

The Battlefront for Better Nutrition

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Yes, there is a battle going on between those who are trying to promote better nutrition, and the food manufacturers who insist on making products “worse so that they can be sold for less,” thereby eliminating the competition of more honest and self-respecting producers who would prefer to apply in business the Golden Rule.

These commercial interests have the United States Government on their side, ever since they ousted Dr. Harvey W. Wiley from his job as head of the Food & Drug Administration in 1912. The present head of the Food & Drug Division of Nutrition, Dr. Elmer M. Nelson in a special Constitutional Court in Washington last October testified that: *“It is wholly unscientific to state that a well fed body is more able to resist disease than a less well-fed body. My overall opinion is that there hasn't been enough experimentation to prove dietary deficiencies make one more susceptible to disease.”* (*Washington Post*, October 26, 1949.)

This is nothing new for Dr. Nelson. Ten years ago he, with his group of experts, testified in a similar court, that neither degenerative disease, infectious disease, nor functional disease could result from any nutritional deficiency.

For all these years, he has battled for the maker of devitalized foods, tried to stem the tide of public opinion against the use of white flour, refined sugar, pasteurized milk and imitation butter by vigorous prosecution of any maker of any dietary supplement designed to abate the consequences of using such devitalized food, basing his arguments on the thesis that there were no such things as deficiency diseases.

Truly, as Dr. Wiley sadly remarked in his book *The History of a Crime Against the Pure Food Law (1930)* the makers of unfit foods have taken possession of Food & Drug enforcement, and have reversed the effect of the law, protecting the criminals that adulterate foods, instead of protecting the public health.

Truth Suppressed

Books that have told the story are being suppressed by the use of the copyright law. This includes Dr. Wiley's book, and the three wonderful books by Alfred McCann (*The Science of Eating*, *The Science of Keeping Young*, and *Starving America*). Since the death of their authors, there have been

changes in the copyright ownership and complete suppression has followed.

In 1949, for the first time in history, Dr. Nelson's efforts failed to impress the Federal judges sitting in the case. The defendant in this case obtained a permanent injunction against the Food & Drug Administration from any further interference into his business.

This may well be the turning point in the battle against food adulteration. In the past, defendants have been found guilty of violation of the "law", and fined the limit for daring to assume in their advertising that nutritional deficiency could cause any kind of disease whatever. (For without "functional" changes, there is no evidence of any disease).

Even the Federal Trade Commission has been called in to help protect adulterators. It has issued orders stopping health food exponents and lecturers from intimating that aluminum compounds in foods may be harmful, apparently to protect the makers of aluminum containing baking powders, and makers of aluminum cooking utensils. You may not know that it is impossible to legally get a court review of the arbitrary and despotic orders of the Federal Trade Commission. It has the same complete and absolute power that any totalitarian despot ever had. In the baking powder dispute, the testimony of the defendant who was opposed to alum in foods, and his expert pathologists was so damning to aluminum that it has been apparently suppressed, participants who had copies of the proceedings were warned not to publish them under penalty of jail sentences. This is docket 540, the *Averill Report on Aluminum as a Cause of Cancer*.

The Federal Trade Commission has also issued orders to makers of natural foods prohibiting them from claiming that natural food factors are superior to synthetic imitations. The penalty for violation of such orders is a ten thousand dollar fine for each and every violation. So you will not be hearing much in the way of sales arguments from makers of better food products where they compete with synthetic substitutes.

Just what is really wrong with white flour, oleomargarine and pasteurized milk?

Vitamin E and Phosphatase

We will only discuss two fractions that are lost by this processing and substitution. These are vitamin E and the enzyme, phosphatase. The bleach and chemicals used to keep bugs out of flour destroy both. Pasteurization destroys phosphatase in milk. Oleomargarine contains no vitamin E as does butter. It also contains a poison, sodium benzoate, as oleo cannot be made to keep without a chemical preservative.

Why do we need phosphatase? Simply because without it, we fail to split and assimilate the mineral salts in our foods that are in the form of phytates. No enzyme is naturally

secreted in the human intestinal tract that splits phytates although many other animals, including the rat, do have such an enzyme. That is discussed in Hutchinson's *Food and the Principles of Dietetics*, tenth edition, (Williams & Wilkins), where these authorities claim that no minerals can be assimilated from cereal foods, as a consequence. That is quite right, if we eat such cereal foods with pasteurized milk, and use cereals in which the enzyme content has been destroyed by bleaching chemicals. (Cereal germ and bran are the highest common sources of phosphatase, other than raw milk). The drastic effect of pasteurized milk in causing degenerative diseases in cats was emphatically demonstrated by Dr. Francis M. Pottenger Jr. a few years ago, reported in the *American Journal of Orthodontics and Oral Surgery*, August 1946. The cats became afflicted with every disease common to man it seemed, gastric ulcers, constipation, arthritis, liver disease, heart disease, and even pyorrhea and mental aberrations.

Bleaching and Pasteurization

Every doctor has wondered why his patients fail to assimilate calcium. He has not been informed that the reason is milk pasteurization and flour bleaching.

He has neither been informed about the 400 percent increase in bleach chemical used to keep the bugs out of commercial "Whole" wheat flour. As a result, in animal tests, where 54% would survive on white bread, on commercial "Whole" wheat bread there were NO survivors. (Reported in the *News Letter of the Academy of Applied Nutrition*, March 1949).

Wheat flour is almost as perishable as milk, if bleach preservatives are not used, it would have to be distributed from cold storage warehouses.

If milk were not pasteurized, it would have to be clean, and produced under far more sanitary conditions, or its poor condition would be reflected in a curdling before it could be delivered to the consumer. Pasteurization hides this low quality, just as flour bleach hides the musty state of poor wheat. Homogenization is another trick; it permits the mixing of stale milk with fresh, which without homogenizing would exhibit the tell-tale curdling of staleness.

Enriching the white flour to improve its salability is not warranted by animal tests.

In the *News Letter* report cited above, when the white bread was enriched with synthetic vitamins, the survival percentage dropped from 54% to 49%. So we see that "enrichment" is a colossal fraud.

Pasteurization does not lower the bacteria count of the milk as consumed, for *germs grow faster in pasteurized milk than in raw*, and the count while cut down by the pasteurization, soon exceeds the figure it had before.

Pasteurization does not control undulant fever, for this disease has been increasing by leaps and bounds where all milk is being pasteurized. It is now known to be a deficiency disease, curable in both man and animal by organic trace minerals. So Pasteurization too, seems nothing more than a colossal fraud.

Now about vitamin E. Cattle fed grains as usual, except that the vitamin E was removed, in a few months, although gaining normally in weight, began to drop dead one by one after exhibiting slight changes in their electrocardiograms that were identical to those in human heart patients. (*Science*, Oct. 4, 1946.)

Superiority of Butter

Children of adolescent age, fed oleo and butter, side by side, over a few years demonstrated that oleo feeding caused castration of both sexes in a considerable degree, as indicated by excessive height of both boys and girls, greater weight increase in girls than boys, and neutral physiques in both - girls had broader shoulders and narrower hips than normal, boys vice versa. Sex development demands vitamin E, and butter is our main source in the American diet. And we do NOT mean synthetic substitutes for the natural vitamin E complex. Take vitamin E out of its environment by "purifying" it and it loses up to a 99% of its potency, say authorities. You cannot keep time by using the brass out of a watch. You cannot get the normal effect by taking a natural vitamin complex apart either. It is a balanced mechanism as it occurs in food.

Now do you begin to see why heart disease kills more people in this country than any other ailment, and that it is practically unknown in China.

Do you see the vital importance of rigorously examining every article of food you use and of demanding the unprocessed, high quality you are entitled to? That is the only hope we have of escaping what Theodore Roosevelt called "Race Suicide." It is far later than we suspect in our progress toward the untimely end of all unblissfully ignorant mortals.

Let's Live Magazine
Dr. Royal Lee, 1958

Cost of Malnutrition

Modern industrial efforts (mass production) demand that the skilled worker be present in his proper place provided with special materials to do his job. One small part, or a worker, absent, may jam the whole production line, and thousands of

persons are idle until the wrong has been mended. The industrialist understands this and provides every possible means to avoid costly interruption. Why, then, is this same carefully trained personnel so negligent in providing the raw materials that the human mechanism needs to do its job?

Millions of work hours are lost every year by inefficient human care which endeavors to enforce the false philosophy of "Trying to make something out of nothing." Of course everybody "knows" this, but as Mark Twain once said about the weather, "Everybody talks about it, but nobody does anything about it." The cost accounting and efficiency expert could well add another column to his scrupulously kept set of books entitled, The Cost of Malnutrition. If he did, how would he explain this entry to the boss? He might begin by explaining the functions of vitamins.

Why We Need Vitamins

"Well, sir", our efficiency expert might say, "people who buy foods, minerals, and vitamins, not knowing their function, will be offered cheap imitations that in the end prove costly to us, both in health and life, yes, even you and me! Now we are ready to consider these functions in detail.

Vitamin A Complex

"Why do we need vitamin A complex? It keeps our eyesight acute and prevents eye fatigue, night blindness and eye ulcers. All are causes of many industrial accidents. It is essential for the skin and mucous membrane surfaces of the body and this helps protect the body against invasion of infective agents- one of our most common causes of lost work hours.

Vitamin B Complex

"Why do we need vitamin B complex? Principally for our nerves. It maintains the normal rhythm of the heart. In a deficiency, irregular heart rhythm may occur. This is a loss of teamwork among the heart muscle areas, where, instead of all contracting together, part contracts while another part relaxes. This is, of course, very inefficient.

Vitamin C Complex

"Why do we need vitamin C complex? First, in vitamin C deficiency the blood capacity to carry oxygen may drop to half normal. This means that the heart is compelled to pump blood at twice the normal rate, so that one of the first reactions to vitamin C complex deficiency is shortness of breathe. In time this overload on the heart contributes to its ultimate breakdown. Meanwhile, the deficient worker feels constantly tired, lacks both mental and physical stamina- not a very good man to have on the payroll.

