

The FELIX Letter

A COMMENTARY ON NUTRITION

NO. 13

SUPPLEMENTARY WISDOM

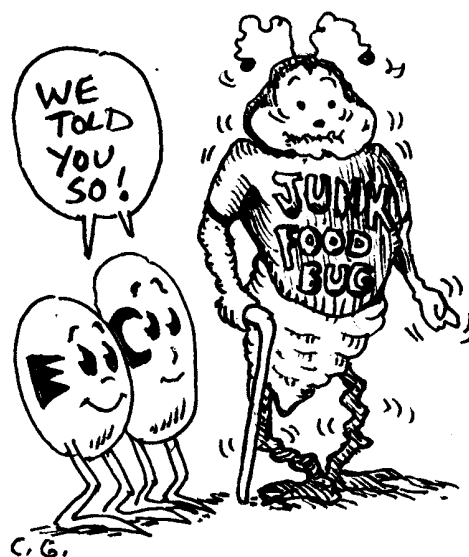
"It's all a racket!" My skeptical father, born in pre-revolutionary Russia, wore a thin coat of cynicism over his idealism. His contempt for the charlatany and greed of the drug industry and medicine was gut reaction untempered by charity.

"But, Papa! *Somebody's* got to make the good stuff like vitamin supplements!"

He'd bait me, and we'd go 'round and 'round. I finally got him to accede, when he was in his mid-seventies, that lecithin and brewer's yeast were just foods; that vitamin C was cheap enough; that zinc and other trace minerals were simply extracted from natural materials. Grudgingly, he incorporated a few supplements into his frugal dietary regimen. Vitamin E became his favorite. It healed a bad sunburn he got on his nose when playing pinochle with his old friends on the Venice, California beachfront, on the first brilliantly sunny day of spring. Afterwards, he never ceased marveling at the miracle that took place when he cut open a capsule and gingerly smeared the liquid on his inflamed nose. He had tried all his usual sunburn aids without relief. "Not only did my nose stop hurting in a few minutes — every hour or two, when the pain came back, I would open another capsule and add a little more — but it healed without a trace of blistering or peeling!"

He became a believer of sorts, but had no success with his cronies who met at the beach to play pinochle and trade philosophies. Between bouts of debilitating ailments, their talk was rich with references to "my doctor" — the magical figure who led them across the rapids of life, medication by medication, surgery by surgery. My father berated them for their simple-minded credulity: "Glickman would be alive and playing pinochle today," he'd storm, "if those d----- doctors hadn't sold him on a gallstone operation! --Gallstones! He had 'em for forty years, and he could've kept 'em for *another* forty!"

Till the end of his life, he maintained that as long as profit-making was the heart of medicine and the drug industry, every medical treatment and product was suspect until proven — vitamins included.



There's Gold In Them There Pills

My papa had a point. A development of considerable import is that supplements have now become big business. Chain stores, supermarkets, and drug stores sell them all across the country. The pharmaceutical giants who made "side effects" a household word are now producing and selling record amounts of benign vitamins and minerals, too. Have the laws of karma gone into operation for them??? Will the Great ScoreKeeper note this effort kindly on His balance sheet? The drug merchants are certainly noticing it warmly on theirs: 44 percent of Americans over 25 years old used vitamins or nutritional supplements, a 1980 FDA survey showed. It's probably 50 percent by now.

I AM my father's daughter. In some ways, I liked it better a few decades ago, when supplements in health food stores were produced by small, beleaguered independents — as often

as not motivated by strong principles as by a desire for profits. Their's was a benevolent hucksterism, keeping pace with the rebels in nutrition who were battling the medical establishment and fueling the new do-it-yourself health movement. Admittedly, I am made uneasy by the multinational corporate presence in what essentially had begun as a grass-roots phenomenon that decried the stripping and corruption of our food by industry in the name of profits and pointed out the devastating consequences to health, long before organized science acknowledged these concepts.

Nevertheless, except for a few wistful moments of the sort one feels when a favorite unknown leaves the home-town choir to join the Metropolitan Opera, I am glad that supplements are big sellers. It means they have become accepted everyday items in households instead of remaining the darlings of the few nutrition cognoscenti.

