

No. 122

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HEROES OF THE HEART

As children, most of you undoubtedly were as captivated as I was by heroic characters in storybooks and movies. Added to these were my real-life idols: I was sure my brave papa could do anything he set out to do; while to my 6-year-old eyes, my 9-year-old brother was the hottest baseball player in the Bronx. He's still my hero, even though his baseball playing is shot. And papa awed us with his courage till the end.

Linus Pauling (1901-1994) became my hero at the start of the Cold War in the Throughout and after the 1950s. McCarthy witch-hunt era, he fought atmospheric nuclear testing and the buildup of nuclear weaponry. It earned him 'slings and arrows' from peers, vilification in the press, and subpoenas by State and Federal legislative committees that were sniffing out 'unAmericanism.' He lost his passport privileges. Experts arrayed against him included Edward Teller and Atomic Energy Commissioner Willard Libby, both insisting that any 'slight rise' of radiation levels caused by nuclear bomb tests would, if anything, be beneficial to human beings. Sure.

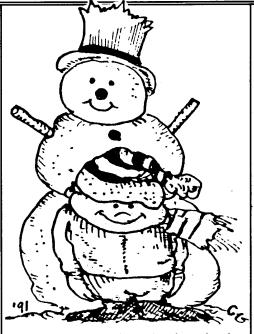
When in 1954 Pauling was told he'd been awarded his first Nobel prize (for chemistry) from King Gustav Adolph of Sweden, wife Ava's and his chief worry was whether he'd be allowed to attend the ceremonies! He got his passport just in time only after appeals by eminent individuals.

A Two-time Winner

America's Cold War obsession was not shared by most of the world. In 1962, the Nobel Committee awarded Dr. Pauling its Peace Prize, given not annually but for exceptional achievements. *Life* magazine responded vitriolically:

"Last fortnight, in an extraordinary insult to America, the Nobel Peace Prize Committee conferred its prize for 1962 on none other than Linus Pauling..."

A few years later, his work with vitamin C had the medical experts similarly holding their collective noses. When he expanded the vitamin C concepts to advocate



megadoses of nutrients ("orthomolecular therapy") in mental illness, the American Psychiatric Assoc. in 1973 came down on Pauling like a sledgehammer: "...rigorous double-blind studies...have failed to confirm the positive results of megavitamin therapy."

C and Me

I, of course, had been a devotee of supplemental C and other nutrients for our young family since I read my first Adelle Davis book in 1955. I owe a personal debt to vitamin C. Ever since inner-ear surgery for mastoiditis at age five, the ear suppurated—discharged pus—chronically. Even as a teenager, I suffered a lot from sore muscles and tiredness. On a crosscountry bus ride in my early 20s, when we hit the Rocky Mts. my mouth kept filling with blood, the thin air allowing blood to seep from my gums. Towards the end of my first pregnancy, age 24, my abdomen turned black and blue from broken capillaries. Two years later, a second pregnancy was nearly fatal for my unborn son and me when the placenta tore away prematurely with massive hemorrhaging.

What's the vitamin C (ascorbic acid) connection?

I'd been suffering from low-level scurvy all those years, made worse during pregnancies.

Collagen Holds Everything Together.

Besides its roles in a long list of protective functions, including its stellar antioxidant role, vitamin C is critical for making collagen in your body. Collagen, the main protein of connective tissues, is basic to the structure and function of your blood vessels, bones, skin, cartilage, joints, ligaments, tendons, and interstitial tissues in all your organs. You need vitamin C every day because some collagen gets used up and has to be renewed daily. A pregnant women needs lots of extra C for the baby's tissues and the ones she makes to support the fetus.

Thanks to vitamin C and Adelle Davis, my suppurating ear healed, gums stopped bleeding, the whole family got healthier. All of this motivated me eventually to return to college to get my nutrition science degree (UCB '77). When scientists, no matter how well-credentialed, belittle vitamin C, I go into battle mode -- can't help it!