Vitamin D Complex

"Vitamin D complex stimulates the adsorption of calcium into the blood stream. Without this vitamin, irritability, cramps, (including our heavy losses from cramps of our female absentees monthly), breaking of bones easily and other calcium problems occur. The insomnia of our workers, which

happens at home, so we never see it, may be one of these.

Vitamin E Complex

“Why do we need vitamin E complex? We lose vitamin E so very slowly that many years on a poor diet may be necessary to bring it out symptomatically. Heart disease is probably the commonest end result. Another interesting reaction to local E deficiency is some forms of eczema. One type known as petroleum dermatitis, because it arises from contact daily with petroleum solvents, often in workers who handle oil saturated mechanical parts, is due to the removal by this oil of the fat soluble vitamin E from the skin. The skin refuses to regenerate itself, cannot heal, and becomes progressively degenerated, cracked and raw. Dermatitis states that are worse in winter are usually of this category.

Vitamin G Complex

“Why do we need vitamin G complex? First, to protect the heart. It also serves as a natural, physiological tranquilizer since it acts to dilate the blood vessels and so improves the circulation to most organs, including the heart. Muscle and nerve tone are not possible without vitamin G complex and, although the effects of its lack may not be evident by average observation, doctors know that this is one of the most widespread of all deficiency states. The vitamin G supplied worker is certainly better equipped to do his job.

“Why do we need trace minerals? Well, low back pain is one good reason. This pain often arises from a deficiency of trace minerals needed for the enzyme activity necessary for the formation and repair of ligaments, tendons and bones. That sir, was why I added the column entitled Cost of Malnutrition to our ledger,” the efficiency expert concluded.

Let's Live Magazine
Dr. Royal Lee, 1958

Diet Frights, Sign of The Times

A recent article printed in the Wall Street Journal entitled Diet Fright, (free copy on request from Lee Foundation) indicates that the food tampering situation is now being felt in the pocketbooks by those who up to now have kept their eyes comfortably equipped with mercenary blinders, the manufacturers of synthetic hydrogenated fats. These food counterfeiters, when faced with the true publicity, which the oleo travesty deserves, had this to say, "It's a hot potato — too controversial for us to talk about." What about other "hot potatoes" such as insecticides, stilbesterol, dyes, white sugar and white flour, to mention only a few of the contaminants and disorganizers of our natural food complexes? How long will it be before we realize the simple truth that the health of every individual depends upon his nutritional status? Is any satellite, atomic bomb or guided missile so likely to

jeopardize our health as the certainty that insidious food tampering assuredly sucks away, like greedy quicksand, at the very foundation of our health while our ethereal minds float on vistas of "It can't happen here?"

Truth Will Out

Let's look at the facts. In the 1900s infectious diseases (pneumonia and tuberculosis) held number one position. Today in first place we find the degenerative diseases (heart disease, kidney disease and cancer). These diseases as a rule give one time to think — an interval which can only prove embarrassing to those who do not have an answer that can meet the situation. Never before was there such an opportunity for those who advocate natural law; an opportunity to explain the physiological basis for "treatment" of disease through means, which are natural to the body and not foreign to nature. When we realize that recent estimates place 50 percent of our population in the category of suffering from some chronic condition, we can realize how great is the need for our efforts in this direction.

America's Sweet Tooth

It is easy to understand the logic of eating by reason instead of by taste alone if we consider the incontestable facts regarding sugar. In a week in an average urban family in the United States, 2.75 lbs. of sugar, syrups, molasses and honey are consumed. Of this consumption 2.66 lbs. are of white sugar, 59 lbs supply additional sweets, of jelly, preserves and jams; candy amounts to .37 lbs. Among rural families the consumption is still larger: sugar, syrups, molasses and honey, 4.97 lbs. per week for each family (4.78 lbs. of white sugar); .93 lbs. of jellies, jams and preserves; .39 lbs. of candy. (U.S. Dept. of Agriculture, Household Food Consumption Survey, 1955). The February issue of Monthly Bulletin, Indiana State Board of Health, 1957, states, "Scientists estimate that we Americans eat 10 times as much sugar as our great grandfathers did. (Our sugar is ten times as refined as that of our great-grandfathers.) They also note that dental conditions have become worse as civilization has developed and the sweet, sticky foods of today are singled out as the number one enemies of dental health." That this deleterious effect extends further than the tooth can well be understood.

England Reports

Dr. Cleave, in the Journal of the Royal Naval Medical Service, gives us more statistics by showing that the consumption of sugar in England jumped from 15 pounds per head in 1815 to 85 pounds in 1900 and 104 pounds in 1954. He goes on to say, "And since the concentration that has been effected in the case of sugar is nearly 10 times as great as the case of even the whitest flour, it is desirable to chart the consumption of sugar (for statistical purposes) and ignore that of bread altogether (which would require multiplication by a weighing factor). If this is done, the correlation between the incidence of diabetes and the consumption of sugar becomes immensely clearer; and it is considered that the only reason

why such correlation is not common knowledge is due entirely to an appreciation of the fundamental difference between sugar and other carbohydrates in this respect, through ignorance of the help afforded to this problem by the natural law. Since what is claimed as the cause of diabetes is essentially the over consumption of carbohydrates, it would be expected that other diseases resulting from this over consumption would be conspicuous. This is true, at least in the case of obesity, and probably in other conditions also. In the case of obesity the occurrence is so notorious that some authorities have considered it as the cause of the disease. But the deeper view, expressed above, is far more logical, especially as diabetes also occurs to some extent in the thin."

Cell Starvation

Like the smoke from the ship coming over the horizon, the result of "Man's inhumanity to man" is gradually showing its shape. Hidden diseases as a result of cell starvation are gradually becoming seen as detectable illnesses. We will have more of the "diet frights," prepared for them. The problem of the degenerative diseases has been building up for the past 100 years, since man first learned to use machinery to concentrate and abuse foods. Virchow, the "Father of Pathology" (study of disease) said that disease has its origin in the cell. These biochemical changes are not easily detected and it is not until a whole system of organized cells becomes disorganized — destroyed — that we recognize this destruction as a disease entity. We must remember that any disease is at first a disturbance in cell metabolism brought about by interference with cell respiration or starvation, and, that to survive the way nature intended we must avoid those things, which produce these adverse biochemical changes.

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Dr. Royal Lee, 1958

An Honest Loaf— Fresh, Stone Ground Bread

At the recent annual meeting of the American Academy of Nutrition, at Los Angeles, the National Chairman of the flour millers stated words to the effect that the reason the bakers did not make more whole wheat bread was that the public did not "like the taste" of whole wheat bread.

I agree that the taste of whole wheat bread is not very appetizing. It is not fresh flour in the first place and, to make matters worse, the oils which all flour contains are extremely vulnerable to rancidity. Whole wheat flour is as perishable as milk and I doubt that anyone would ever mistake sour milk for fresh milk yet that is exactly what these interests would have us believe.

Wholesome bread

The only wholesome bread is that made from wheat that has been ground into flour by a stone type mill within a few hours of its conversion to bread.

You must get such flour from a supplier who grinds wheat daily, or get a small mill and grind your own. The wheat should be high protein, grown without irrigation on soil that has not been depleted, preferably organically fertilized. Such wheat will cost you twice as much as a lower quality, but it is the cheapest from a nutritional viewpoint. The fine flavor alone will prove its worth.

For Best Results

In baking whole wheat bread, it is important to use as much fluid (water or milk) in the dough as possible. The finer the wheat is ground, the more fluid is necessary; the softer the dough the lighter the loaf. Too much yeast or too rapid rising will make a less flavorful bread- the yeast enzymes must have time to work. Bread can be made without yeast, if you allow 24 hours for rising.

Butter should not be used in bread making as a shortening. It inhibits the yeast to a variable extent, so you never can predict what will happen. Peanut oil, corn oil, or olive oil is preferable.

A Case in Point

Now, bread made from fresh ground flour, baked the same day that it is ground, is delicious and you do not have to go very far to prove the point. I recall an incident where one of the national millers was telling the same story ? how people would not eat whole wheat bread ? and at the same time, this same man was being served FRESH ground whole wheat bread for lunch (without his being aware of what it was). His exact statement was: "That is the best bread I have ever eaten."

This matter of taste instinct is not very hard to test on animals who have not been "educated" to the perverted tastes of white flour, sugar that has been refined, etc., because these animals will eat the whole wheat flour and apparently relish it, whereas, the bleached or commercial varieties, have little or no appeal to them. It is well known to millers that rats in the warehouse will use a selective process in determining which sacks of grain they infest first ? the preference always being grain which was grown on most fertile ground. If you have ever noticed cattle or horses feeding in a field that has had crops grown on it, you will observe that they prefer to eat the grass around the edge of the field that is virgin in nature and has not been depleted of nutrients by prior harvesting.

Taste Instincts

We, the human race, were endowed with taste instincts which are still in effect if tested upon the right substances ? organic food does taste better ? but when these taste buds are called upon to judge between poor and worse, then it is asking too

much to expect that they can interpret the errors that have been incorporated into foods by man's so-called intelligence. The difference is quite clear when the taste instinct is called upon to judge the difference between good and bad.

My advice to you, if you want to prove this to yourself, is to obtain some fresh ground flour and bake this into bread and eat it fresh. Test this bread on some of your skeptical friends and, I think, you will establish proof to your own satisfaction that we have not become smart enough to change the products provided by nature into counterfeit substitutes.

