

## What is a Vitamin?

North American.

If the reader should seek an answer to this question in even the most recent encyclopedia or dictionary, it would not there be found. Yet vitamins are so vital to human life that when we know more about them, we may be able to conquer disease through diet.

Such a possibility, however remote, must arouse keen interest in the subjects of vitamins. Even the word has not yet found its way into lexicons, because it was born only four years ago. It came into existence as the result of observations and experiments made by Dr. Casimir Funk, a Russian chemist, now living in New York.

He invented it as a fit name for certain mysterious substances in foods, which first were demonstrated by Scandinavian chemists. These investigators classified them as accessory substances which apparently are not food, yet absolutely necessary to its utilization by the body.

After repeated tests and experiments, Doctor Funk succeeded in isolating these substances which he says are "indispensable to life." And since his first announcement of this discovery, other scientists have added to the still meager sum of knowledge in this direction.

But what is a vitamin? Thus far we have no answer more satisfactory than that given by Dr. C. Houston Goudiss, editor of the *Forecast Magazine*. In a recent article on the subject, he said:

"Not the wisest man living can tell us just what a vitamin is. All we do know about these mysterious substances which have appeared so suddenly on the scientific horizon is that, while they do not appear to be foods themselves, they are in some way essential to the digestion and assimilation of food. Their withdrawal from a diet otherwise well-balanced results in disease and death as surely as would the withdrawal of protein or of water."

These substances are excessively minute and elusive, very sensitive to improper handling, and so diverse in their behavior that it is perhaps a mistake to think of them as belonging to the same group.

Little as we know about vitamins, we have learned enough to throw a new light on dietetic science and revolutionize many of the old theories.

We have learned that there are vitamins that promote growth; vitamins that prevent scurvy, and vitamins without which the baby will soon become rickety. Some of them are destroyed by cooking, but cannot be dried out, while others are not appreciably affected either by heat or drying.

Simply and briefly stated, the above comes as near as possible to a description of the nature and function of vitamins. Ten or twenty years hence we will know more about them. Wider knowledge may reveal mistakes in deductions which at present are little more than guesswork. But certain facts long established by usage and now approved by science, so firmly uphold Dr. Funk's description of the vitamin as an indispensable attribute of life, that people should know all there is to know on the subject.

For instance, it long has been known that orange juice is the best preventive of scurvy among babies. It also has been common knowledge—though until lately ignored by science—that the potato not only is a most nourishing food, but that since its introduction into Europe whole countries formerly ravaged by scurvy have been almost free from this distressing ailment.

Now science vindicates the experience of "ignorance" by showing that orange juice and potatoes are notably rich in anti-scurvy vitamins. And in these two instances, heating even to the boiling point does not injure the vitamin content. On the other hand, the vitamins of milk are sensitive to heat. Even the low degree required for pasteurization seems to affect them, while sterilization appears to destroy them entirely.

All the world is familiar with the evidence recently obtained in the Philippines, proving the relation of polished rice to beriberi.

Beriberi is a disease of the nerves which for many years had wrought widespread ravages in our furthest east possessions. Early in 1910 a severe outbreak of this malady was speedily and completely checked by the substitution of unpolished rice for the polished product which constituted the chief food among the sufferers. Subsequent tests on men and animals proved that beriberi not only is caused by a diet consisting chiefly of rice from which the outer coat or pericarp has been removed, but that it can be cured by the substitution of whole unpolished rice, or the administration of the so-called "waste" which results from polishing.

By isolating from these polishings a crystalline base which cured fowls that had developed a disease similar to beriberi after being fed a diet of polished rice, Doctor Funk was led to his discovery—one which yet may

rank him with Harvey, Pasteur and Lister.

Subsequent experiments of like nature by other scientists proved the case beyond doubt. Now we know it is the absence of this vitamin from polished rice that causes beriberi. Just how the vitamin in the rice grain affects the human system; just what it does or where are its fields of operation, we do not know.

That it must play a vital part in the maintenance of health is well evidenced by the fact that pigeons fed on unpolished rice until paralyzed with beriberi will revive almost instantly when the anti-beriberi vitamin is injected and in a day's time be fluttering about as though they never had been ill.

"This almost miraculous transformation can be due only to the presence of the injected vitamin," said Doctor Goudiss, "and the minuteness of the quantities used supports the view that the vitamins are not food in the usual sense of the term, but have some obscure connection with the production of internal secretions which are essential to assimilation."

He further says:

"No longer can we regard ourselves as properly fed because our meals show a scientifically correct balance of protein, carbohydrates, fats and mineral matter; for without that elusive element which in some mysterious manner gives the word to the forces of the body to digest and assimilate nutrients, we might as well eat sawdust. For a time, it is true, we may get on very well, for the body stores vitamins against the time of need; but these cannot last long and without a constantly renewed supply, disease and death inevitably await us."

