Restoring Balance
Nutrition Program 100th Anniversary
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Where do we go from Here?

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Good morning everyone. Well now, if anyone had told me 30 years ago, that I would be standing on the stage at Teachers College just after the Manhattan Borough President had talked about New York City's foodshed, I would have thought they were smoking dope. Even *I* didn't talk about the foodshed thirty years ago, because no one would have known what it was. But I did talk about localizing the food supply and I did begin worrying about what New Yorkers would eat when the reality of our energy and environmental problems began to bite. In 1980 I even talked Betsy Haughton (now Dr. Haughton) into doing a dissertation about whether New York—even more dependent then than now on food brought from the far corners of the earth—could feed itself from nearby.

So this is a thrilling moment for me. But I would be less than honest were I not to admit that the present state of hopefulness about our food system—which seems to be headed at last toward ecological reality even at the highest levels—puts me in sort of a bind. I have been in opposition, so to speak, for almost forty years, close to half my life. Ever since I began teaching Nutritional Ecology in 1970, I have been depressing generations of graduate students, forcing them to learn about agriculture and the whole food chain, telling them that life as they knew it was not sustainable and destined to come to an end unless we urgently changed our ways.

As some of you may remember, when first I began talking in 1970 about linking agriculture and food to nutrition—even after I became chair of the program in 1975—a

substantial number of students concluded that I was certifiably insane. And after the drive-up in energy prices of the 1970's, when I began to talk in public about the energy-intensiveness of our food supply—how we expended 10 fossil fuel calories getting one food calorie to the table—so we should stop shipping food all over the world and start eating more locally, I was once more viewed as having gone overboard, especially given the abundance of our glorious global supermarket, and the subsequent decline in energy prices.

And now we have Manhattan's Borough President saying New York should begin to feed itself and cut down the distance its food comes from. Now the nation has a Deputy Secretary of Agriculture who has been a leader in the organic movement, and a Secretary of Agriculture who on Lincoln's birthday dug up part of the pavement near the Department of Agriculture for a food garden. In many places we have begun serious dialogues about the corporate malnourishment of our children, we have painfully begun to fix school lunch, and—last but by no means least—we have a rational national model, a family in the White house that is publicly committed to local organic food and has begun digging up part of our national lawn for a vegetable garden.

And all this has happened so fast—or so it seems to someone who has been impatiently following it from its painfully slow beginnings 40-some years ago—that it is hard to not yield to a kind of heart-lifting optimism—despite the economic chaos that surrounds us. And even though it will be a long time before we reach our goal of really reforming the way we ~~are~~ eat; and even though ~~few~~ too many of us are far from having come to terms with how much we will need to change our lives, our relationship to food, to fossil fuels, to consumption generally—despite all that, signs of hope are everywhere. So except for the meltdown of the economy, what on earth is there left for

me to complain about? Well, as those of you who know me well have doubtless anticipated, I've found something.

And as I began thinking about what I wanted to talk to you about today—since I am supposed to be looking into the future—I realized that if I spoke as I really wanted to about where I thought we professionally food-concerned people needed to go in the future, I was going to find myself once more among the crazies. But that's never stopped me before. So I decided to go for broke.

And as I thought back through my life at Teachers College, beginning with my coming here in 1969 to study nutrition, I realized that where I wanted to lead you today was to a big idea that is really no more than a deepened understanding of something I first glimpsed a few months after I began my graduate education 40 years ago.

I was standing at the time outside the small building, on 168th St., I think, in which Columbia's Institute of Nutrition was then housed, and I was talking with Ruthe Eshleman, for many years my closest friend in the field. Ruthe and I were uptown taking an advanced nutrition course, taught by Drs. Henry Sebrell and Barbara Underwood, that occupied entire mornings and afternoons, and I was learning much more than I ever thought I wanted to know about vitamins and minerals.

And as we took our mid-morning break, I remember saying, "You know Ruthe, I was thinking about nutrition education; and I realized that it would take me about 20 minutes to teach ordinary people what they ought to eat if they wanted to be healthy. Less meat, less fat, lots of grains and fruits and vegetables, some dairy. The problem is that there are all those other things in the supermarket designed to seduce them."

I'm sure I didn't say it quite that clearly, but I distinctly remember that's what I was aiming at. I thought we had lost our ability to teach people how to eat because there were so many products on the shelves that we had to teach them to avoid. And

then I asked Ruthe, "Am I crazy?" She had been a practicing nutritionist by then for probably 20 years, and I counted on her grounding to keep me from running off the tracks by thinking too much as we both headed—me from a background as a pre-med and a journalist—toward our doctoral degrees. And she said "No." She thought what I said made sense.

