

NUTRITION

Hitler's Secret Weapon is Depriving People of Vitamin

Long Continued Deficiency in Thiamin, Essential Morale Vitamin, Brings Depression, Exhaustion, Despair

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HITLER'S "secret weapon" may be the taking away of vitamin B₁ or thiamin from the diet of the conquered countries. A little thiamin deficiency is associated with irritability, but much or long-continued deficiency is more likely to result in depression, exhaustion and feelings of inferiority. We have good information that the Germans are making fullest use of the newest knowledge of nutrition in the prosecution of this war, particularly, in reference to the excellence of the nutrition of their armed forces. Rumor has it that the Nazis are making deliberate use of thiamin starvation to reduce the populations of the occupied countries to a state of depression and mental weakness and despair which will make them easier to hold in subjection.

Some Canadian soldiers, enlisted from relief rolls, were defiant, others were depressed to the point where they seemed useless to the Army, and it is reported that later, after satisfactory attention to nutritional deficiencies, they became perfectly manageable and effective. This is a story received from Canadian medical circles and I have reason to believe there is truth in it.

Linked With Strikes

It is my personal opinion that there is a relationship between industrial unrest and deficiency of vitamin B₁ (thiamin). One of the symptoms of thiamin deficiency is irritability and lack of willingness to cooperate. I suspect that many industrial workers are led to make unreasonable demands because of the inadequacy of this particular vitamin in the diet. I also suspect that many middle-aged industrialists, getting paunchy and trying to keep down their weight, unconsciously restrict their diets in such a way as to fail to get enough of this vitamin, and, consequently, become hyper-irritable. The result is that two people,

both of them in abnormally irritable mental states are trying to deal with each other.

As a result of experiments which have been going on in the nutritional laboratories of the Mayo Clinic under the direction of Dr. Ray Williams and my supervision since July, 1939, I am personally convinced that insufficiency of vitamin B₁ (thiamin) is a principal cause for the majority of the nervous and mental abnormalities that are associated with or responsible for the psychological state, commonly spoken of as loss of morale. Some of these experimental observations have already been reported in the *Archives of Internal Medicine* (Vol. 66, Page 78-79, Oct. 1940). Much more data are to be presented by Dr. Williams at the coming meeting of the American Institute of Nutrition in Chicago, April 16.

Women Are Subjects

When women who were apparently normal emotionally are subjected to a diet adequate in all other respects but very low in thiamin, within two or three weeks they develop mental symptoms which become progressively more serious as the duration of the restriction continues. These symptoms consist of inability to concentrate, uncertain memory, awkwardness, self-consciousness, progressive feelings of inferiority, irritability, depression, and anxiety. Cheerful, cooperative individuals become morose and unwilling to perform their ordinary tasks or to work with others.

When these symptoms have been produced rapidly by severe restriction of thiamin, where the subject receives not more than 1/6 to 1/10 of a day's requirement of this vitamin, and if these symptoms have not lasted longer than two or three months, they can be promptly corrected by restoring to the diet an optimal amount of thiamin. On the other hand, where the experiment has been continued six months or more and the restriction of thiamin has been less severe, and the development of symptoms has been slower, the effect of treatment

from administering thiamin is less prompt. This leads me to believe that many chronic states of poor morale which the physician frequently sees in his office in the guise of neurasthenia represent a slowly reversible thiamin deficiency. It accounts for the fact that physicians often are disappointed when they attempt to treat neurasthenia with vitamins. The problem, as I see it, is to prevent these conditions by securing an adequate diet continuously. Once the symptoms are fully developed and firmly established they may be resistant to treatment.

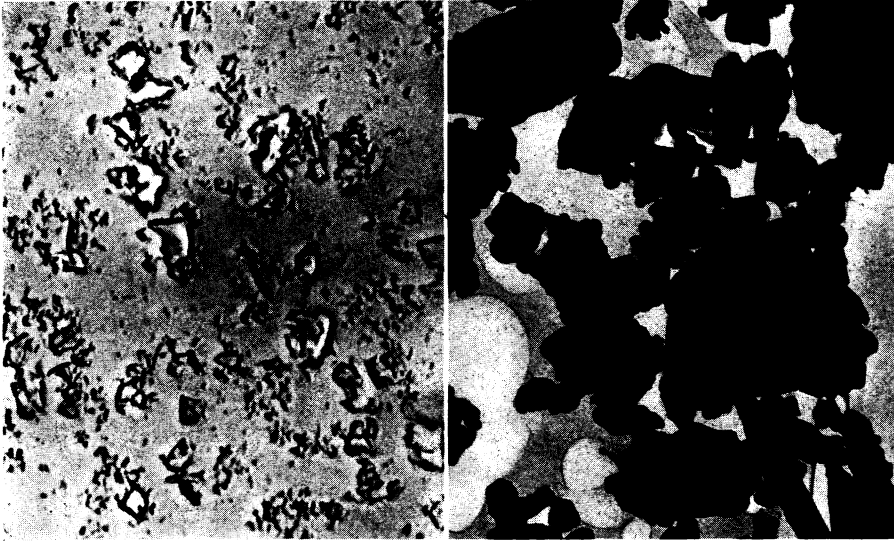
Few Food Sources

Thiamin is found generously in rather few foods such as whole grain cereals, lean meats, peas, and beans. People that fail to eat of these foods in sufficient amounts are likely to be deficient in thiamin. If a man or woman is depending on meat and beans to get the thiamin that he requires, he probably needs to eat much more than most people do eat of such foods. On the other hand, if he is eating a large amount of whole grain wheat, he can do with much less meat, peas, and beans and still get the amount of thiamin he requires.