Let's Live Magazine
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Guanidine, Cider Vinegar and Health

The famous Vermont physician, Dr. D. C. Jarvis, should be honored for his pioneering work in the nutritional field. His teachings are founded upon solid, irrefutable facts; our new knowledge of foods and their functions merely permit us to go deeper into the facts and find why the folk medicine used by Dr. Jarvis in the treatment of many chronic diseases was effective in the beginning; for every effect there is a cause, and perhaps a cause for a cause.

The recently published book, Folk Medicine by Dr. Jarvis expounds the value of vinegar (apple cider vinegar) in the treatment of allergies, burns, shingles, migraine headaches, hypertension and other conditions.

Thinning the Blood

He states, "Disease does not come upon us unprovoked, like a thief in the night. Before harmful microorganisms can attack, multiply, thrive and destroy, they must get into the cells, our first thought when sickness appears, therefore, is to come to the rescue of the body cells. One way this can be done is by increasing the intake of fluid which is acid in reaction, such as apple juice, cranberry, or grape juice; for Vermont folk medicine knows that acid thins the body fluids, keeping them liquid, while alkaline fluids thicken them, impeding circulation."

Guanidine Toxicity

Guanidine is a toxic end product of metabolism, and the control of it would help explain the results obtained by Dr. Jarvis's recommended use of cider vinegar in the diet. T.R. Robertson tells us that a high meat diet can create the symptoms of guanidine poisoning (the various reactions of alkalosis and calcium depletion- muscle twitching, cramps, neurotic pains of the migrating type, aggravation of all allergic reaction).

Organic Acids

The acetic acid of vinegar is an organic acid like the citric acid of oranges, lemons or grapefruit and the tartaric acid of grapes. It differs from these, however, in that it can act to correct systematic alkalosis by its reaction with toxic guanidine to form harmless creatine. The other organic acids, such as sugar, are disposed of by oxidation; they act as fuel, not as do the mineral acids (phosphoric, hydrochloric, sulfuric) which are permanently in the body until eliminated. If we need the mineral acids to correct a tendency to alkalosis from too much meat in the diet, vinegar may be specifically required.

Apple Cider Vinegar

Dr. Jarvis recommends only apple cider vinegar, and we concur. It carries the mineral and vitamin content of the apple, and seems far superior to any other in its "clinical effect." We normally get phosphoric acid from cereals, but refining methods remove the minerals, so white bread fails to protect us. Cereals carry phytin, chemically calcium-magnesium inositol-phosphate. Phosphatase, an enzyme found only in raw foods, breaks this up into phosphoric acid, inositol and calcium and magnesium phosphates. Inositol in one of the B-complex vitamins provides the methyl donor to cooperate with the vinegar (acetic radical) in regenerating guanidine into creatine.

Weight Reduction

The disposal of guanido-acetic acid by methylation is catalyzed by the thyroid, as demonstrated by Stuber, Russman and Proebstring in 1923. So it may be possible that vinegar, long reputed to reduce weight, does so by releasing thyroid activity. Dr. Jarvis tells us that two teaspoons of apple cider vinegar in a glass of water with each meal will produce a progressive and consistent loss of weight. "The loss of weight will be gradual," he says. "If a woman between five feet and five feet six inches tall weighing 210 pounds takes two teaspoonfuls of apple cider vinegar in a glass of water at each meal, she will weigh about 180 pounds at the end of two years. If a man has a paunch, he will lose the paunch at the end of two years. The apple cider vinegar will have made it possible to burn the fat in the body instead of storing it and increasing the body weight." If continued day after day, this treatment for excess weight is completely simple and effective. If the daily routine happens to be such that it is not practical to take it at each meal, a dose can be taken in the morning, another at bedtime, with the third dose at some convenient time in between.

Acidophilic Organisms

The control of the flora of the bowel may also be part of the mechanism of apple cider vinegar. Guanidine is an organic alkaline base which we have reported as being one of the products of unfavorable bacterial activity in the colon. Sour milk, yogurt and acidophilus yeast have long been known to be beneficial in correcting the local environment; they favor the friendly bacteria and block the growth of toxin producing organisms. The common syndrome of constipation, calcium

deficiency symptoms, and a drift to arthritis is obviously a situation calling for acidophilus yeast, a whole wheat regimen, and raw foods containing phosphatase (all nuts bran and cereals, only if uncooked), soaked whole wheat or rye as breakfast cereal, raw fruit and juices, raw vegetables and juices.

Prevention

The prevention of pain and discomfort is a reward in itself. We may never know what we avoid by the application of the wisdom of simple folk medicine. We can recommend Dr. Jarvis's book as a valuable guide to some of the first principles of Folk Medicine.

Let's Live Magazine

Dr. Royal Lee, 1958

Guideposts to Mental Health

The ability to live happily within our environment begins with good nutrition. Dr. Weston A. Price, in his book *Nutrition and Physical Degeneration*, has this to say about mental and moral degeneration: "After one has lived among the primitive racial stocks and studied them in their isolation, few impressions can be more vivid than that of the absence of prisons and asylums. Few, if any, of the problems which confront modern civilization are more serious and disturbing than the progressive increase in the percentage of individuals with unsocial traits and lack of responsibility." Recent publicity regarding mental disease, which is rapidly becoming our number one health problem, reflects the truth in Dr. Price's observation.

Behind the Curtains

A brief review of the symptoms which may be caused by disturbances in the body chemistry will make obvious to anyone how impossible it is to be able to enjoy life- a prerequisite to mental health- in the presence of these chemical derangements. Of these, two basic disorders of chemical balance are particularly important: (1) an imbalance between the acid and alkaline minerals (acidosis and alkalosis), and (2) an inconstant supply of oxygen and sugar to the nerve cells (anoxia and hypoglycemia). Thus when the acid-alkaline (pH) balance of the body is disturbed or there is a deficiency of sugar or oxygen, the result may be symptoms which are indicative of an instability of the nervous system. We will mention a few of the many symptoms concerned with each condition.

Acidosis

The over-acid persons may suffer from symptoms of increased nervous irritability, dehydration and anoxia (symptoms of suffocation). Noise and excitement and other ordinary affairs of the day will cause them unusual distress. Dryness of the mouth and a "feeling of a lump in the throat" is

common. Bright lights irritate their eyes and they prefer darkened rooms; bright sunlight often prevents their driving without dark glasses. They may feel “stuffy” in closed rooms, are uncomfortable in high altitudes, sigh frequently, and become breathless easily. They may be abnormally sensitive to pain. All of these symptoms are likely to give the sufferer more introverted personality traits, such as preferring to be alone rather than endure the friction of social contact.

Alkalosis

In alkalosis we find the “stiff board” types. They notice stiffness of the muscles and joints, particularly in the morning. They feel worse on cold days and cramp easily when holding a position for a long time, as “accelerator foot.” The nausea-type of stomach trouble is often a complaint, expressed as “heartburn” or “sour stomach.” There is generally a tendency towards poor circulation, cold hands and feet. It is not uncommon for the eyes and nose to water easily, especially on cold days, and drooling of thin watery saliva may occur while sleeping. There may be a loss of taste and smell. These are the persons most likely to be victims of allergies such as sinusitis, asthma and allergic colds.

Sugar (Glucose) Oxygen

Dr. Benjamin P. Sandler, commenting on rapid falls in blood sugar, (Lee Foundation Reprint No. 52), has this to say: “During such periods of rapid fall (blood sugar), symptoms such as headache, dizziness, faintness, nervousness, tremors, sweating, pallor, flushing, palpitation, tachycardia (rapid heart), abdominal pain, and psychoneurotic manifestations may occur.” These are the people with the “nervous appetites.” If they go for more than a few hours without food, they feel nervous. There is definite craving for sweets, and like the alcoholic they must have “a hair of the dog that bit them,” a vicious cycle. Irritability before meals, especially in the morning is characteristic. Early morning insomnia is often present, waking up after a few hours sleep and not being able to return to normal sleep.

Stimulation and Response

The living being is constantly stimulated by his environment and responding to that stimulation by reactions. When these reactions to stimuli are lacking or excessive we may observe abnormal behavior. This may be as subtle as not being able to laugh at a funny story, not being able to “snap out of it,” or not being able to “hold on to oneself.” These are the forerunners of mental disease. Many farmers believe that a delicate test for poor nutrition is abnormal behavior in their animals, a test we as human beings could well apply to ourselves.

Basic Food Lesson

The balance of acid and alkaline minerals can only be accomplished in the body if it is supplied with each in the diet. Whole-wheat, with its phosphorus-rich bran, is a good source of the acid minerals; white bleached flour is not. The green leafy vegetables, rich in organic potassium, are a good

source of alkaline minerals, preferably in the raw state. The best way to avoid rapid fall in blood sugar is to avoid refined sugars as found in doughnuts, pies, cakes, ice cream, candy and other forms of sweets. If we examine the average diet of white flour, particularly no green leafy vegetables and excessive refined sugars, we can readily understand why instability of the nervous systems is an almost universal complaint.

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Ideal Drinking Water

Spring or well water is the best for drinking, preferably a hard water containing calcium bicarbonate (the kind that leaves a calcium deposit in the teakettle.) This kind of calcium is completely assimilated, and builds bone by combining with the organic phosphorus found in cereals and lecithins of natural fats.

Polio, Colds and Fevers

It is this calcium bicarbonate that is essential in the blood stream to prevent our children from becoming susceptible to polio, colds and diseases of childhood which produce fevers. In fact, calcium bicarbonate deficiency alone can cause a child to have recurrent fever, a fever which disappears at once on the administration of calcium lactate or calcium gluconate (which forms calcium bicarbonate after absorption). Such calcium deficiency fevers are common in children during the ages of rapid bone growth, especially where the youngster is getting too much of such cereal foods as oatmeal and processed dry cereals, without enough hard water calcium. The phosphorus of the cereal is out of proportion to the calcium bicarbonate intake.