But, of course, I went on to learn the Krebs cycle and other things I needed to know to pass muster as a nutritionist and as GOOD NUTRITION became a fad, and even hit the front pages once in a while, I was proud of being able to go to parties and have people say with admiration in their voice "Oh, you're a nutritionist." It would have been even better had they asked for my advice, but in fact they almost always wanted to tell me what they were already doing so that I could express what they assumed would be my approval for their taking zinc, or high doses of beta-carotene, or whatever the nutrient of the month was.

Time passed. In 1992, I was asked to come to Kansas State where they wanted me to give them suggestions for how they might revise their nutrition department curriculum. This induced another troubling bout of thinking and I found myself asking my listeners the following: Given the ability of food processors to turn basic crops into a stream of raw materials for new products, could any old collection of fats, proteins, and carbohydrates, assembled in a vat and fortified with vitamins and minerals serve as raw material for our researches and our educational endeavors about food and health? Or would we insist that the resulting food have some link to agriculture?

Then I went on: and if the goal of nutrition is not merely an increased store of knowledge but the actual improvement of human well-being, then didn't we have to ask ourselves whether what was going on in the name of nutrition research was actually improving the lives of the people whom nutrition knowledge could help most?

Since nobody *had* asked that, I took the liberty of speculating. And I concluded that it was highly likely that the science of nutrition was no longer improving things.

Here's how I came to that conclusion. For its first 40 years, from about 1912 until about 1952, nutrition could probably be demonstrated to have improved the public well-being, perhaps even to have extended human life—through its discovery of the causes of, and the public health interventions to ameliorate, certain deficiency diseases.

Starting shortly after the end of World War II, however, the push to invent new products to maintain the growth of the food industry and the emergence of television for promoting these tempting objects directly to the public, came together to create accelerating change in the food supply. The number of items introduced each year began to multiply at a rate that steadily grew increasingly improbable. In 1991, the year before I spoke (in Kansas), ~~I told them~~, new food product introductions increased by 20% to 16,143. This meant that just over 44 new products a day arrived on supermarket shelves that year, thereby effectively reducing the amount of time a consumer could devote to careful consideration of any single purchase to zero, and rendering almost impossible the job of teaching simple rules for food selection other than "shop around the edges of the store."

It was my conclusion then—and nothing has happened since to change it—that the serious scientific questions about health introduced by this flow of new ingredients and novel processes into an increasingly bewildering marketplace have outpaced any progress we might have made in applying the science of nutrition. Moreover, the health statistics tend to confirm this, suggesting that we are on a negative curve in terms of ultimate human well-being. Certainly we don't appear to have gotten the upper hand where weight control is concerned—although products aimed at that market proliferate like rabbits.

Moreover, what I learned when I served on the Diet, Nutrition and Cancer panel of the National Academy of Sciences, made it clear to me that if the rates of certain degenerative diseases like cancer were to go up, we in nutrition were unlikely to have a clue as to why, simply because the speed with which novelty is introduced into the food environment makes it impossible to do a careful analysis of the effects of any innovation; there is no background of stable foods against which to examine it.

If we had known in 1940 what we know today about degenerative diseases in relation to the macronutrient composition of the diet, it would have been relatively simple to teach people how to choose their diets wisely from the foods then available in the marketplace. People had not lost their cooking skills. Food preparers—women *and* men I like to think—could have been taught to reduce fat and sodium in the kitchen. And nutrition educators could have concentrated on finding and communicating quick and easy ways to prepare the unprocessed foods that were most of what was available in the marketplace.

Instead, those of us trying to apply nutrition so as to improve human well-being, have for years found ourselves standing ankle-deep in a flood of new products, desperately seeking to keep abreast of the latest news about the latest combination of ingredients that will make us and those we counsel chronically healthy.

For years, now we have been playing catch-up--or fall-behind--with an accelerating rate of ingredient and processing innovation, and the supply of fascinating "nutrition" problems seems to stretch endlessly before us. Which precise mix of fatty acids is ideal? Should we fortify whatever vegetables our children like with anti-oncogenic broccoli extracts? Does fiber made of powdered tree behave in the gut just like the sorts of fiber traditionally consumed by humans? None of these questions

would need to have been asked 50 years ago. In those days, the opportunities to eat diets so modified from human historical experience did not even exist.