In addition to beriberi, recent investigations have led to the belief that other deficiency diseases are caused by lack of vitamins. Chief among these is pellagra, so alarmingly prevalent in many of our southern states, and which, curiously, is found chiefly among those whose diet consists almost wholly of cornmeal ground in the modern way, with the germ and hull of the grain removed.

In localities where the old-fashioned "whole-ground" cornmeal is used, pellagra is almost unknown. This has led scientists to assume that the outer coat of the corn grain contains a vitamin which will prevent its development, even when corn is the sole article of diet. When used in a mixed diet, as is the case in most instances, the employment of whole-ground cornmeal becomes a matter of secondary importance, for the needed vitamins will be supplied by other foods in the menu.

It also has been shown that a diet consisting solely of white wheat bread will produce a disease not unlike pellagra, and here again science is forced to conclude that in wheat, as in corn and rice, the vitamin inhabits the outer coat of the grain. It is not yet known where this vital substance secretes itself in fresh fruits and vegetables but science is sure of its existence in nearly all such articles of food.

Thus far, the foods found rich in vitamins include raw milk, or milk just brought to a boil; the yolk of egg; meat juice and broths; fresh vegetable soups; fresh or cooked fruits and their juices; whole grains, slightly broiled meats, and codliver oil.

Those apparently deficient in this element are sterilized, preserved or cooked milk; white of egg; sterilized meat extracts; dried fruits and vegetables; highly milled grains; soup meat and preserved meats; and bread raised with soda without the addition of sour milk.

In this connection we wish to quote from a recent editorial from the *Journal of the American Medical Association*:

"The discovery of the vitamin has emphasized the value of those elements of food, which, although present in minute quantities, exercise a determining influence in the utilization of the ordinary articles of diet. As Garrod says: 'the immense practical importance of these hitherto unknown factors is in the fact that once the missing element—the vitamin—is discovered, a specific remedy for the disease has been found.'"

That the nutritive value of a diet does not depend wholly on its caloric value must be admitted. The importance of flavors, spices, and of the preparation of food goes to arouse the esthetic senses—in other words, the nutritive value of good cooking—has been pointed out by Sternberg, of Berlin, who insists that the science of cookery is not merely the application of chemistry and physics, but rather an application of the physiology of the senses, applied psychology, and aesthetics. The spices and flavors used by the cook, Sternberg suggests, may be closely allied to the vitamins, if not identical with them. They may stand in the same relation to loss of appetite and health in general that the specific vitamins do to particular diseases.

### A Conservation Calendar.

Monday—we'll say is our "Heatless Day," One cinder, one flicker, one coal.  
Tuesday—well, this is our "Meatless Day," One oyster, one herring, one sole.  
Wednesday—oh, this is our "Wheatless Day," One corn cake, one dodger, one scone.  
Thursday—we must have a "Sweetless Day," One pickle, one lemon, one bone.  
Friday—will make a good "Eatless Day," One cheerful and glorious fast.  
Saturday—call it a "Treatless Day," For all reciprocities past.  
But Sunday—may Hoover forgive us, we pray.  
If we should all happen to feel A little more hungry than usual today, And once again eat a square meal.

### Finland's Great Loss to Russia.

First Sweden, then France, then Germany and Denmark have recognized the independence of Finland. Finland until 1809 belonged to Sweden, and men of Swedish blood and speech constitute the bulk of the Finnish aristocracy and middle classes.

Sweden wishes to resume, though not in the old form, her ancient intimacy. There is much talk in Stockholm of a Zollverein or customs union of the Scandinavian countries to embrace Finland. A keen political struggle is expected in Finland between pro-Swedish elements and the parties which incline rather to sympathies with the revolutionary Russia. The pro-Swedish elements will correspond in general to the bourgeoisie of Russia, while radical elements will oppose them. Numerically the radicals are stronger and with independence will have a much greater power than ever before.

The significance of Finland's territorial loss to Russia is very great in many ways. Geographically, for instance, it may be noted that the Finnish coast runs up to within a few miles of Petrograd. It has always provided the bulk of Russian seamen and pilots, and in any future war would be a formidable base against Petrograd. If, as Germany plans, Lithuania, Courland, Livonia and Estonia are lost to Russia, then Russia will be left with no exit on the Baltic except a small district around Petrograd. If Poland also is detached, Russia will have lost in a three years' war the entire fruits of three centuries of striving westward.

The new Republic of Finland starts its career with at least one valuable asset, a highly efficient system of education. Finnish elementary schools are models, and a few years ago Finland won the coveted distinction of having the highest educational standard of any country in the world, exceeding even in the teaching of languages. Finnish, Swedish and Russian are taught in the elementary schools, and a knowledge of five or six languages is not exceptional among the middle-class folk.

