof. Williams points out, if some way of detecting the alcoholic metabolic machinery could be discovered. He urged further research to learn at least what this machinery is.

Science News Letter, April 12, 1947

ANATOMY

Tense Tops Start Baldness

► YOU GET BALD because you get tense on top. A big head may be one cause of the tension. The tension also may be caused by external pressure, as from a tight hat, perhaps, or from the explosion of an atom bomb.

The basis of baldness is a matter of anatomy, Dr. M. Wharton Young, of Howard University, announced at the meeting of the American Association of Anatomists in Montreal.

The top of the head where baldness comes with age does not have as rich a blood supply as the muscular sides of the scalp, where the hair usually hangs on longest. Tension zones in the scalp cut down the blood supply to the top. These tension zones are associated with beginning baldness.

They may result from contraction of the muscles, from continued growth of

the skull, or from external pressure. In this connection Dr. Young pointed out that some of the atomic bomb victims developed a senile type of baldness.

Dr. Young produced persistent baldness in monkeys, like that seen in humans, by cutting out curved slices of their scalps and sewing the edges together. This pulled the scalp tight, set up tension areas and baldness followed.

Science News Letter, April 12, 1947

Death of Dr. Valentine

► DR. WILLIARD L. VALENTINE, editor of the journal *Science*, published by the A.A.A.S., died April 5 of a heart attack. He was also a trustee of Science Service.

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