A Letter from my Hero

Primates and guinea pigs are almost the only creatures that can't make vitamin C. Matthias Rath MD explains the significance in his book, Why Animals Don't Get Heart Attacks (2nd ed 2000, MR Publishing). I'd gotten a clue from him years before. Beginning with my first newsletter in October 1981, whenever I reported on Pauling's vitamin C work, I'd mail him the issue and feel duly honored by his kind replies.

Here's the one I got dated June 1, 1991, signed by him and sent from the Linus Pauling Institute of Science and Medicine (Palo Alto, CA), where Rath had joined the research staff in 1990 at Pauling's invitation:

Dear Clara Felix:

I thank you for sending me a file of your newsletters. I am looking forward to reading them.

I enclose copies of two papers by Dr. Rath and me. I think that Dr. Rath has made a great discovery.

Sincerely,

Linus Pauling

Enclosed were the two papers, published in the August & December 1990 Proceedings of the National Academy of Sciences USA. I thought they were magnificent and would usher in an era of new understanding in prevention and treatment of heart disease. (See FLs 60, 65, 75, 112.)

I couldn't have been more mistaken.

A thunderous stillness about these discoveries echoes in the halls of medicine to this day. Not long ago, at a local conference sponsored by Dr. Rath's Health Foundation, I learned why. Rath's work had hit a massive wall of silence and opposition, mainly erected by pharmaceutical cartels, which influence much of what reaches the medical community, media, and the public today.*

Enter Lp(a)!

The 1990 Rath-Pauling papers tell about a cholesterol-carrying molecule, lipoprotein(a), or Lp(a), that's profoundly involved in atherosclerotic plaque--much more so than LDL, the currently designated 'villain.' Lp(a) is found in the blood of primates and guinea pigs, which have lost the ability to synthesize vitamin C, but only rarely in the blood of other animals. When guinea pigs are deprived of the vitamin, the little critters develop atherosclerosis, just like people do, with Lp(a) accumulating in arterial wall plaque. This is completely prevented by giving them ample vitamin C.



* If you think I'm exaggerating, I refer you to the 4-part series, "Medicines, Society, and Industry," in the November British medical journal The Lancet. Here's a sample (Nov. 23): The pharmaceutical industry "has developed practices that do not consider society, including excessive or inappropriate pricing of drugs, an indifference to the needs and limitations of the developing world, an imbalance between true innovation and promotional activity, interference with clinical investigations, and efforts to mould medical thinking and priorities as a means to enlarge the market." [My emphasis. CF]

Pickles/Brian Crane









In Why Animals Don't Get Heart Attacks Rath writes: "With few exceptions, animals produce vitamin C in their bodies....Vitamin C is the cement of the artery wall, and optimum amounts of vitamin C stabilize the arteries. In contrast, we human beings cannot produce a single molecule of vitamin C ourselves...

"The single most important difference between the metabolism of human beings and most other living species is the dramatic difference in the body pool of vitamin C. The body reservoir of vitamin C in people is on average ten to 100 times lower than the vitamin C levels in animals."

Rath states flatly that cardiovascular disease "is an early form of scurvy," and atherosclerotic deposits are Nature's plaster cast for an artery wall weakened by vitamin deficiency.¹

Moreover, two amino acids, *lysine* and *proline*, serve as "Teflon" agents, helping to stop Lp(a) molecules from adhering to artery walls, as well as encouraging release of Lp(a) already stuck to the walls.

So, we're talking about employing nutrients not just to prevent, but to reverse coronary heart disease -- thrilling news for all of us, but bad news for global pharmaceutical giants who count on multibillion dollar revenues from heart disease drugs, including cholesterol-lowering ones, for maintaining political/medical clout and media control.

 Ten Years that Changed Medicine Forever, by Matthias Rath, MD. MR Publishing Inc., 2001.

You Have The Right To Be Skeptical!

Is the Rath-Pauling remedy for heart disease too good to be true?

Rath, born in Germany, got his medical degree and did major Lp(a) studies there, before joining Dr. Pauling in 1990. (Pauling was Rath's hero, too-- not just for his science but for his peace activism.) Pauling died in 1994, but before then he and Rath had fully experienced the forces working against acknowledgment of their work.