In the teeth of such a food supply, what is an honest nutritionist to do? I myself simply backed off and taught about food systems and food policy. After I retired and no longer had to read the nutrition journals, I reached a point where I was most comfortable not calling myself a nutritionist because I no longer followed the remarkable adventures of the nutrients. If I had to call myself anything, I said, I was a foodist—not a faddist mind you—but a foodist.

But I got called to account in 2003, when one of our doctoral graduates, Marcia Herrin, who has gone on to a distinguished career as an eating disorder specialist, invited me to give a series of talks at Dartmouth where she was then in student health services. I told her what I would talk about—my concern with the world food situation and the environment, and the importance of eating locally—those sorts of things, and she said "Joan, if the dietetics department is going to help sponsor you, one of your talks has to be about diet and health." And I said, "Marcia, I can't do that. I don't follow that literature. I think people should forget about nutrients and just eat food." And she said "Just say that—the eating disordered students I'm seeing need to hear that." So I said OK.

Which was fine until I came to write the speech. It turned out that you couldn't fill up 45 minutes by just repeating "Just eat food, just eat food, and so on." So I bit the bullet, caught myself up in what had been going on in the nutrient and health field so that I could make my argument credibly, and I wrote a speech which, with modifications, I subsequently gave at U.C. Davis and again last year at Harvard.

This morning I 'm going to give you just an outline of the argument I made in that talk so that you will be absolutely clear why I am going to end this morning by

asserting that we will never make progress in our chosen task—to help people eat in a way that maintains their health—unless we can figure out how to focus on whole foods rather than nutrients.

So let me give you the essence of my "Just Eat Food" speech. Its goal was to make clear that when we buy processed foods, we simply don't know very much about what we're actually eating. One of my examples was a protein component called Quorn, marketed in the U.S. as a "healthful alternative to meat" in chicken-style nuggets, cutlets and meatballs. Now let me note that I could just as well have used isolated soy protein as my example. What we know about the historic healthfulness of soy has nothing to do with the healthfulness of what is produced when soy is segregated into its various parts. But I've used Quorn partly because its "novelty" is so obvious. The "raw material" for Quorn is a mycoprotein

> produced by the continuous fermentation of a micro-fungus on a glucose substrate, usually obtained from wheat or corn starch although almost any carbohydrate--rice, molasses, food processing residues--can serve as the starch feedstock.

The sorts of things we would want to know about a product like Quorn are whether it is "safe" and "nutritious," so let's start with "safe." The assumption that new products are safe is normally based on the reasoning that if they are created out of familiar whole foods and approved additives, (see soy!) the resulting formulation—however novel—is safe in combination with any other available foods, and doesn't requite testing. This is essentially how the FDA has judged food products.

This is very often challenging for persons who are allergic to certain foods, like peanuts and may be incautiously led to consume a food that is called one thing but made out of several others ~~including~~ among them isolated peanut protein. Such a food is not safe for such persons.

But let's make a giant—and scientifically questionable—leap; let's assume we can prove all these novel substances safe, and ask simply about their "healthfulness." What does that mean? That this edible substance contains vitamins and minerals in a low fat, low salt context? In what quantity? To meet some standard of RDA's per calorie? Is our criterion whether this formulated food product can maintain life and health as part of a whole diet? How can the FDA require companies to test for that? Well, it really can't, and doesn't. Each consumer is on her own.

Given the capacity of the food industry to separate foods into streams of macronutients and then recombine them in some currently attractive fashion, what mix of protein, fat and carbohydrate should we tell folks to look for on the label if they wish to be healthy? The most diverting way of demonstrating our inability to answer that question is to consider the recently revived enthusiasm for the famous Atkins diet that's been around for decades, and then compare Atkins' claims with those of the competing Ornish diet[1]. The Atkins diet[2] is based on the idea that if you avoid almost all carbohydrates, you can eat all the meat (and its attendant fat) that you want and you will lose weight and improve your health.

The Ornish diet, on the other hand, deplores fat, considers it an almost dangerous substance, and urges a largely vegetarian, what Atkins would call a Spartan, diet from which most fats are rigorously excluded. Interestingly enough, although these two counselors differed totally on fats and carbohydrates, there is one thing Atkins, the fat guy and Ornish, the carb guy completely agreed on, namely that simple sugars are a no-no. These "diet doctors" whose views on carbohydrate and fat are

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[1] Pritikin, Nathan. *The Pritikin Permanent Weight-Loss Manual.* New York: Grosset and Dunlap, 1981.
[2] Atkins, Robert C. *Dr. Atkins' New Diet Revolution.* New York: M. Evans & Company, Inc, 1992.

mirror opposites, are in total agreement that simple sugars are villains in dieting and in health. Finally, something we can hang onto.