“Pyrogen” Antibodies

“Good water” is water that has been filtered through the ground to reach the well or spring and has thereby accumulated a load of antigens. These antigens are otherwise known to science as “pyrogens,” since they cause fever if injected into the blood stream. They are the residue of disease-producing bacteria, and by drinking them we develop an immunity to the germ or virus that put them into the water. In foreign countries where polio is relatively nonexistent as a known disease, the blood stream of the children has been found loaded with antibodies to polio, which prevented them from contracting the disease. These children were immunized the natural way, not by a shot of Salk vaccine. It is very probable that their diet of unrefined natural foods that promptly supplies the necessary factors to make antibodies was responsible for their freedom from polio.

Boiling of Water

Cooking or boiling water destroys the antigenic effect of the pyrogens, so while boiled water is safe in that it cannot cause infection, it cannot build the real health of the person who needs to accumulate his natural quota for immunities against the prevalent infectious diseases of his community. You may begin to see why the most carefully “protected” children may be the least robust.

Many dentists routinely prescribe calcium lactate tablets for young patients who show soft chalky teeth, are nervous, restless, and unmanageable, as these are all symptoms of the typically calcium-deficient child. These children are worse in summer, for the vitamin D effect of sunlight acts to raise the blood calcium at the expense of the cell fluids, reversing the normal flow of calcium from the blood to the tissues. Natural forms of vitamin D, such as cod liver oil, contain vitamin F as well as the D, the F being the essential partner of the D, causing the diffusion into the cells of the blood calcium. The vitamin D alone acts to load up the blood stream calcium only, and you can realize that a loaded transportation system is no guarantee of delivery unless some provision exists to unload the commodity at the destination. Butterfat is one good source of vitamin F, but the baby fed on prepared baby foods which have the butterfat removed, and oleo or refined vegetable oil supplied in its place, is the best subject for vitamin F deficiency. Practically all present day baby foods are of this kind.

Fluorides Damage Kidneys

Dr. Clive McCay at Cornell University recently reported that one part per million of sodium fluoride added to the drinking water of rats caused the reversal of the possible evidence of causing a harder tooth enamel, (although probably an abnormal form that is more brittle). He found that in fact it created tooth decay where it otherwise did not exist, and further caused kidney cell breakdown in the older rats. Dr. Alton Oschner, of the celebrated Oschner Clinic of New Orleans, has reported that older persons lose their teeth faster if they get any fluorides in their water.

Aluminum Cooking Utensils

You will soon understand how aluminum salts from aluminum cooking utensils may be jeopardizing your health, if you will read Lee Foundation Report No. 5, which states in part, “It is highly probable that a syndrome of symptoms of phosphorus and calcium deficiency can follow a long continued intake of aluminum salts from aluminum cooking utensils, alum baking powders, or aluminum acetate in perspiration deodorants. Aluminum salts appear to rob other food elements of their phosphorus to form insoluble and nutritionally useless compounds, just as mineral oils rob the food of elements and tissues in the intestinal tract of their vitamin A content. Such serious disorders as ulcers of the

stomach and duodenum, cardiovascular disease, heart failure, obesity, and varying degrees of paralysis of the sympathetic nervous system appear to be a consequence of aluminum poisoning.”

Check Points for Water

Look to the water you drink and cook with. Does it contain plenty of calcium bicarbonate, with the diet containing the calcium metabolizers, both vitamins D and F? Has it been robbed of pyrogens (immunizing mechanisms)? What about fluorides and aluminum salts? There may be other things like copper coils in hot water tanks, a possible source if toxic amounts of copper (when used for cooking purposes) which need to be considered.

Water accounts for 70% of the adult body weight and is one of the most important factors in maintaining equilibrium of the various body systems. The ability to select such food sources as will prevent deficiency disease and poisons is incumbent upon every living being. Any poison added to a food or drink is too much. Like emery powder in a gear box, the damage is proportional to the amount and shortens life accordingly.

Let's Live Magazine
Dr. Royal Lee, 1958

Normal Blood Sugar Level

Dr. Melvin Page, who has treated over 20,000 patients in relation to their body chemistry, gives a case history in his book, *Body Chemistry in Health and Disease*, page 52, in which he states: “Normal Blood Sugar- The blood sugar in this patient is now a perfect 100. In this approach this is normal and anything above or below is abnormal, although medical textbooks quote normal blood sugar at anywhere from 80 to 120. Probably this is true of the average person on the usual American diet; nevertheless, in a person eating a corrected diet, and with efficient body chemistry, the mechanism controlling carbohydrate metabolism should function with such perfection that the blood sugar remains at 100.

Approach Questioned

This is a very interesting statement for Dr. Page to make, because it presents the idea that the blood does not radically fluctuate in a physiological orbit like our earth satellites with their apogees, and perigees, but is stable, held in equilibrium by the human mechanisms which maintain normal blood sugar levels closely. We can understand how the average diet would produce gyrations from normal which would lead to a confusing conclusion. The average diet is loaded with synthetic glucose which has a very rapid rate of absorption

that tends to disturb the body mechanisms, whereas natural sugars- particularly fructose (fruit sugar)- have slower rates of absorption. The slower the rate of absorption the less stress put on the sugar regulating mechanisms and the closer we come to a stabilized level.

Fall Important

One of the factors which has confused the issue in evaluating blood sugar levels is that the actual blood sugar level itself may not be so important as the rate at which it changes levels. Dr. Benjamin P. Sandler, who is outstanding in his work with blood sugar, states: "A rapid fall in blood sugar from 200 mg. to 150 mg. in a diabetic will cause symptoms exactly like those occurring in a non-diabetic who experiences a fall from 100 mg. to 50 mg."

This also is an interesting statement, for it helps us to understand that so-called hypoglycemic (low blood sugar) symptoms can occur even when the blood sugar may be within limits considered normal. Here again we can understand how this is likely to occur under the stimulus of abnormal absorption rates which call upon normal mechanisms to become overactive in face of the overload.

Sugar Storage

Sugar is stored in the body primarily in the liver and in muscle tissue and is released from these depots or consumed by them largely under the influence of insulin. The key point in the action of insulin may be its influence on the permeability of the cell (Drury and Wick). Thus it may act to accelerate the transfer of sugar across the cell membrane. When this transfer does not occur, sugar may accumulate in excess in the blood and we have diabetes. Or when the transfer occurs too rapidly or there is an insufficient supply, we may have the condition called hypoglycemia (low blood sugar). It would then seem reasonable to take all unnecessary work from the insulin available so that it can do its work most efficiently. This cannot be done if highly refined or synthetic sugars are in the diet; the body being put to produce its utmost when this added stress is placed upon it.

Potassium and Sugar

We know that potassium, the dynamic element in nutrition found in organic form in raw vegetables, is closely associated with sugar metabolism. Just how important is potassium in the sugar pattern? Here is some recent evidence, printed in *Nutrition Reviews* (October, 1957, page 298), on how potassium deficiency causes paralysis. The acute attack is brought on by refined sugar. "Often a child who has this disorder may induce an attack of paralysis by overeating candy." It would obviously be impossible to cause such an attack of paralysis by eating natural raw sugar or molasses with its high potassium concentration. Just how often is such paralysis misinterpreted as polio, and just how much polio is brought on by reason of refined carbohydrates? Dr. Sandler, in his book *Diet Prevents Polio*, states his belief that there would be no polio if we had no excess of refined carbohydrates. This new report certainly confirms Dr.

Sandler's hypothesis.

It is a paradox that to avoid abnormal fluctuations in blood sugar- that is, to prevent it from becoming too high or too low- the best way is to avoid the excessive use of sugar, particularly the synthetic and refined varieties. That is why starches are better than sugars as energy foods. They are assimilated more slowly than the sugars, and thereby fail to overload our pancreatic function of supplying insulin. Glucose is a cheap, fraudulent synthetic and can have no possible nutritional value to people already overloaded with calories, for it carries no trace of vitamins or minerals.

Let's Live Magazine
Dr. Royal Lee, 1958

Plant Protein Producers

Mushrooms have been cultivated commercially for over 400 years and served as a delicacy for over 2000 years, gracing the tables for the feasts of Caesar where epicurean tastes elevated these plants to high places. We do not think of mushrooms we buy in a store as molds, yet there is little essential difference between the common molds we find in breads and the common mushroom. Also of the same family are the yeasts and fungi. The common characteristic of the some 80,000 different kinds of these plant growths is that they have no chlorophyll, they produce spores and are parasites, i.e., they produce no food supply of their own, but must find a pre-existing live host for their metabolic needs.

Use to Mankind

In addition to other things, it is this property of living on pre-existing food supplies which makes these plants useful to man. For example, the "rising" of bread is caused by the escape of the bubbles of carbon dioxide evolving from the fermentation action of yeasts upon carbohydrates; another fungus can change the alcohol of fermenting substances such as apple juice into acetic acid and so produce cider vinegar. This same action also produces many kinds of cheese. Various cheeses are inoculated with the species penicillium to produce the characteristic green-veining and improvement of flavor such as we find in the popular Roquefort cheese. It is interesting to note that some old-time medical books recommended Roquefort cheese for many ailments now treated by penicillin.

Edible Toadstools

While present day botanists shy away from the term "toadstools," the descriptive nature of the term recalls the storybook pictures of our youth. Many will recall the mushroom hunters who gathered in farm pastures where the ground was enriched with manure, and gathered the fleshy morsels, priding themselves on their botanical know-how in

being able to differentiate the poisonous varieties.

Today mushrooms are grown commercially on a vast scale. This is an occupation which requires great skill, as mushrooms are very demanding as to their environment and food supply. They require proper ventilation and need an adequate supply of oxygen and are inhibited by an excess of carbon dioxide. All of this accounts for the relatively high market price of this prized edible.