With so many doors closed, Rath opened his own avenues: the patenting and sales of the nutrients that embodied the research.

The experience has been so successful in Europe, it has made possible the financing of laboratory studies, educational work for the public, and finally clinical trials with impressive results. Expansion of these programs in the U.S. is the ongoing agenda.

And Now, Battling Cancer

When Rath joined the Pauling Institute in 1990, Aleksandra Niedzwiecki, Ph.D, was director of cardiovascular research there. Now she is executive vice-president and director of research of Dr. Rath's Health Alliance laboratory in Santa Clara, California. She spoke at the conference, so I had the chance to meet her and slip her my All About Omega-3 Oils booklet. Dr. Niedzwiecki is a comely young woman who speaks about their work with evident passion. They have been testing effectiveness of specific nutrient combinations for control of cancer metastasis.

It began with in vitro experiments, described in the booklet Cancer by Matthias Rath (2001), proceeding to actual work with cancer patients who, with approval and cooperation of their doctors, take the supplements in conjunction with their current treatment. Dr. Niedzwiecki et al. are now on the second round of clinical trials.

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Most cancer deaths are caused not by the original tumor, but by its 'progeny' cells migrating via the blood or lymphatic vessels to establish new cancer colonies. They can only do this by breaking through surrounding connective tissues, composed largely of collagen. For this purpose, cancer cells will secrete "collagenases"-enzymes that 'digest' collagen, enabling cancer cells to migrate, i.e., metastasize..

In their test tube experiments, specific nutrients actually stopped cancer-cell collagenases from doing their job! If cancer cells can't metastasize, the body may be able to encapsulate the primary tumor, i.e., seal it off.

So far, results of the first 3- to 6-month human clinical trials with a variety of cancers are raising everyone's hopes.

Thus, I want to alert my readers: specific nutrient programs are available that may stop heart disease, and possibly cancer, and do it safely. The two biggest killer diseases also are the biggest moneymakers for the drug industry, so don't be discouraged by the wall of silence surrounding these breakthroughs.

More and more health food stores, etc. are carrying Dr. Rath's Cellular Health $^{\text{TM}}$ supplements and literature.

You Can Get Involved!

I just joined Dr. Rath's Health Alliance. It's free. Members learn about supplements, get member discounts, information about available publications, seminars, public lectures, plus news about the Alliance's strong political activism to stop limitations on access to nutritional supplements.

The Health Alliance telephone is 800-624-2442. Some of you might enjoy shooting queries at Lizet Freeman (415-279-5293), the patient health educator who's been enlightening me. Clinical trials on several types of cancer are still open and you may





inquire about accessing these through Freeman.

Web mayvens can expore further at http://www.dr-rath-foundation.org also www.dr-rath-research.org.

JOY TO THE WORLD!

he best news of the winter holidays is reaffirmation of my passionate credo: chocolate is not just a sinful pleasure. It's actually good for you. This delicious secret has been hiding in my files since I saw it in the Spring/Summer issue of The Linus Pauling Institute Newsletter, written by LPI research associate Silvina Lotito, Ph.D. "The medicinal properties of cocoa were well known to the ancient Maya and Aztec civilizations, and cocoa was considered a valuable and prestigious food of divine origin," she writes. They used the chocolate beverage to treat gut, liver, heart, and kidney complaints, as well as infection and inflammation. They attributed longevity to it, and also recognized its aphrodisiac properties. Holy Toledo!

M ayans and Aztecs were on target biochemically, as are their modern descendants who are equally nuts about the stuff. "Cocoa powder and cocoa-derived products, especially dark chocolate, are good sources of flavonoids, mainly epicatechin and its oligomers, called procyanidins," Dr. Lotito writes. These flavonoids are very kind to you, actually serving as antioxidants that protect blood lipids and even may keep atherosclerosis at bay "in humans who regularly consume cocoa products."