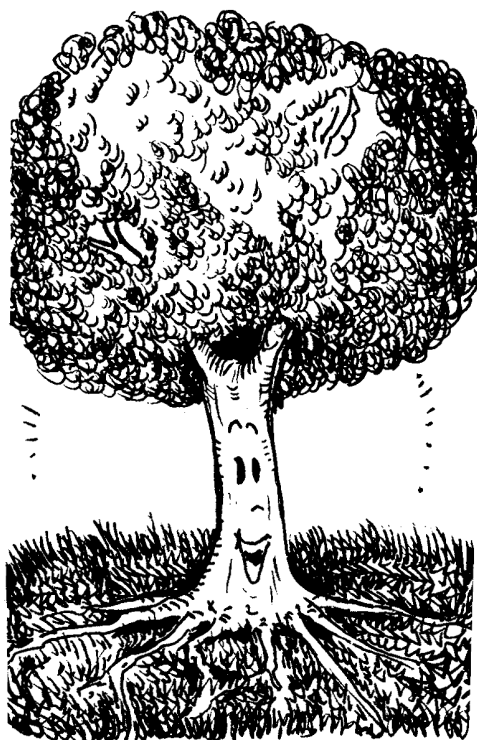
The longest running argument in the nutrition world is on the value of supplements in "adequate" diets. I use them plentifully, myself — mainly out of firm convictions, sometimes experimentally, and sometimes almost as if they were talismans. I confess to taking so many I have to arrange them in labeled compartments in a plastic box — the kind fly fishermen use — to avoid the annoyance of unscrewing many bottles each day. It's probably nonsense . . . but I confess to a sneaking hope that I may be pushing the boundaries of aging out by a decade or two. Since I won't know for sure until the end of my days, my readers will have to remain, reluctantly, in suspense until then . . .

The food supplement issue is a colossal guessing game. The public is hungry for experts; the nutrition scientists are noncommittal. Besides being reluctant to stick their necks out, they usually do their research on laboratory animals and are wary of extrapolating to human needs. Controll-

ed investigations on the effects of supplements in humans are meagre compared with animal studies. There are hair-raising stories, when research on human nutrition was new, about the ethics of a few early investigators, who used prisoners and charity ward patients as unwitting "volunteers." With changing times, most work with humans is decent, humane, and paid. It is also very expensive. The University of California at Berkeley has one of the few metabolic units in the country set up for human nutrition research, on the top floor of Morgan Hall in the nutrition department. Only six paid volunteers at a time can be accommodated in the living quarters, where they are usually confined under 24-hour-a-day supervision for about six weeks. Typically, each subject's daily bodily excretions and sometimes even fingernail parings and perspiration must be weighed and analyzed to provide data on metabolic functioning related to the nutrient under study. While the work at Berkeley and other human research facilities has been invaluable, it barely skims the surface as far as answering our questions on the value of longterm use of supplements when there is no frank deficiency.

Doctors Who Use Nutrient Therapy

The information gap is being filled to some extent by the empirical observations of physicians and other health practitioners who use nutrients in their practice. Few, however, are set up to conduct experimental research, the protocol for controlled studies being difficult and restrictive, and the double-blind concept often unacceptable to a clinician who may believe in the value of a particular supplement and may refuse to deny it to a patient in the interest of pure science. The doctors using nutrient therapy share their work with one another at their meetings and in their writings, which are often found in the health food literature, but little of it appears in professional journals, and the medical community remains largely unconvinced and aloof. I try to attend their conferences when I can, having found these often to be a window on the future. Their writings also serve as a guide to self-prescribed use of supplements, but it's important to understand how tentative and experimental this usage must be, given the present incomplete state of knowledge in nutrition.



Where Has All the B₆ Gone?