High Food Value

After the water is removed, the remainder of the mushroom solids run about 30 percent protein. More than 12 amino acids have been reported, including arginine, methionine, tryptophan, glutamic acid and valine. Betaine, choline and lecithin, the well-known lipotropic factors, have also been reported. During the course of their growth mushrooms produce urea, an essential constituent of the body fluids which helps to promote osmosis and is instrumental in elimination of wastes in the urine. (For more on urea see Vitamin F and Carbamide in Calcium Metabolism, Lee Foundation reprint No. 20.)

According to Food Toxicology and Food Products, 43 to 62 grams (about 2 oz.) of mushroom protein is sufficient to maintain nutritional balance in a healthy person of 154 pounds. Over six enzyme groups have been reported in mushrooms, including the important copperbound group (tyrosinase) which is also found in potatoes and is considered to be an important member of the ever-increasing vitamin C complex group. The copper is bound to the protein in a manner analogous to its linkage in hemocyanin, the blood pigment of certain lower animals. Mushrooms eaten raw offer a compatible source of raw protein in the diet and are quite tasty. They should only be eaten raw, however, if in a wholly fresh and wholesome condition.

Yeast in China

Yeasts are also superior food sources of valuable nutrients. Many will recall the great interest which was aroused a few years back when beneficial results by the daily use of bakers' yeast were reported in treatment of boils, acne, constipation and other gastro-intestinal disease and skin diseases. While the publicity has since died, there are many people who continue the practice to this day and continue to report beneficial results. The Chinese have used yeasts and mold in their diets for over 2000 years. Soy sauce (a rich source of amino acids) and cheese-like food made from soybeans and rice are considered essential components of the Chinese diet. The Oriental food pattern differs from ours because it is one in which little protein is obtained from animal foods; most of the protein they eat is from plants. They accomplish this largely by the use of molds and yeasts which produce foods high in quality vegetable proteins. Today we know that Brewer's yeast is a superior protein food, even compared with meat proteins, on a quantitative basis.

Nutrition from Yeast

In 1945 some 871,000 pounds of calcium gluconate was produced in the United States, most of it from the action of fungus fermentation. Brewer's yeast was placed on naval life rafts during the war as emergency rations because of its keeping qualities and complete protein nature. Malted barley is widely used as a source of diastase which converts starch into maltose and dextrose, used as yeast food. The nutrition from yeast may be classified into five basic effects:

- (1) Source of mineral salts, particularly sulfates, phosphates and potassium
- (2) Source of carbon-bound molecules, particularly glucose, fructose, and mannose (natural sugars)
- (3) Energy requirements
- (4) Source of nitrogen- as protein
- (5) Growth factors

The nation's farmers are now only 6 percent of our total worker force while world population grows ever larger. Many authorities have offered the suggestion that our best chance of supplementing the increasing demand for protein supply is by the cultivation of the various yeasts and molds and fungi as supplemental food sources. Of the over two billion forms of life in the world, these yeasts and molds offer our best chance for solving a problem, which threatens to become catastrophic.

Let's Live Magazine
Dr. Royal Lee, 1958

Potassium— The Dynamic Mineral in Nutrition

The role of potassium in nutrition is a dynamic one. Potassium has the ability to produce great changes in cell metabolism. It is the only mineral found in the human economy that is radioactive and upon this property may rest its ability to exert its dynamic force.

We must think of potassium in terms of where it is and what it does in these locations. Potassium is normally found in the cell, with only a few ions in the plasma of the blood. It has been said that “potassium” is of the cell, but not of the sap.” It is interesting to note a similarity here- that potassium is also “of the land and not of the sea,” for potassium predominates over sodium in sedimentary rocks while sodium predominates over potassium in ocean water.

Location Important

This matter of the distribution of sodium and potassium in the body tissues and fluids is important. The blood plasma, or transportation system of the body, has great need for sodium, whereas the cells find potassium indispensable but sodium undesirable. An excess of sodium in the tissues has a markedly toxic effect on the heart and inhibits phagocytic

activity (phagocytes being devourers of bacterial invaders).

On the other hand, an excess potassium in the plasma of the blood may cause such undesirable effects as an excessive slowing of the heart, yet without tissue potassium the heart cannot regulate its potassium. So, we may understand that sodium and potassium must be in the right places in the body to perform their physiological functions; and that when these minerals lose their home, so to speak, they may be the cause of trouble.

Regulation of Balance

The regulation of the sodium- potassium balance is the function of the hormones of the adrenal glands. The adrenal glands need vitamin C complex and some "B," too. They also need potassium and sodium. When any of these is deficient in the diet normal balance cannot be maintained. The reason that deficiency of minerals alone may not be the cause is that an imbalance of minerals may show the same results as a deficiency. In the case of imbalance, the cause may be a dysfunction of the glandular system which is supported in its function by vitamins. Therefore, we need to know that in order for the mineral metabolism of the body to be normal it needs vitamins essential to the functioning of the glands, and that the end result of vitamin deficiency is mineral imbalance.

Cause of Deficiency

We tend to have potassium deficiency by reason of the depletion of our soils in this element and by reason of the fact that the cheaper price of sodium has caused its substitution in many foods and drugs where potassium was formerly used. Potassium bicarbonate is interchangeable with sodium bicarbonate in cooking, a preferable choice in most cases.

Table Salt

We tend to have sodium deficiency when we do not include enough table salt in our diet. This is aggravated in hot weather when perspiration losses further deplete sodium reserves. Herbivorous animals need extra salt to compensate for the high potassium intake in vegetables, "salt licks" being evidence of their need. Children deprived of salt have been known to crave soup (sodium oleate) because of its sodium content.

Sodium compounds in any other form than sodium chloride-ordinary table salt- may be detrimental. This same sodium chloride (table salt) is now available in a natural form of sea salt at all health food stores, and is preferred to the pure product because it contains many naturally associated trace elements. However, one should obtain a low-heat-processed sea salt, as heat treated sea salt will not support life. For example, salt water fish cannot live in water to which heat-treated sea salt has been added, but can live in water with low-heat-processed sea salt. This is just one of the many unsuspected detrimental effects when heat processes are used.

Sodium chloride is an essential constituent of the body fluids.

We cannot eliminate water by osmotic transfers- we cannot perspire, our kidneys cannot eliminate waste materials and poisons- without the help of salt. Therefore, it is important that we use it in the best form; however, it must not be allowed to take the place of potassium which is the more important mineral from a physiological viewpoint.

Raw Potassium Sources

Potassium is one of the principal ingredients supplied by fresh, raw, vegetables juices. Raw potato juice is one of the best sources of this essential element. It is not unlikely that the potassium supplied by cooked foods may have undergone the same deleterious process as that which makes pasteurized milk a poor source of calcium. Raw vegetables, then, and particularly green leafy vegetables, make the best source of potassium, which is good reason for their inclusion in the daily diet.

We must remember that potassium is a water soluble mineral. Therefore, much valuable potassium goes down the drain when vegetables are boiled in water or even allowed to stand at ordinary temperatures. The more water and longer standing, the less potassium in the original product. In fact, when low potassium diets are required, as in the case in certain diseased conditions, it is recommended that goods be cooked in four or five times the usual volume of water.

Results of Deficiency

A deficiency of the alkali minerals- sodium, magnesium, calcium, and particularly potassium- may cause many of the same symptoms as vitamin deficiency. This is because the general function of vitamins is to promote mineral metabolism, supporting the glands of internal secretion in their important function of controlling mineral balance- in this case the adrenals.

Potassium is known to be an important factor in the support of the involuntary nervous system. For example, potassium may be a very effective remedy for "lazy colon." Potassium is also the "pace-maker" for the pulsations of the heart, in which organ it appears to have the function of supplying the electronic energy to activate the timing mechanism. In potassium deficiency the heart becomes erratic in its pulsations, and the administrations of other salts with equivalent radioactivity relieves the situation. (Rubidium is one element that can substitute for potassium, although this element is not considered a nutritional substance and is used in this case to illustrate a point in scientific experiment.) Potassium in the blood is depleted during carbohydrate (sugar) metabolism and many people who experience a fast, racing heart after a heavy meal are suffering from a potassium deficiency brought on and aggravated by the eating of too much carbohydrate foods. This tendency for potassium deficiency may be corrected by the use of alfalfa tea, or the use of powdered kelp as a seasoning, or tablets of concentrates of alfalfa, sea lettuce or kelp.

In potassium deficiency there is more or less complete inhibition of adrenal gland function. No doubt, every disease for which cortisone or ACTH is being used is basically a deficiency disease stemming from potassium lack in some degree. So, it is apparent that sodium and potassium are partners and must not be permitted to get out of balance in our nutritional schedule.

Conclusion

Include in your daily diet plenty of raw vegetables and, if possible, at least a glass of raw vegetable juice per day. Organic, low-heat processed, sea salt should be the salt seasoning for your foods, used in amounts which are compatible with the taste and, for individuals ordinarily considered healthy, need not be restricted as to amount. Do not forget that the body cannot make something out of nothing and the human body needs sodium and potassium for its normal functioning.

Let's Live Magazine
Dr. Royal Lee, 1958

The Primary Cause of Disease

In recent tests mosquitoes refused to bite persons who were well supplied with vitamin B1. Therefore, it may be inferred that malnutrition now is to be considered a basic cause of malaria.

Also it has been found that lice leave rats and other animals if they are supplied with a better vitamin intake. Fleas were found to leave dogs that were being treated with vitamins for pneumonia.

A Pandora's Box

If both insect parasites as well as bacterial invasion are mainly a consequence of malnutrition by reason of a loss of power of the body to repel these instruments of possible death, what a Pandora's box was opened when we began to meddle with our natural foods! Sleeping sickness, typhus, malaria, bubonic plague, and yellow fever are in that class of disease in which the bacterial infection is very probably the secondary cause of disease- the primary cause being lowered resistance of the human body to the lice, fleas, or mosquitoes that carry the infectious organisms, as well as lowered resistance to the organisms themselves.