I trust you'll make a stern effort to follow this advice, as I will. Thanks, and happy holidays, Silvina!

Pickles/Brian Crane





A DIFFERENT LOOK AT A MEDICAL PUZZLE

Tom Brewer MD, OB/GYN, and I have been exchanging lively missives for about a year on a subject close to both our hearts: nutrition in pregnancy. He now lives in Middlebury, Vermont, but had a thriving clinic for many years in Richmond, not far from Berkeley. Besides scores of medical papers, he wrote farseeing books in the 1980s with his wife at the time, Gail Sforza Brewer, (now Gail Sforza Krebs) e.g., Right From the Start (1981) and The Brewer Medical Diet For Normal & High-Risk Pregnancy (1983).

Good nutrition, of course, works to benefit the fetus, but Dr. Brewer insists it's the key also to solving the "mystery" of a scary disorder, pre-eclampsia and eclampsia, that in 1966 he termed Metabolic Toxemia of Late Pregnancy (MTLP for short).

Pre-eclampsia, according to my 1999 Merck Manual, may develop around the 20th week of pregnancy, characterized by high blood pressure, albumin in the urine, and edema. The term "eclampsia" is used to describe potential sequels involving convulsive seizures or coma that can be fatal. "The etiology of pre-eclampsia and eclampsia is unknown."

Dr. Brewer disagrees, insisting *maternal malnutrition* is the dirty 'secret.' Here's what he wrote in the 1983 book:

MTLP is characterized "by a history of malnutrition, nausea, and vomiting; low blood proteins, especially low serum albumin; and low blood volume, which causes a marked reduction in blood flow to the placenta, kidneys, and other organs. It is a nutritional-metabolic-liver disease..."

"As a result of the low blood volume and liver malfunction, the mother's blood pressure rises as the disease progresses, water and salt are retained abnormally, and protein appears in the urine as a result of damage to the capillaries of the kidney glomeruli or filters. In the most severe cases, hemorrhages develop in the mother's liver, brain, and other organs; convulsions, coma, and maternal and fetal death occur."

Tom Brewer's Ounce of Prevention

A diet superbly rich in nutrients is the keystone of his program for prevention. In a lifetime of work, he's shown that women rarely get MTLP if they partake amply of leafy vegetables, colorful squashes and root vegetables, all kinds of fruits, nuts, seeds, grains, as well as plenty of





protein from eggs, dairy, tofu, fish, shellfish, and meat, including organ meats, and use salt to taste.

He is deadset against low-calorie diets (even for overweight pregnant women), and the recommendations by many doctors for low-salt diets, fluid restriction, and use of diuretics, to prevent so-called edema of pregnancy. These are the very measures, he insists, that can lead to MTLP!

His battle continues with those who say MTLP may not be preventable since it's probably genetic and requires mainly medical and pharmaceutical interventions. But what's the harm in trying it his way?

WORD WEAPONRY

Berkeley is my home and a garden of delights for aficionados of inflammatory bumper stickers. Today, this was on the car in front of mine:

Clean Energy Now! No More Fossil Fool! Nothing to Lose But Your Cheneys! □

FUNNY-PECULIAR, NOT FUNNY-HAH-HAH

onald O. Rudin MD and I named them "funny fats" in our 1987 book, The Omega-3 Phenomenon, saying: "These imposter' fatty acids behave like freeloaders, infiltrating cell membranes and stealing enzymes so that real fatty acids can't do their work." We were referring to trans-fatty acids and other machine-made isomeric fats. Few doctors or dietitians paid any notice.

Times have changed and "funny fats" are being recognized for the villains they are. For instance, the more *trans*-fatty acids a pregnant woman eats, the fewer long-chain polyunsaturated "good-guy" fatty acids will be available (via cord blood transfer) for her newborn. (Am J Clin Nutr Sept 2001, 74: 364.)

It's finally becoming clear to mainstream dietitians, etc. that *trans*-fats are unnatural to the human system in the quantities currently being gobbled up in the USA. They're in "partially hydrogenated" oils and margarines, as well as in countless commercial foods processed with them.