### Mysteries of Nature.

Little George said the other day at table: "Now when I sit in my chair my feet won't touch the floor, but when I walk around they touch the floor just as well as anybody's."—Woman's Home Companion.

### Where's Hoover?

Jack—Now, Missy, what have you got?  
Waitress—Beef, mutton, pork, cold ham, chicken and tongue.  
Jack—That'll do—and a cup of coffee.—Sketch.

## Have You Tried Goldine?

If Not, Read What Others Say About This Marvelous Remedy.

GOLDINE ALTERAC A WONDER. A RELIABLE FARMER PRAISES GOLDINE.

Mr. J. I. Yarnell, of Hublersburg, a Well Known and Much Respected Farmer, One of the Most Independent and Delightful Occupations in the Old Keystone State.

J. B. Shope, of Curtin, Pa., who by his honest integrity and earnest effort

To know Mr. Yarnell with his whole-hearted and genial nature is to like him. Unfortunately he has for a number of years been afflicted with rheumatism, has been so badly affected that he could not get one hand up to his head, until he commenced to



fort has become a well known and a much respected citizen in this section of the State, makes the following statement:  
"For a number of years I have been badly afflicted with rheumatism and bladder trouble. I had to get up six or seven times at night accompanied with a lot of distress. I decided to try Goldine Alterac which the Goldine man advised for that trouble. I took one bottle and you would not believe what a blessing it was to me, for now I can sleep all night in peace. That Goldine Alterac is a wonderful remedy."  
If you want to know more about this marvelous medicine ask Mr. J. B. Shope, Curtin, Pa.

take this wonderful herbal remedy Goldine Alterac which is doing wonders on people affected with kidney, bladder and rheumatic diseases. If you have any doubts about the efficiency of Goldine just ask Mr. J. I. Yarnell, for his word is perfectly reliable. Mr. Yarnell told the Goldine man last week that his little daughter had a severe pain in her neck and it would extend up into her ear and after taking Goldine it has all left her. This is the remedy that does the work.

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Goldine or Goldine Alterac will be expressed to any address in the United States at \$1.00 per bottle, six for \$5.00. Laxatives mailed at 25c per box.

GOLDINE COMPANY, N. C. (Eastern Ohio Division) Youngstown, Ohio.

### Fire Fighting in Siberia.

They fight fires in a very curious way in the Asiatic realms of the Czar, says Mr. Richardson L. Wright and Mr. Basset Digby in their book, "Through Siberia." First, you find the fire. The city is plotted into districts, each with its engine-house and watch-tower. On the watch-tower, by day and by night, stands a guard who scans the house-tops for a sign of smoke. When the fire has gotten well enough under way for him to see the smoke, he gives the alarm and the engine dashes out. You are amused not so much at the dash as at the engines. They are primitive, and the use of them is more so.

We went to a fire one Sunday afternoon in Irkutsk. It was close by our hotel, so that we got an excellent view of the engines as they arrived. First came a troika team dragging a hook-and-ladder carriage. On it clung the firemen—howling Cossacks with brass helmets jammed down over their ears, and carrying in one hand—how the symbolism would have stirred the

heart of Maeterlinck!—flaming torches. Behind the hook and ladder was the hose cart, and then came a hand engine of the type our grandfathers dragged to fires. After that, for two blocks, trailed a queue of water-filled hogsheads on wheels. The cavalcade passed us in a cloud of dust, accompanied by the yells of the torch-bearing firemen. When the water gave out, the carts dashed down to the river and replenished the supply. This rather crude high-pressure service once gave rise to a rather humorous incident that the Irkutskians tell with great glee. During a fire several years ago a string of water wagons had gone down to the river, had got the fresh supply rummaged back. When they reached the fire, the water was gone. The enthusiastic captain of the hogsheads had neglected to put back the plugs in his barrels, and had spilled his water for two blocks along the Bolshikara.

For high class job work come to the "Watchman" office.

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Shoes.

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Georgette Crepes and Silk Voiles, Chiffon Cloths to match all colors. Gold, Silver and Persian Bands for the Empire waist.

### NECKWEAR.

The new spring Neckwear is dainty and beautiful. The long shawl and square effects in brocade and plain wash satins. Collar and cuff sets in washable satins and organdy.

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### SHOES. SHOES. SHOES.

Having bought our Spring line of Shoes months ago, we are able to sell these goods now at prices less than cost of manufacture today. For Men, Work or Dress Shoes; Ladies' Shoes in high black, white and tan; Low Shoes for Ladies' in black and white, Oxfords and Pumps; Children's high and low Oxfords in black, white and tan.

### RUMMAGE SALE.

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