If this resistance depends upon a high vitamin diet, it is obvious that outbreaks of the above list of fearful diseases is definitely made possible by malnutrition.

Monstrous Condition

All the writers on malnutrition who have made exhaustive studies of other nations, stress the point that in countries where civilized adulterated foods are not used there is no

cancer, no tuberculosis, no pneumonia, no heart disease, no diabetes, no arthritis to speak of, although there may be terrible evidences of quantitative malnutrition and starvation otherwise. It seems that only a liberal use of white flour and white sugar can cause the extraordinarily high death rate so obvious wherever these foods are common.

In America, we have had this monstrous condition of malnutrition with us so long that we have become tolerant of it. Commercial interests promoting these foods are so powerful in their various activities that we are flooded with propaganda and advertising material to blind us to the truth.

Manganese Deficiency

Some of the mineral deficiencies are just as spectacular as vitamin deficiencies in their destructive effects. A good example is manganese, which is required by all living cells as an enzyme activator. Without sufficient manganese, tendons and ligaments lose their integrity and relax, permitting bone malpositions and malfunction. In chickens the disease known as "perosis" made itself apparent some years ago. The soil of most farm areas is becoming dangerously low in manganese, and this disease seems to have appeared as a result.

I believe fallen arches and vertebral malpositions are the commonest evidences of this deficiency in the human category. Probably the osteopaths and chiropractors owe their profession to this kind of malnutrition just as much as the dentists are made busy by deficiencies of calcium phosphorus, fluorine, and vitamins.

Consider Critically

If the vital elements are left in foods, then they are no longer easy-to-store imperishable commodities. They will soon become infested with rodents, bugs and insects. A wholesome food is bound to be a perishable one. So, before you take the course of least resistance and buy what is cheap and convenient to make up your bill of fare, consider critically just what the picture happens to be.

A Farmer's Conclusion

A farmer in New York state, a few years ago, made a contract with some New York hotels to take their stale bread and rolls off their hands to use as hog feed. His hogs had plenty of other foods, too, having the run of a large orchard with windfall apples, no scarcity of vegetation, and the various by-product foods that a farm affords, But the young pigs developed at only half the usual rate of growth and were subject to many diseases normally foreign to the pig species, particularly pneumonia, His brood sows had small litters or aborted. His hens began to lay eggs with irregularity, and chicks hatched from them were so feeble that few survived. It seemed that a curse had been laid upon his farm.

He finally came to the conclusion that the white bread might have something to do with the matter. Forthwith he set up two test pens, putting one group of pigs on the white bread regimen, the other on the whole corn and wheat grain. In three

moths there was a “woeful lot” of pigs in one and a perfectly normal group in the other. The test absolutely established the responsibility of the white bread.

The farmer was Senator W.P. Richardson of Goshen, New York.

Let's Live Magazine
Dr. Royal Lee, 1958

Protective Colloids Found in Ancient Remedies

The “scraped-apple” diet used by German peasants in the treatment of infantile diarrhea and constipation is an interesting example of the use of gelatin-like, moisture-absorbing substances called “hydrophilic colloids” in human nutrition. These hydrophilic colloids are just now becoming known to investigators of science, but they have long been known to the homemaker for another reason; they are the substance which gives jelly its quivery firmness or “set”; they are “pectin.”

Idea Not New

Perhaps it was the experience with hydrophilic colloids that gave birth to the old Devonshire rhyme: “Eat an apple before going to bed, and you’ll make the doctor beg his bread.” It is not a new idea that pectin will help control both diarrhea and constipation. Folklore taught that to cure constipation, scrapings from the bottom of the apple were given, and for diarrhea the top of the apple was taken. This was in accordance with the folklore law of likes and opposites. Science today knows it does not make any difference which end of the fruit is used as long as enough pectin is taken. One reason why pectin is beneficial in the treatment of constipation is its great water-absorbing ability whereby it furnishes the necessary bulk to start peristalsis. Properties of pectin are such that intestinal irritation due to many sources eliminated, and this alone becomes important in re-establishment of “regular habits.”

Clay and Water

Dr. Weston A. Price, world traveler and author of *Nutrition and Physical Degeneration*, written as a result of his worldwide studies, has the following to say: “One of the sources I have found helpful in studying primitive races is an investigation of knapsacks. Among the groups (natives) in the Andes, Central Africa and Australia...each knapsack contained a ball of clay, a little of which was dissolved in water. Into this they dipped their morsel of food while eating. Their explanation was to prevent ‘sick stomach’.”

This is the way the natives in these countries combat

dysentery and food infections. An illustration of the way in which modern science is slowly adopting practices that have long been in use among primitive races is to be found in the recent extensive use that is made of clay (kaolin) in our modern medicine.

The clay-eaters distinguish between good and bad qualities of these hydrophilic colloidal clays. Such action would appear rather remarkable in view of the comparatively recent adoption of kaolin into the British and American Pharmacopoeia as protective agents for the intestinal mucosa.

Studies of Comfrey

The okra and comfrey plants are other examples of hydrophilic colloids. Comfrey is of particular interest. The word "comfrey" is attributed to the old French word "to preserve." Dr. Charles J. MacAllister, of Dublin, tells of his experiences (1914-1935) with comfrey in an interesting book, *The Narratives of an Investigation Concerning an Ancient Medicinal Remedy and its Modern Utilities*. A curious suggestion arises from reports that when maggots of certain flies are placed on wounds their healing is promoted. It is said that the substance called "allantoin" given off by the maggots is responsible for at least part of the healing powers. This is the same substance that Dr. Macallister states is responsible for the reputation of comfrey.

New Factors

Early discoveries in nutrition were concerned with only the missing elements caused by "indiscretions in the diet," but today we must consider the factors which come within the realm of enzymes, hydrophilic colloids and other activators. Substances such as pectin, comfrey and mineral-earths formerly regarded as virtually inert biologically, now are being considered in terms of nutrient value, not because they contribute calories or weight, but because they possess activities which have heretofore been unsuspected or ignored in spite of practical evidence to the contrary.

Must Study Foods

The organic farmer does not pretend to know how to explain the ramification and hair-splitting scientific concepts necessary to the establishment of incontrovertible proof of the need for organic foods. The burden of proof is upon those who claim that they can supersede the plan of the Creator, or beat Mother Nature at her own game in the business of organizing inert matter into living tissue. We, the human race, were fed on organic foods for eons before we became chemically half-smart enough to find out exactly WHY these counterfeit foods cannot support life if we use too much of such imitation foods before we learn about their shortcoming. We must develop more than a "speaking acquaintance" with this matter of "respectful observation" of the wonders of nature.

Sidelights on Glucose

The late Dr. Harvey W. Wiley, first head of the Federal Food & Drug Administration (1906-1912), suspected glucose to be a dangerous adulterant food because it was a synthetic imitation of the natural sugars. It was made by the conversion of cornstarch by acid treatment in which all mineral and vitamin factors were destroyed during the synthesis of the "corn" sugar.

Dr. Wiley thought the use of the word "corn" as a descriptive adjective was fraudulent for the new sugar or syrup, as it inferred that they were natural products of corn. Corn syrup is no more a corn product than oleo made by hydrogenating a vegetable oil is butter. Both are hideous insults to the intelligence of the food buyer, synthetic counterfeits deliberately designed to undersell the genuine product they simulate.

An Adulterant

Glucose is a first class adulterant for soft drinks, canned fruits, and dried fruits, because it is so cheap, puffs up the weight and saves the cost of real sugar.

Refined sugar cannot cause diabetes in test animals. Glucose does, according to tests made by Drs. Lukens and Dohan at the University of Pennsylvania.

Glucose causes low blood sugar (by over stimulation of the pancreas) as well as diabetes, and this state results in a predisposition to heart disease, lassitude, brain fatigue, high blood pressure, overweight, irritability, and mental depression, to list the finding of a current report.

The glucose, present in proteins when they are cooked, results in a destruction of the most important of the amino acids ? tryptophane, lysine, threonine and methionine. Calcium assimilation, too, is blocked by the presence of glucose, while some other sugars like lactose (milk sugar) encourage calcium assimilation. Such a calcium deficiency can cause reduced resistance to infection, can cause the loss of teeth by decay or pyorrhea, and can predispose to a long list of chronic diseases, including forms of arthritis.

Many Functions

Calcium has so many functions it is hard to overstate how vital its importance is. There are good reasons to believe that no virus infection can occur unless the calcium levels of the body fluids have dropped below a certain limit. No doubt here is where the insidious relation of soft drinks and ice cream to polio is to be found. Since vitamin P increases the calcium content of the body fluids, it is easy to see how orange juice is better than ascorbic acid to protect against polio, as found in tests.

Here, then, is the case against glucose (alias Corn Syrup, Grape Sugar, Dextrose, Corn Sugar, High Fructose Corn Syrup). It contributes, according to positive tests in animal feeding and clinical findings in human observation: to the cause of cancer, diabetes, hypertension, lassitude, brain fatigue, overweight, irritability, mental depression, impairs the assimilation of calcium, and destroys vital amino acids if they are cooked in its presence.

When we buy canned fruit, peaches, say, they have a heavy, clear syrup, but when we taste it, it has a disappointing non-satisfying lack of sweetness. The maker has put into the can corn sugar, and the U.S. Food and Drug Administration tells him he need not state on the label what kind of sugar he has used.

Corn sugar is so much cheaper than cane sugar that vast quantities of the less sweet substitute are used. Soft drinks are so loaded with cheap, health-destroying substitutes, as well as are most candies.

Dr. Benjamin P. Sandler of Asheville, N.C., has been working since 1931 on the theory that an excessive exogenous amount of glucose in the diet promotes susceptibility to virus or bacterial disease. Tuberculosis patients improved rapidly when put on a non-sugar and non-glucose diet.

