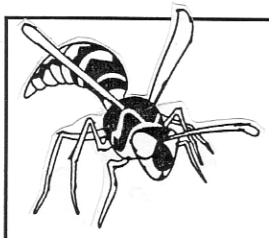
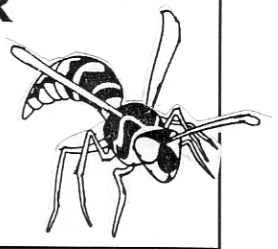


IMAGE AWARENESS HEALTHLETTER

QUALITY NUTRITION

Natural and Synthetic



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Notice

This newsletter is designed for educational purposes only. Any individual suffering from health problems which are mentioned or discussed should consult a physician for proper diagnosis and treatment.

Overview

Many years ago this author read a news report of four highway travelers involved in a horrible highway accident resulting in the deaths of all involved. Investigators learned that the driver had been distracted by a small wasp. In swiping at it he had lost control of his car resulting in the destruction of himself and his passengers. Ever since that story has seemed a fit illustration of the importance and power of little things.

A number of years ago this author was involved in the publication of a booklet entitled "Little Things Mean a Lot." This booklet began with two quotes on the importance of little things. The first quote was from John Diamond, M.D.:

Let us now consider the following familiar but dangerous dialogue:

"Ah, a little bit won't hurt you..."

"C'mon, just take one bite..."

"Not even a sip? You can have one sip...."

With these words, diets have been broken, alcoholics have set out on binges, and people have been coaxed into poor health, bad nutrition, and tooth decay.

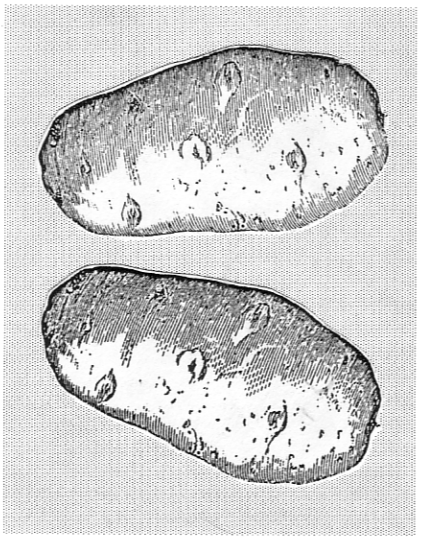
For it turns out that even the minutest amount of a harmful substance—say sugar—has the same weakening effect on the muscles as a larger quantity.

Now, in current medical thinking, dosage is all that's considered. We are constantly being told that a certain chemical may be dangerous, but that the amount we are exposed to or are taking won't hurt us. This is unproven.

(From Behavioral Kinesiology by John Diamond, M.D.)

The second quote was from Rachel Carson in her discussion of the impact of use of pesticides in the environment:

But there is also an ecology of the world within our bodies. In this unseen world minute causes produce mighty effects: the effect, moreover, is often seemingly unrelated to the cause appearing in a part of the body remote from the area where the original injury was sustained. "A change at one point, in one molecule even, may reverberate throughout the entire system to initiate changes in seemingly unrelated organs and tissues," says a recent summary of the present status of medical research. When one is concerned with the mysterious and wonderful functioning of the human body, cause and effect are seldom simple and easily demonstrated in relationships. They may be widely separated both in space and time. To discover the agent of disease and death depends on a patient piecing together of many seemingly distinct and unrelated facts developed through a vast amount of



QUALITY NUTRITION
Natural and Synthetic

research in widely separated fields. (Rachel Carson in Silent Spring)

Thoughtworthy

"As each universe is interrelated to every other, each atom (of the human body) is interrelated to every other atom so that they may interact in perfect harmony. How dare we think that we can add chemicals, change the nature of foods through processing and still not interfere with this magnificent system of energies set up by nature in the plants, animals, and human beings. Little wonder why the increasing incidence of degenerative diseases is so much in evidence today!"

Evarts G. Loomis, M.D.
in "Quality Nutrition"

Natural and Synthetic

In discussing qualitative differences in foods or food substances one becomes concerned with two factors. Firstly, are there things in the product which one does not wish to digest. Secondly, are there things lacking from a supplement or food which might be of value.

A professor once stood in front of a classroom and held two potatoes in his hands. He challenged the students to tell him which of the potatoes was totally synthetic chemicals and which was natural. A student with a precocious mind is supposed to have stood up and said, "There is no problem at all. Let's plant both potatoes and see which one will grow."