Unfortunately, most people do not eat whole grain wheat. They eat plain white flour. For this reason, thiamin was one of the vitamins which the Committee thought was necessary to put back into white flour. "Enriched" flour contains enough thiamin so that if a man will consume 6½ ounces a day, which is the average American consumption of flour, enough thiamin will be added to that which he is receiving from other foods to give him what he ought to have. Most foods contain some thiamin, but many foods like the garden vegetables, formerly thought to be excellent protective foods, are poor in thiamin.

Poor people cannot afford much meat. They do not get much of beans and peas and do not know about the value of soy beans as a source of thiamin. They depend on plain white flour more than other people do because it is cheap, and thus they are very apt to get too little thiamin. They could get enough even using plain white bread, if they would eat large amounts of oatmeal and use not less than six ounces a day of either beans, peas, soy beans, or peanuts. The easier way is to put thiamin back into bread of which the poor people eat a great deal and that is the step which has been taken.

I have been emphasizing thiamin because I know whereof I speak when I talk of thiamin (*Turn to page 237*)



FOR COATING PAPER

The new electron microscope provides a new view of the pigment used in coating paper. At the left is an electron micrograph of a new type calcium carbonate pigment, showing it to consist of solid, non-absorptive rhombs and fragments. Compare this view with that of the same pigment seen through a light microscope at a magnification of about 1,200 x. The electron micrograph has a magnification of about 22,000 x and was made by the American Cyanamid Co.

ARCHAEOLOGY

Bible Accuracy Proved By Egyptian Ways and Language

Internal Evidence Indicates First Five Books of Old Testament Were Written By One Man in Moses' Time

DECLARING that ancient Egypt provides overwhelming evidence for historic accuracy of the Old Testament, Dr. Abraham S. Yahuda, British scholar now lecturing at universities and theological seminaries in this country, warns America not to accept German-inspired "higher criticism" of the Bible.

"Radical Biblical criticism in Germany has shattered the authority of the Bible and undermined its moral value, thus paving the way for the modern teachings of the Nazis," said Dr. Yahuda in an interview in Washington.

The first five books of the Old Testament, known as the books of Moses, are so full of correct detail about manners and customs of Egypt and contain so many Egyptian words and traces of language influence that these books could only have been written by one man. And that man must have lived in the time of Moses, when the Israelites were in close contact with Egypt, says Dr. Yahuda. He places Moses' leadership as oc-

curing in the fifteenth century B. C. "These results," he added, "have dealt a blow to the so-called higher criticism of the Bible, which maintains that the books of Moses were a conglomeration of many sources and were written long after Moses' death, in different periods between the ninth and sixth century B. C."

A single Bible verse describing the way in which the infant Moses was hidden in the bulrushes by his mother contains four Egyptian words: ark, bulrushes, slime, and pitch, the language specialist finds. The Hebrews in Egypt adopted many such words, blending them into their own speech.

The ark-like cradle of Moses was itself a clever device, calculated to catch the eye of an Egyptian princess, for Dr. Yahuda points out that such "arks" were used in carrying religious images in processions. The daughter of Pharaoh, coming to bathe in the river, would think that such an ark contained a god's image

that had fallen into the water, and would surely rescue it.

The Bible account of brick-making work of the Israelites during Egyptian bondage is likewise full of Egyptian detail, correct according to archaeological linguistic revelations. The "tale" of brick required of the workers was a measuring of the brick, for, says Dr. Yahuda, the practical-minded Egyptians measured building material. This very overseers' task of taking stock is pictured on Egyptian monuments.

Refusal of Pharaoh to allow the Israelites to take time off for worship becomes clearer in the light of Egyptian labor struggles of the time. Pharaoh had trouble with Egyptian workers who were suspected of using their religion as an excuse for idleness. Pharaoh's words to Moses furthermore indicate that strikes were possible at this time in Egypt, and the King charged Moses with trying to organize one.

The entire Bible story of Joseph is full of significant and vivid detail of Egypt's court life, prison life, and dealings with foreigners, confirmed by Egyptology, Dr. Yahuda also points out.

A British subject, born in Jerusalem, Dr. Yahuda has spent a lifetime studying Near Eastern antiquities, with special attention to Egypt's influence on the Old Testament.

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and mental disorders. We have less certain information about the relation of deficiency of the other vitamins to mental disorders. With more knowledge we may come to appreciate that the lack of other vitamins is as important as the lack of thiamin for mental disorders. In the meantime prudence dictates that we should not only look to the adequacy of B₁ (thiamin) but also to the adequacy of all other vitamins.

Science News Letter, April 12, 1941

The practice of *painting* bridges in bright and attractive colors is said to be gaining favor with engineers.

● RADIO ●

Scientists attending the Chicago meeting of the Federation of American Societies for Experimental Biology will join with Watson Davis, director of Science Service, on "Adventures in Science," over the coast to coast network of the Columbia Broadcasting System, Thursday, April 17, 3:45 p.m. EST, 2:45 CST, 1:45 MST, 12:45 PST. Listen in on your local station. Listen in each Thursday.