Proof

But here is the final proof. After Asheville and other North Carolina papers gave his views considerable publicity the incidence of polio in North Carolina dropped from 2,402 cases in 1948 to 214 in 1949. One ice cream distributor in the state sold one million less gallons of ice cream in the season following Dr. Sandler's news release. Ice cream and soft drinks, or rather, the synthetic glucose and sugar in these counterfeit foods, is the cause of polio; do not believe propaganda to the contrary. Sandler has previously shown how glucose is the most potent offender of all the sugars in undermining resistance, and that the natural glucose in the blood stream, formed by conversion in the body from starches or protein is not the same as the synthetic glucose sold us in adulterated foods. Bleached flour, refined sugar, synthetic glucose or counterfeit fats could not possibly be legitimately marketed as foods without corruption, dishonesty and compromise at the sources of law-making and law enforcement.

The monkey in the jungle knows better than to eat poisonous fruits and insects. He has learned the hard way. Why cannot we learn the hard way too?

Let's Live Magazine
Dr. Royal Lee, 1958

The Use of Raw Potatoes

The Irish peasantry refer to their beloved potatoes as “bog apples.” This is a useful term to remember because it implies that potatoes, like the apple, may be eaten raw and, also like the apple, help “keep the doctor away.” But while hardly an American meal passes without serving cooked potatoes, this same food served in the raw state is a rarity.

Good for Overweight

“Eat potatoes instead of bread” is good advice for the overweight who are constantly engaged in the battle of the calories. Pound for pound, potatoes furnish about one-third less calories than bread ? so we may eat three times as much on a caloric basis. (There are about 100 calories per medium-sized raw potato, which is much less than a serving of spaghetti, pie or cake.) In addition, its superior digestibility and food value as a source of protein, vitamins and minerals make it ideal for reducing the caloric intake without sacrifice of many essential food factors.

Digestibility

Copeland said, “To eat is human; to digest divine.” While the quality of potatoes is greatly modified by the conditions and soil under which they are grown, an analysis generally shows about 75 percent water, 15 percent starch, one to two percent protein and two to three percent mineral salts. However, the nutritive value cannot be obtained on the basis of analysis alone. It is necessary to know the extent to which the various constituents are digestible. Reports show 95 percent of calories are digested, 70 to 85 percent of nitrogenous material is absorbed (40 to 60 percent is in the form of protein), and 97 percent of the iron is present in “available” form. (McCance and Widdowson, 1942). Potatoes have very little fat or sugar and are high in potassium, phosphorus and calcium. The richer they are in protein, the more waxy they are; and the higher they are in starch, the more mealiness they have when cooked.

Accountable Losses

The portion of the potato close under the skin contains almost twice the solids that the central portion does, yet the removal of 20 to 25 percent of the total weight when the potato is peeled is not uncommon. In addition, if peeled potatoes are boiled in water, 20 percent of the solid constituents may be dissolved and so lost. (This loss is practically eliminated if potatoes are boiled with the skins intact). Cutting the potato causes cell damage and the liberation of an enzyme which destroys vitamin C to some extent (ascorbic acid oxidase). We may estimate that 25 percent of the vitamins are lost in cooking either by heat or leaching. The loss of vitamin C is particularly fast in heat. Keeping cooked potatoes, even under refrigeration, causes over 50 percent loss in 24 hours, practically all vitamin C in 72 hours. Ninety percent of vitamin C may be lost from mashed potatoes in 30 minutes if kept hot. It now becomes evident that a 50 percent loss of nutrient value is a conservative estimate of the deficit caused by the ordinary methods of preparation of this important food.

Tips on Conserving

Cooking in salt water conserves more vitamin C than cooking in unsalted water. The presence of calcium salts in the water (hard water) tends to conserve this vitamin. There is a greater loss of solid constituents if the potatoes are started in cold water instead of dropping them into boiling water. One tablespoon of vinegar or lemon juice to a quart of water helps prevent blackening and may have additional beneficial effect. When extracting the juice of potatoes lemon juice should also be added.

Sprouted potatoes are inferior in quality to unsprouted ones. The potato skin is only from six to 10 cells thick, yet it contains about nine percent of the protein, and acts as preventive of the loss of solid constituents in cooking.

Baked potatoes should be pricked or broken open as soon as they are removed from the oven to let the heat and steam escape. This prevents them from becoming soggy. It is a good idea to insert a stainless steel skewer through the potato while baking; this conducts heat into the center and thus less baking is required.

Enzymes Destroyed

The cooked potato contains no enzymes, as all enzymes are destroyed by heat. There is an enzyme in raw milk which prevents constipation, and an enzyme in raw potatoes which does the same thing, according to clinical reports. Certainly a piece of raw potato before retiring can do no harm, and it has produced beneficial results in cases of chronic constipation. The farmer who reduces his potato intake when he comes to the city may notice that his head "pounds" after meals. Quite possible this is due to a reduction in his ordinary intake of potassium, the mineral which promotes normal heart rhythm. One of the enzymes found in raw potatoes is phosphatase, which promotes assimilation of calcium and iron in particular; another is tyrosinase, an essential component of the vitamin C complex and associated directly with the function of the adrenal glands.

Quality Differs

The best potatoes come from Maine where the crops are rotated with oats and clover, the clover ploughed under as green manure. The soil is abundantly supplied with decomposed shale rock. While potatoes can be grown on almost any soil the muck or peat soils are often used, and since these soils may be comparatively virgin, we have a good chance of obtaining good potatoes. Of course, it is recognized that one should try to obtain potatoes which have not been exposed to commercial fertilizer and poisonous insecticides.

Let's Live Magazine
Dr. Royal Lee, 1958

Which to Follow—

Food Facts or Theories?

Like the proverbial ostrich with his head in the sand, the exploiters of denatured and synthetic foods, as white flour and white sugar, that annually destroy more human lives than the most bloody war imaginable, are not interested in facts. The battle front for better nutrition today is clouded with publicity spread by promoters of theories through which they profit. The facts, which may be of little profit to anyone, are not so well publicized.

“These schemers,” as Herbert Spencer wrote more than 100 years ago, “are so absorbed in studying the action of a proposed mechanism as to overlook its reaction.” We may go on with further words of wisdom from Spencer to quote another of his sayings: “If to be ignorant were as safe as to be wise, no one would become wise.”

But it is small consolation today for the victim of heart disease, arthritis or diabetes, to console himself with the fact that eventually “truth will out.” And so it becomes incumbent upon each of us to make a decision as to our survival.

Hog Feed and Chickens

To illustrate my point, let me cite the case of a farmer in New York State, who a few years ago, made a contract with some New York hotels to take their stale bread and rolls off their hands for use as hog feed. His hogs had plenty of other foods, too, having the run of a large orchard with windfall apples, no scarcity of vegetation and the various by-product foods that a farm affords. But the young pigs developed at only half the usual rate of growth and were subject to many diseases normally foreign to the pig species, particularly pneumonia. His brood sows had small litters or aborted. His hens began to lay eggs with irregularity, and chicks hatched from them were so feeble that few survived. It seemed that a curse had been laid upon his farm.

He finally came to the conclusion that the white bread might have something to do with that matter. Forthwith he set up two test pens, putting one group on the white bread regimen, the other on whole corn and wheat grain. In three months there was a “woeful lot” of pigs in one pen and a perfectly normal group in the other. The test absolutely established the responsibility of the white bread. The farmer was Senator W.P. Richardson of Goshen, New York.

Involuntary Experiment

Not many years ago an involuntary experiment was made on a group of 500 men, a feeding test in which the use of “non-perishable” foods were found incapable of supporting life. The foods used were exactly what you and I get when we eat in the average public restaurant, with one exception: there was none of the small portions of fresh, perishable vegetables and whole wheat that we occasionally obtain. These men lived

exclusively on white flour products, all kinds of commercially packaged crackers and sweet cookies, butter, oleo, cheese, cold storage meats of every variety, potatoes, plenty of canned fruit and vegetables, salt fish, oatmeal, condensed milk and coffee. The men were the crew of the German naval warship, the "Kronprinz-Wilhelm." They sank allied freighters periodically on the Argentina-Liverpool circuit, and removed their choice foods with which these ships were mainly loaded, so they had more meat, canned goods and white flour than they could possibly consume. Between September 1914 and March 1915, she captured or sank fifteen ships.

Fresh vegetables and fruit found in these victim ships were served only to the officers of the "Kronprinz-Wilhelm." As a result, they, in the main, escaped the fate that decimated the crew. After 255 days of out of port, 110 of her crew were prostrate, the rest on the verge, when the ship slumped into the American port of Newport News in search of medical aid.

Similar Symptoms

What were the symptoms of malnutrition that affected these men? Will it surprise you to find that they were very similar to Senator Richardson's description of the way his pigs acted when he put them on a white bread diet? The ship's physician, Dr. Perrenon, said, "We had many cases of pneumonia, pleurisy, and rheumatism among the men. They seemed to lose all resistance long before the epidemic broke out." Alfred McCann, reporting on the incident, said (1918), "She would be out there yet, sinking the allies' ships, were it not for her typical American meals; plenty of meat, mashed potatoes, canned vegetables, white bread, butter, sweet cakes and coffee."

Blinders and Horse-Sense

These are but a few hidden facts about foods. "Hidden" by those who wear blinders when it comes to the monstrous condition of malnutrition; with us for so long that we have become tolerant of it. The lowered resistance caused by a deficient diet is apparently the real cause of most disease. You do not need to be a professor of biochemistry and medicine to figure that out. But we do need to realize how powerful this poisonous influence is in order to remain immune. How many will continue to believe the farce that has infested our thinking, that, as the ad slogan says, "white bread is wholesome, eat more and help the farmer?"