Apparently, trans-fats really do interfere with formation of the "good-guy" long-chain polyunsaturates from precursors in the mother's body, e.g., DHA from (w3) alpha-linolenic; or arachidonic from (w6) linoleic.

The more *trans*-fats she eats, the less DHA and arachidonic will be available to her newborn infant – the very fatty acids it needs in its cell membranes for visual and cognitive development, as well as for optimal growth!

To top it off, trans-fats get a free ride into the poor kid's tiny body via the same cord blood.

Big Caution (female or male, pregnant or not):

Don't use oils or foods labeled "Partially hydrogenated." 'Nuff said.

CRAMPS AWAY!

I'm repeating an easy way to stop leg, thigh, and foot cramps, even ones that can jolt you out of a sound sleep. (I picked this up years ago from Dear Abby's column.)

W ith your thumb and forefinger, gather together the loose flesh above your upper lip, and squeeze firmly until the cramp lets up. Don't despair if it seems to take forever. Most cramps will ease up within 2-5 minutes. That'll seem like a very long time, but the miracle I've experienced is that the muscle(s) not only go back to normal, but generally you'll have little soreness the next day. Before I learned this, I'd limp painfully for days.



SORRY, YOUR BRAIN TRANSPLANT HAS BEEN CANCELLED - THE DONOR HAS HAD SECOND THOUGHTS ...

HOW TO TRAIN A WILD SOUIRREL

ong ago, I read that squirrels have a very high brain-to-body ratio. Maybe they need extra noggin cells for the skillful ways they use their front feet almost like hands. I've watched one of my neighborhood squirrels, a female, take the large walnut I've put out for her, carefully positioning it in her mouth with her paws. Then she races off to a burying spot, using her front feet not just to dig the hole and put the walnut in, but to pat the dirt very carefully over her cache.

In my nature-friendly neighborhood, many people put out regular offerings of birdseed and occasional nuts for the feathered and furry residents. Walnuts (still in their shell) clearly are the squirrels' first choice.

(Oh Lord, Here Comes Clara With Another Omega-3 Theory)

Walnuts, it so happens, are higher in w3 alphalinolenic fatty acid (ALA) than any commonly eaten nuts. When we, or squirrels, eat walnuts, both our systems can transform some ALA by a series of enzymatic conversions into DHA, the super polyunsaturated w3, needed especially for eyes and brain. Yes, brain.

One afternoon this past spring, as I sat at the kitchen table I heard an odd sort of knocking at the back door. People don't usually come up the back stairs and visit me that way. I looked up at the screened half of the wooden door, but saw no one. Then, more knocking. Hmmm...I walked to the door and looked down. A squirrel was pummelling full force with his front feet against the bottom of the door.

I did the only logical thing: I took a walnut from the bowl on the table, opened the door, and gave it to him. (I knew he was a "he" because I'd fed him enough walnuts before on the back fence to discern his sex, but also I recognized him because of two distinct furless areas on his otherwise luxurious tail.)

He left, I closed the screen door. Ten minutes later, more banging. This went on for 5 more walnuts, after which I said that's all, buddy, and shut the half-screen door and the main one.

Next day, same routine. It went on for weeks.

Next day, same routine. It went on for weeks. I stretched my food budget to allow for extra walnuts.

Hiatus in the Bounty

Spring ended, and I decided I'd stop providing walnuts until autumn. I figured the squirrels had buried enough to feed themselves for a year (if they could find them, which they often couldn't. That accounts for walnut seedlings all over the neighborhood.)

In early October, I began putting walnuts on the back fence again. Four days later, sitting at the kitchen table, on the phone with wonderful Patricia Connolly of Price-Pottenger Nutrition Foundation, I heard the unmistakeable banging. Pat said *she* could hear it, too. My small neighbor was back to continue his training.

It's almost Christmas now, and the lady he's trained makes sure there are plenty of walnuts on hand.



Illustrations are by the late Clay Geerdes & other artists as noted.

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