Often differences between synthetic and natural foods or supplements will be slight, but those differences can also be significant. Earl Mindell writes, "When I'm asked if there's a difference between synthetic and natural vitamins, I usually say only one—and that's to you. Though synthetic vitamins and minerals have produced satisfactory results, the benefits from natural vitamins, on a variety of levels, surpass them. Chemical analysis of both might appear the same, but there's more to natural vitamins because there's more to those substances in nature."

"According to Dr. Theron G. Randolph, noted allergist:

A synthetically derived substance may cause a reaction in a chemically susceptible person when the same material of natural origin is tolerated, despite the two substances having identical chemical structures."

"And as many who have tried both can attest, there are less gastrointestinal upsets with natural supplements. Also, and perhaps most important, synthetic vitamins can cause toxic reactions, while these reactions don't occur with natural vitamins when taken in higher than usual dosage."

Reference:

Mindell, Earl, Earl Mindell's Vitamin Bible, New York: Warner Books, 1979, pp. 37-8.

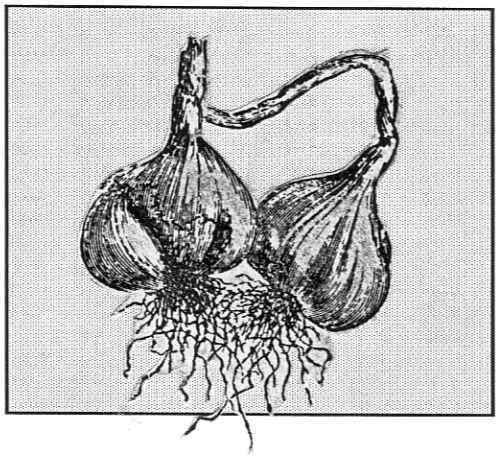
The Phantom Rule

In 1978 S.H. Kon published an article in which he challenged an "unverbalized" rule. With a bibliography of 71 references Kon demonstrates that sometimes a smaller amount of a substance is more harmful than a large amount.

Kon argues that this phenomenon is probably rather common, but overlooked or disregarded by scientists who throw out experiments as flawed when small amounts of substances seem to do more damage than large amounts.

If this principle is true, and it is, then it stands to reason that small differences in quality of nutrition can have significant effects upon both animals and people.

References:



Kon, S.H., Medical Hypothesis, 4:324-339, 1978.

Muckle, T.J., Lancet 2:608, 1977.

Synthetic Raw Materials Not Always Best

"Synthetic vitamin E is produced from isophytol, a petroleum or turpentine product. It is chemically called dl-alpha tocopherol as it contains both the d- and l- molecular configurations (isomers).

Natural-source vitamin E has a higher level of biological activity than synthetic vitamin E. The l-form of alpha tocopherol was found to have only 21 percent of the biological activity of the natural d-alpha tocopherol."

Reference:

Shute, Evan V., M.D., Common Questions on Vitamin E and Their Answers, New Canaan, Conn.: Keats Publishing, 1979, p. 82.

Chromatography

Justa Smith, Ph.D., of Roswell Park Memorial (Cancer Research) Institute, published a study in which she demonstrated conclusively that natural vitamins are associated with enzymes which may aid their utilization. Synthetic vitamins have no accompanying enzymes.

She wrote the following: "Unfortunately, some prominent nutritionists readily recognize the advantages of whole wheat over white flour products, but fail to recognize the same advantages in their vitamin selections."

Reference:

Smith, Justa, Ph.D., "Further Research Into A Chromatographic Technique For Vitamin Analysis," Human Dimensions Vol. 2, No. 1, Spring 1973.

Contingent Nutrition

Donald Davis has a rather interesting discussion of what he describes as "contingent nutrition." Approximately forty-five nutrients are recognized at the present time as being dietary essentials. These substances can not be produced in the human body.

The thesis of his hypothesis is expressed as follows: "The question arises whether internal synthesis of dietary "nonessentials" is always adequate in all individuals under all

circumstances. A related question is whether there may be dietary "non-essentials" which are not produced internally but which may be needed or beneficial under some circumstances or in particular individuals."1

References:

Davis, Donald, Ph.D., "Nutritional Needs and Biochemical Diversity," in Medical Applications of Clinical Nutrition ed. Jeffrey Bland, New Canaan, Conn.: Keats Publishing, 1983, pp. 50- 53.