Picking our way through the hazards of life requires a nutritional nimbleness few possess. On the one hand, there are increases in manmade environmental toxic materials that assault our natural defenses; on the other, there are depletions of the nutrients that normally protect us. For example, we've only recently been made aware that a class of chemicals, the hydrazines, whose use in the last 40 years has grown widely in agriculture, industry, medicine, and foods (as coloring agents), is a potent destroyer of vitamin B₆. (My medical nutrition text lists three closely packed pages of abnormal symptoms, including severe convulsions in infants, produced by deficiencies of the vitamin. B₆, or pyridoxine, is normally required in all aspects of protein metabolism.) A "modern" ailment, carpal tunnel syndrome, may be directly related to this chemically created deficiency. It's a nerve disorder causing pain, numbness, and weakness in the hand and fingers, and while some doctors elect surgery in its treatment, the symptoms can be alleviated by vitamin B₆ alone, in amounts far greater than the RDA of 2 milligrams. Oral contraceptives are also antagonists of pyridoxine, so young women today are getting a double whammy unless they protect themselves with supplemental B₆.

Damn the Placebos, Full Speed Ahead!

My own rational for taking supplements is (1) the frailties I inherited or incurred early have responded well to a combination of supplements and good diet; and (2) I'm convinced most good diets aren't good enough. I do NOT raise my own food on pesticide-free, mineral-rich soil. I do NOT live in a natural paradise with pure air, crystal water, and unpolluted seafood for the asking. Even if I did, my cells still would not be making vitamin C and it's unlikely that I would have a daily source of fruits or berries rich enough to provide the several grams of the vitamin each day that other animals synthesize proportionally to fill their needs. Until it's discovered that man and primates are unique in needing far less vitamin C than other creatures make, I will continue taking several grams each day, and more if infection threatens, as I have for a number of years.

Some of my wise, healthy friends in the nutrition sciences do not use supplements, but many do. Aside from the placebo or "talisman" effect, I've seen much to convince me of their value over a period of 25 years, but the benefits have more to do with a kind of "blooming" in a person than with spectacular recoveries — although I've seen these, too.

The Long View

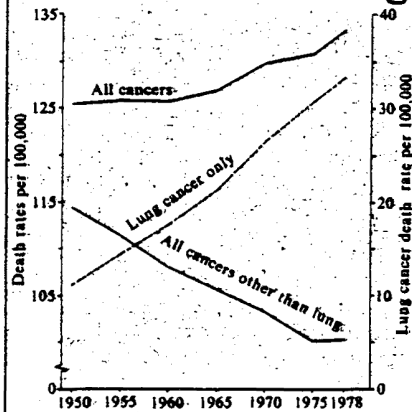
Mostly, I'm impressed by the *ABSENCE* of serious, degenerative ailments in the long haul. I think the key to supplement use lies here. We can never hope to recreate the arboreal Eden in which primates and man evolved, when unbroken forests covered Europe, Asia, and Africa and nutrient riches were so abundant we could lose our ability to synthesize vitamin C and still survive. What we can do, is attempt to learn through the science of nutrition which food elements will help us to recreate a modest *dietary* Eden — one that will aid us to live our allotted life span vigorously and free of degenerative diseases.

There are straws in the wind that indicate we're moving in a valid direction. For one, deaths from coronary heart disease, which rose to epidemic proportions between 1940