Butter, Vitamin E and the 'X' Factor of Dr. Price

by Royal Lee
*President of the
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The special nutritional factors present in butter as known

up to 1942 are without question. It was shown that butter has the following characteristics of superiority over other fats and oleomargarine imitations:

1. The nation's best source of vitamin A. (2)
2. Unit for unit, the vitamin A in butter was three times as effective as the vitamin A in fish liver oils. (2)
3. The natural vitamin D in butter was found 100 times as effective as the common commercial form of D (viosterol). (3)
4. Butter, prescribed by physicians as a remedy for tuberculosis, psoriasis, xerophthalmia, dental caries, and in preventing rickets, has been promptly effective. (1)
5. Butter carries vitamin E in sufficient quantity to prevent deficiency reactions. (4,5)

Since that time, new and important evidence has accumulated which indicates other nutritional functions supplied by butter. This evidence appears to revolve around the physiological ramifications of the effects of the vitamin E complex.

Up to the present, vitamin E has been considered a tocopherol, and its function analyzed as nothing more than a physiological anti-oxidant. (7) It now appears evident that the real vitamin E is that factor in the E complex that is being protected from oxidation *by* the tocopherol group, and that the same mistake has been made in attributing E activity to tocopherols as in the case of the promotion of pure viosterol as vitamin D, ascorbic acid as vitamin C, niacin as the anti-pellagra vitamin, pyridoxine as B6, or folic acid as the anti-pernicious anemia fraction of liver. In each case the isolation of one factor as the "vitamin" in question has embarrassed the discoverer, in his assumption that he had discovered the "pot of gold" at the rainbow's end, by the attribution of vitamin activity to some synthetic or pure crystalline component of a natural complex. No reasonable student of nutrition can today deny the axiom that all vitamins are complexes and cannot exert their normal physiological effect other than as the complete complex, as found in natural foods.

The true vitamin E is found in the chromatin material of the germinal tissues of plant and animal, and in young plants that are in a state of rapid growth. It seems to be a phospholipid carrying a special fatty acid in combination that has heretofore traveled under the cognomen of vitamin F. (Vitamin F was first discovered as a part of the wheat germ oil vitamin complex; at least the term vitamin F was first used to designate the essential fatty acid fraction.)

The fact that an unsaturated fatty acid as vitamin F is a part of the E complex, probably in molecular combination, explains the close relationship between the two vitamins in their

synergistic support of cell division in reproduction, in maintenance of epithelium (where cell division is also predominant), and in kidney and liver metabolism, both epithelial activities. It explains the fact that both are factors in calcium metabolism, vitamin E deficiency resulting in bone resorption (8) just as vitamin F deficiency results in less calcium available to bone. (9)

Tocopherol administration in excess also results in bone-calcium loss, just as is caused by a deficiency of vitamin E. (8) So, again we have more evidence that tocopherol is NOT the vitamin E, but rather a protector that can in excess reduce the availability of traces of the real vitamin. Now, just what IS the real function of the real vitamin E complex?

. . . A factor in young grass is apparently the same one as described by Dr. Weston A. Price, in the second edition of his book, *Nutrition and Physical Degeneration*, which he called “Activator X” and was found only in butter from cows fed spring grass. “Activator X” seemed very susceptible to oxidation, being lost in the butter within a few months after its production. “Activator X” was shown to promote calcification and health of bones and teeth in human patients. It inhibited the growth of the caries bacillus (*facto-bacillus acidophilus*) completely, one test showing 680,000 salivary bacterial count before the use of “Activator X” and none after.

[Research shows] that this grass factor SUPPORTS THE DIFFERENTIATION OF SEXUAL DEVELOPMENT. Animals not getting the grass factor (but getting TOCOPHEROL) required 23% MORE time to become sexually mature.

It is highly interesting to find that tests of oleomargarine feeding to human subjects in comparison with commercial butter (having relatively low content of the fragile “X’ factor), HAD THE SAME EFFECT of failing to bring out the secondary sex characteristics: not only a delay, but a failure to promote sex changes in toto. Here are the results for children with ages up to 17 years: (10)

- 160 Children were fed oleo, 107 butter, over a period of two years.
- Average gain in weight on oleo for girls, 8.2 pounds.
- Yearly average growth in height, 2.2 inches.
- Girls on butter gained 6.3 pounds per year, grew 0.9 of an inch.
- Boys on oleo grew 2.2 inches per year, gained 8.1 pounds.
- On butter, boys gained 6.7 pounds, grew 1.6 inches.

A characteristic effect of castration of the child is a stimulation of growth and greater height. The investigators say the results vindicated oleo. What do YOU say?

. . . We all are what we are—men, women, white, black or yellow—simply because our growth and development is

guided every minute by certain chemical factors in our cells, reproduced exactly in the chromosome, the real blueprints of our bodies. These factors—determinants to the geneticist—are protected by wrappings or insulating layers of a fatty nature that prevent the enzymatic digestion or damage, otherwise inevitable, to which these factors are exposed. It is well known that chromosomes are destroyed and liquefied in vitamin E complex deficiency.

These determinants even seem to be secreted into the mouth in the saliva (that probably is how it happens that salivary gland cells have extraordinarily large chromosomes) to start the alteration of food factors into tissue as quickly as possible. It is quite analogous to the attachment to a lot of incoming steel as it enters a factory, of the blueprints that direct how it is to be processed to become the finished product. . . .

It is obvious that any interference by vitamin or other deficiency with the determinant cycle will delay or impair the normal plan of development.

Do you wonder that your instincts demand butter over oleo?

Do you wonder that since yellow butter contains more “Activator X” than pale butter, people prefer the yellow kind that comes from spring grass feeding to the cow?

It is very interesting to note how nutritional experts and “scientists” have always been found to extol oleomargarine as equal to butter as a food. As far back as 1886, when oleo was first made, before vitamins were thought of, scientists testified that oleo was equal to butter in food value. They are still testifying, without knowing what new factors might still be found in butter which cause people to prefer it to oleo (over any period of time) even after milk and butter flavors have been added to oleo to create the best possible imitation of real butter.

Animal tests have shown oleo to better advantage than such human feeding tests as reported by Drs. Leichenger, Eisenberg and Carlson. This is, no doubt, because milk proteins have always been used in any test diet along with oleo. Milk proteins carry the trace factors peculiar to milk that oleo lacks, and these cushion the deficiency reactions. The tests are about as honest scientifically as those on aluminum salts in baking powder, where the animals given the toxic aluminum salts were also fed an antidote sodium silicate under the guise of “mineral supplement.” Dr. H. J. Deuel, testifying before the House Committee on Agriculture in connection with hearings on oleomargarine in 1948, was quizzed on this point. (11)

Oleo has other drawbacks. It is a synthetic product, being hydrogenated vegetable fat. The hydrogenation destroys all associated vitamins or phospholipids. As it comes from the hydrogenator, it is admittedly unfit for food, has a vile odor and must be “refined.” The oleo, after the bad odors have

been removed, and after flavoring with milk products to imitate butter, must then be preserved with a poisonous chemical, sodium benzoate, to keep it from again developing a bad flavor.

The use of sodium benzoate as a preservative in oleomargarine is brought to light in testimony before the official hearings on the oleomargarine tax repeal. (11) . . . Note should be made that natural foodstuffs, such as butter, contain naturally occurring antioxidants such as the protector of vitamin E, alpha tocopherol. Presence of this anti-oxidant in butter makes it unnecessary to add synthetic and poisonous preservatives such as sodium benzoate. Oleo, however, being a synthetic product, is lacking in these natural preservatives; hence the necessity for the addition of the chemicals. No doubt the addition of vitamin E to oleo would preserve the product far better than the sodium benzoate. Vitamin E, however, is far more expensive than sodium benzoate, which explains the use of the latter instead.

Such poisonous preservatives are not commonly permitted in foods, but the flour industry and the oleo industry seem to be specially favored. It is well known that Dr. Harvey W. Wiley, the first head of the Food and Drug Administration, lost his job in 1912 because he refused to be “reached” by food manufacturers like the oleo people, who could not exist without special permission to violate the law. When he told the entire sordid story of the unspeakable corruption and malignant chicanery that exists in the food and drug operations in Washington in his book, *The History of a Crime Against the Pure Food Law*, and published it at his own expense in 1930, little attention was paid to the matter by the newspapers. Since his death a year later, the books have been eliminated from circulation, and his still-surviving widow, by her ownership of the copyright, is “sitting on the lid” by refusing to permit reproduction or quotation of any part of the book.

The physical penalties for using a synthetic, imitation, chemically-embalmed substitute for butter seem to be quite drastic. Some appear to be:

1. Sexual castration for the growing child, in more or less degree, with oversized females fatter and taller than the boys. (Remember, meat animals are castrated for the purpose of making them fat.)
2. Loss of ability to maintain calcified structure such as teeth and bones. Dental caries, pyorrhea, arthritis, etc., would be logical end results that would inevitably follow, especially in view of the added influence of other refined and devitalized foods. Dr. Price’s experience in curing arthritis, dental diseases and lowered resistance with good butter directly bears out this conclusion.
3. Evidence is accumulating to show that multiple

sclerosis is a result of deficiencies in which vitamin E complex (as found in butter) is vitally involved. (12) Further, vitamin E is now found to be a remedy for the disorders of menopause, (13) showing how these deficiency diseases follow their victim through life.

This list could be extended almost without limit but we feel we have established our case.

Dr. Price cites the case of an Eskimo woman, "who had had twenty children so easily that she did not bother to wake her husband when the birth occurred at night. The daughter... had very narrow dental arches and a boyish type of body build. Unlike her mother, she had a very severe experience in the birth of her only child and insisted she would not take the risk of another. . . . Deformity due to the poor nutritional status of the parents may, of course, be a mild or severe character. The narrow arches, nostrils and hips, and the susceptibility to dental caries which Dr. Price found among primitive peoples who had shifted from a good tribal food pattern to a poor civilized food pattern should be rated as mild deformities, since they handicap the individual's ability to function without destroying his social validity." (14)

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