Contingent Amino Acids

Davis gives many examples of contingent nutrients. The amino acid argenine becomes essential for young mammals for healthy growth. The amino acid histidine may be inadequate in many people. Internal synthesis of many nonessential amino acids "may be inadequate or marginal, even in 'normal, healthy' people."2

The "nonessential" amino acid glutamine may benefit a great many people. This amino acid is dominant in blood and spinal fluid. This amino acid speeds healing of peptic ulcers, decreases consumption of alcohol in rats and humans, results in improvement of IQ in mentally handicaped children, and helps epileptic children. Lack of this amino acid may contribute to sensitivity to the amino acid phynalalanine (phenylketonuria).

References:

Davis, Donald, Ph.D., "Nutritional Needs and Biochemical Diversity," in Medical Applications of Clinical Nutrition ed. Jeffrey Bland, New Canaan, Conn.: Keats Publishing, 1983, pp. 50- 53.

Shive, W., Snider, R.N., DuBilier, B., Rude, J.C., Clark, G.E. and Ravel, J.O. 1957. Glutamine in treatment of peptic ulcer. Texas State J. of Med. 53:840.

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Fincle, L. P. 1964. Experiments in treating alcoholics with glutamiic acid and glutamine. In: Biochemical and Nutritional Aspects of Alcoholism. New York: The Christopher D. Smithers Foundation.

Rogers, L.L. and Pelton, R.B. 1957. Effect of glutamine on IQ scores of mentally deficient children. Texas Rep. Biol. Med. 15:84.

Tower, D.B. 1955. Nature and extent of the biochemical lesion in human epileptogenic cerebral cortex. Neurology 5:113.

Pery, T.L., Hansen, S., Tischler, B., Bunting, R. and Diamond, S. 1970. Glutamine depletion in phynylketonuria: a possible cause of the mental defect. N. Engl. J. Med. 282:761.

Bioflavonoids as Contingent Nutrients

Researchers have failed to find an essential role for citrus bioflavonoids. Nevertheless, they do seem to have some very profound physiological effects and can not be synthesized by the human body. The effects of these substances have been so promising that the Food and Nutrition Board has attempted to regulate them as "drugs."

Part of the difficulty in obtaining uniform results with bioflavonoids in the laboratory may be the result of extraction techniques. Highly active substances in bioflavonoids are easily lost by improper extraction techniques. Robbins writes, "the variability in bioflavonoid preparations from citrus extracts has contributed to the confusion in the literature."

A very large number of bioflavonoids have been isolated from citrus. One listing contains almost 60 different elements including:

- Nobiletin
- Rutin
- Sinensetin
- Tangeretin,
- Fisetin
- Quercetin
- Citromitin
- Poncirin
- Cyanidin 3-B-D-glucoside

Citrus bioflavonoids have been credited with many benefits. These include "strong antiinflammatory activity displaying a broader inhibitory potential than either cortisone or ACTH." Bioflavonoids also aid in preventing abnormal capillary permeability and fragility. It is through this mechanism that bioflavonoids may help prevent "fatigability, bleeding from mucous membranes, retinal vein enlargement and hemorrhage, neurological abnormalities and heart failure."

Some citrus bioflavonoids (such as nobiletin) reduce blood cholesterol levels and improve circulation in other ways. A group of methoxylated flavones appear to aid in detoxification of carcinogens formed in meats by overcooking. They also protect against aflatoxin B1, a substance which can contaminate peanuts and which induces tumors.

Some of these bioflavonoids have also demonstrated strong anti- bacterial, antifungal, and antiviral activity. Organisms inhibit Typhi, Salmonella Typhi, Shigella Dysenteriae, Staphylococcus, B. Abortus Bang, influenza virus A and rhinoviruses. Some of the bioflavonoids were active in extremely small concentrations. A complex of bioflavonoids and vitamin C in doses of 600 mg of each has been found to cut recovery time from Herpes labialis by fifty percent.

Finally, bioflavonoids may help protect against "diabetic" and galactose cataracts. While bioflavonoids may not be essential, they seem to offer promise of a great many benefits.

References:

Robbins, R.C., "Medical and Nutritional Aspects of Citrus Bioflavonoids," in Citrus Nutrition and Quality ed. Nagy, Steven and Attaway, John, Washington D.C. American Chemical Society, 1980, pp. 43-59.

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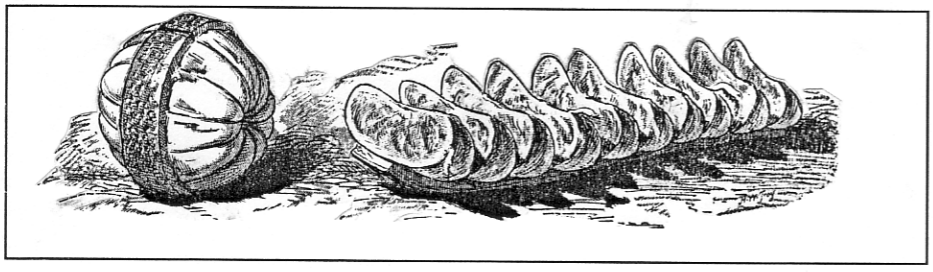

"Don't use cheap vitamins. They are a waste of money. You shouldn't look for bargains in parachutes, fire extinguishers or nutrients."