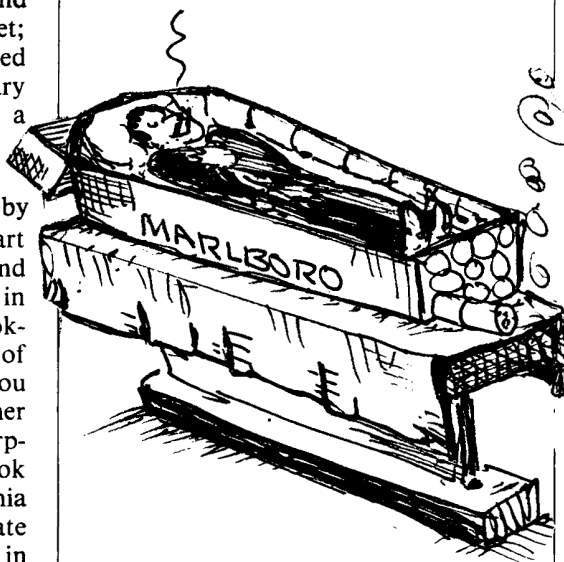
and 1960, have been dropping steadily since the late 1960's, coinciding with the beginning of the growth in supplement sales, particularly of vitamin E. A biochemist, Dr. Richard Passwater, conducted a survey among almost 18,000 readers of *Prevention* in 1975 and found a strong correlation between amount and length of vitamin E usage and freedom from heart disease. One group included 2,508 people between the ages of 50 and 98 who had taken 400 I.U. or more of the vitamin daily for 10 years or longer. Based on statistical studies, 836 out of the 2,508 would be expected to have heart disease. Instead, there were only four. Dr. Passwater was careful to explain that this type of survey doesn't prove cause and effect, but only association. The implications are encouraging, however, because it's not illogical to assume that *Prevention* readers who answered the survey were not only taking vitamin E but other vitamins and minerals as well and eating a good diet; and if these practices are associated with an extremely low rate of coronary heart disease, then this gives us all a peg to hang our hats on.

Until recently, I was puzzled by grim reports that, unlike heart disease, cancer was on the rise. I found the answer in a graph published in "The Health Consequences of Smoking: Cancer 1982" by the US Dept. of Health and Human Services. As you will note, deaths from cancers other than lung cancers have declined sharply since 1950, but as more women took up smoking (emancipated by Virginia Slims et al.), the lung cancer death rate rose enormously. The overall rise in deaths from "all cancers" reflects an average of these two opposing trends. With the present downturn in smoking, future death rates should show a total decline.

Cancer and smoking



A further clarification comes from the Office of Technology Assessment, US Congress (*Assessment of Technologies for Determining Cancer Risks from the Environment*, 1981). Although there has been a small improvement in survival rates from non-smoking-related cancers, the reason for the sharp drop is the *great decline in the incidence of stomach and uterine cancers*. There is no question in my mind that the widespread use of vitamin C both in fruits and vegetables and as supplements is at the heart of the decline. (In *Felix Letter* No. 7, I noted that researchers found vitamin C prevents nitrosamines from forming in the stomach and thus removes a major cause of stomach cancers.) I am positive that as nutrition wisdom is translated increasingly into everyday habits, we'll see a decline in the other cancers, too.



Oh, yes, and while we're about this business of sharing good news, here's another item: US farmers now use 35 to 50 percent less insecticide than ten years ago, with no adverse effect on crop yield (*Nature*, 8 April 1982, p. 521). I don't believe a poisoned environment is at all inevitable, and I am scornful of seers who intone that one out of three of us can expect to die of cancer. Their statistics and their attitude are hollow. Scientific technology can be used prudently and humanely. A genuine concern with environment and nutrition is having an effect at all levels. Nutrition research is now suggesting that good diet and food supplements will help us stave off degenerative illnesses, including cancer. I accept this as a message of optimism. ■



HEALING THE HEART

Dr. Jacobus Rinse, a chemist, began to suffer from heart disease in 1951, when he was 51 years of age. He first noticed pressure or pain in his breast after exercise. One day, after an uphill hike against the wind, the discomfort increased to a severe heart ache which almost made him faint. A specialist diagnosed angina pectoris, prescribed anticoagulant and nitroglycerol tablets, and told him he might live ten more years if he avoided all physical exercise. Dr. Rinse, suspecting a food deficiency, began to experiment with combinations of foods and supplements, eventually devising a mixture which caused all symptoms of heart pain, chest pressure, and rapid pulse to lessen and, after three months, disappear. "One year later," Dr. Rinse wrote, "the capacity for heavy outdoor work and running had returned," and he has remained free of heart disease since.

Upon the advice of a Dutch physician, he put his experiences in writing and gave copies to interested people. The good results all around led to publication of the "Rinse breakfast" in both Netherland and US chemical journals, and to its use by a number of Dutch physicians in their practice. Years later, in July 1973, Dr. Rinse described the "breakfast" and his and others' experiences with it in *American Laboratory*, a magazine widely read by chemists, biologists, and medical researchers. This is the formula he used, basing it on his understanding of nutrition and his chemist's training:

Mix one tablespoon each of soybean lecithin, brewer's yeast, and raw wheatgerm, plus one teaspoon of bone meal. (These proportions can be used to prepare a larger quantity to be stored in the refrigerator.) To two tablespoons of the mixture, add one tablespoon of soybean oil. (In later writings, Dr. Rinse suggests sunflower seeds can be substituted.) The mixture can be eaten with milk, cereals, fruit juice, or soup. Honey or dark molasses can be added if desired.

The "breakfast" should be supplemented with vitamin C, E, and a multivitamin tablet.

The key nutrients in the Rinse breakfast, he wrote, are lecithin and polyunsaturated oil, which will help dissolve cholesterol deposits in the arteries. The other ingredients are important for their trace mineral and vitamin B-complex content.

Slowing Down Aging

Thirty-some years after his angina attacks, Dr. Rinse is well and active in his 80's and, I learned with pleasure, has recently published a paper in *American Laboratory* (October 1982) on how to delay aging! Nutrients are still his weapons of choice. His first recommendation is still the "Rinse breakfast." He believes that together with vitamins C, B₆, and E, it can prevent coronary heart disease. "Deposits not calcified are also solubilizable with these nutrients. But," he warns, "calcified deposits need chelation therapy or by-pass operations."

In addition to whole, natural foods, including bran, molasses, wheatgerm, kelp, and butters (definitely *not* margarine which lacks several fatty acids found in butter and distorts others by hydrogenation into potentially dangerous substances, he warns), he believes in "regular physical exercise and a positive state of mind." Above all, he considers the ingestion "of nucleic acids and their precursors . . . as primary means for delaying the aging process."



Nucleic Acid Precursors

Foodstuffs rich in the *nucleic acids* (RNA and DNA) such as sardines, salmon, calves' liver, beets, beans, and asparagus are recommended, but supplementation with the following precursors, known chemically as "methylated amino acids and alcohols," may be even more useful: (1) *Deanol* (available only by prescription); (2) *Gerovital GH-3*, a procaine compound; (3) *choline* (from lecithin); (4) *dimethylglycine, or vitamin B-15* (accepted as a vitamin in the Soviet Union but not the US); (5) *betaine* and *betaine hydrochloride*; (6) *methionine*, an essential sulfur-containing amino acid found in eggs, fish, grains, etc. The last four items are available as food or supplements without prescription. Dr. Rinse suggests that 50 to 200 mg per day of substances (2) through (5) may improve coronary heart disease and mild cases of arthritis, and notes that "many people have reported considerable increases in energy and endurance . . . The metabolism is stimulated and works more efficiently."

He notes a different class of compounds that may also serve to ameliorate symptoms of aging. *Chondroitin sulfate* is needed to form cartilage, and in supplement form may be useful against arthritis, psoriasis, and heart disease. *Ginseng root* is a re-

juvenating agent and contains the rare element, germanium. (*Glutathione*, which he mentions briefly, has recently become available in supplement form and I have heard it described as an effective antioxidant.) Dr. Rinse also describes the organic sulfur derivative, *DMSO*, as a painkiller that rapidly heals burns and wounds and may be valuable in arthritis.

Nutrient Magic

Having peppered us with a meteor-shower of unconventional therapeutic suggestions, he explains that he is only attempting "to review the multitude of natural and synthetic products recommended and used with varying success for the delaying of aging. . . Although the author recognizes that not all of the approaches discussed in this paper have been proved, he feels that the knowledge that is available at this time should not be withheld."

More than most scientists, Dr. Jacobus Rinse, from the vantage point of his health experiences and the benefits they brought to others, has earned the right to view the newer nutritionally-based therapies with open optimism. In *Felix Letter* No. 14, in a similar vein, I will discuss a group of oils, evening primrose oil among them, that may be the long-missing fuel for a whole Aladdin's lamp worth of nutritional wonders . . . unless I'm misreading the undertones of muted excitement that are rumbling through the profession. ■



Illustrations are by Clay Geerdes.