William Campbell Douglass, M.D.

Contingent Factors in B Complex Sources

Natural sources of the B complex vitamins are rich sources of many and varied nutrients. A good yeast or liver source of the B vitamins will contain glucose tolerance factor. This is a combination of nutrients which helps the body to handle glucose or sugar properly. It has a trivalent chromium at its center and also contains two molecules of niacin and three amino acids (glutamic acid, glycine, and cysteine).[1]

Vitamin B1 from a natural source has some of the vitamin in the form of cocarboxylase. This is a co-enzyme form of the vitamin which is necessary for use and storage in the human body.

Liver is packed with contingent nutrients. It contains a specific anti-fatigue factor which has been observed to increase the swim time of rats ten fold.[2]

There is also evidence that liver can help the body detoxify harmful substances. Liver may help the body detoxify cortisone, thyroid hormone, many pharmaceutical drugs, petroleum hydrocarbons, nicotine, alcohol, and marijuana. This ability of liver was a complete mystery until 1971 when Professor Minor J. Coon succeeded in isolating and testing a red protein pigment which he tagged "Cytochrome P-450." This remarkable pigment is responsible for some of the protective effects of liver.

Biochemist Albert Szent-Gyorgyi has isolated another substance from liver called "retine." This compound has the apparent ability to retard cancer cell division and growth.[3]

References:

1. Pfeiffer, Carl C., Mental and Elemental Nutrients, Keats Publishing, Inc., 1975, pp. 290-1.

2. Ershoff, B.H., Proceedings of the Society of Experimental Biology and Medicine, volume 77, 1957, pp. 448-491.

3. Taub, Herald, Keeping Healthy in a Polluted World, Harper and Row, 1974, p. 214.

Contingent Factors in Garlic and Onion

Onion oil has anti-inflammatory substances. The active ingredients may prove to be "so-called mustard oils, or isothiocyanates." These oils have been shown to cut asthmatic symptoms 50 percent. Substances known to produce allergic responses were significantly less effective in doing so in 9 of 12 test subjects in another experiment.

Onion and garlic oils appear to be able to inhibit tumors. One article on this research reads, "The tumor yield and incidence of phorbol-myristate-acetate promotion were inhibited in a dose-dependent manner over the range of 10-10,000 ug onion oil, applied three times per week. Garlic oil was also inhibitory but was less effective."

An entire literature exists demonstrating the effectiveness of garlic in dealing with fungus and bacterial invasion of living creatures. It can also be beneficial in circulatory problems.

References:

"Onions Put The Bite on Allergic Reactions," American Health, September, 1984, p. 34.

Belman, Sidney, "Onion and Garlic Oils Inhibit Tumor Promotion," Carcinogenesis, Vol. 4, No. 8, pp. 1063-1065, 1983.

Grain and Legume Oils Overlooked

Whole grain oils have been increasingly removed from the American diet since the 1880's with the advent of the steel roller mill. Grain oils contain long-chain alcohols and plant sterols in addition to other essential nutrients. One of the alcohols produces improved endurance.

The lipids and sterols in grains and legumes provide essential raw materials for nourishing the glands. These oils provide essential benefits in development and in overall endocrine function of laboratory rats. Production of hormones of the adrenal gland as well as male and female sex hormones are known to be influenced by these grain oils.

References:

Bland, Jeffrey, Ph.D., Octacosanol Carnitine and other "Accessory" Nutrients New Canaan, Conn.: Keats, 1982, pp. 2-3.

"Research Report: Formula IV Tre-en-en Grain Concentrates," The Counselor, Hayward, Ca.: Neo-Life Company of America, September, 1987, pp. 19-22.

"Formula IV with Tre-en-en Grain Concentrates Research Report II," The Counselor, Hayward, Ca.: Neo-Life Co. of America, October/November 1987, p. 12.

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- The feel better program consists of taking 2 Formula IV® food supplements and 1 serving of any Neo-Life protein drink as directed for 30 consecutive days.
- Formula IV® grew out of 12 years medical research and supplies nutrients essential for proper glandular function.
- Neo-Life protein products are produced with the protoguard process with natural enzymes to aid the body in extraction and use of the valuable amino acids.
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