Not so fast! There has been major disagreement even on that—and in this case the disagreement is official! Several years ago the World Health Organization and the Food and Agriculture Organization of the U.N. published a report on *Diet, Nutrition and the Prevention of Chronic Disease*[3] which concluded that 10 to 15% of dietary calories should come from protein and 15-30% should come from total fat. And although 55-75% of calories could come from total carbohydrate, "free" sugars were strictly limited—to less than 10%.

However, a near simultaneous report from the National Academy of Sciences' Food and Nutrition Board[4] suggested a higher range-- for both fat and protein up to 35% —a bonus for the livestock industries if you recall that the recommended top protein intake in the W.H.O/F.A.O report was 15 percent, not 35). The NAS report also suggested fewer carbohydrate calories—a top of 65 rather than 75%, but it allowed up to 25% of all the calories in the diet to come from added sugars! The W.H.O./F.A.O. recommendation was of course less than 10%. All of which means that if you were trying to choose manufactured food products on an "ideal" macronutrient basis, you couldn't look for help to the official recommendations.

~~So much for the stuff you bite into. What about the micro-components of foods,~~

[3] Diet, nutrition and the prevention of chronic diseases. Report of the joint WHO/FAO expert consultation. WHO Technical Report Series, No. 916 (TRS 916)

[4] Food and Nutrition Board. *Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids (Macronutrients).* A report of the Panel on Maconutrients, Subcommittees on Upper Reference Levels of Nutrients and Interpretation and Uses of Dietary Reference Intakes, and the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. Prepublication, 2002 (http//www,nap.edu/catalog/10490.html)

So much for the stuff you bite into. What about the micro-components of foods, especially the molecules that we put into supplement pills or into fabricated foods in order to make them "nutritionally equivalent" to ordinary foods constructed by Nature. These are no longer just vitamins and minerals but include much sexier substances like beta carotene or lycopene that we've noticed only in the last couple of decades.

Almost 30 years ago, when I served on the Diet, Nutrition and Cancer panel of the National Academy of Sciences, the understanding was just emerging that there were important non-nutrient chemicals in our food that had a possible role in human health, but no human studies had yet used isolated *non-nutrient* chemicals to try to test those possible relationships. At the time the only human data relevant to diet and cancer were epidemiologic, derived from looking at what different populations ate. People who ate lots of vegetables, for example, especially vegetables of the cabbage family (technically brassicas) seemed to have less cancer than people who didn't eat that way, and scientists were just starting to tease out what might be the protective substances in those vegetables.

Enter Beta carotene. At one of our meetings, we heard from one of the bright young men of British science, whose ground-breaking article on beta carotene as a quencher of singlet oxygen in living tissue was just about to appear in the British journal *Nature*. He spoke for some time on the qualities of beta carotene that made it a good candidate for the cancer-preventing chemical everyone was looking for.

As he was speaking, my mind wandered to something I had learned from a food science text: one major role of beta carotene in plants is to protect chlorophyll from oxidation--which means, of course, that it would be expected to turn up in plants in the

company of chlorophyll. So during the question period I nervously asked the intimidatingly brilliant speaker how he knew it wasn't chlorophyll? "What's *it*?" he snapped? I recovered myself and tried to explain, "I mean, since beta carotene is always found in conjunction with chlorophyll in green vegetables, how do you know the relevant substance you're looking at in human diet studies isn't chlorophyll?" He stopped, looked at me, and said slowly, "Well, we don't know for sure."

His hesitation is the most important thing to keep in mind when we're dealing with how various parts of foods function in the body under normal circumstances—especially when the endpoints are not the familiar "deficiency diseases" like scurvy or beri-beri, that most of us learned about at some point in our education, diseases for which the white rat model proved so useful. We are looking for the effects of foods and diets on degenerative diseases like cancer, heart disease and diabetes that take a long time to develop and for which we really don't have satisfactory animal models..

In these circumstances, we're almost always making guesses, educated guesses sometimes, but guesses about which ingested substance or substances might be having an effect. In the biochemical chaos of the diet, we're focusing on a substance or a single molecule that has, for some reason attracted our attention. But what we actually know comes from looking at different groups of people eating different diets—not isolated food parts, not even whole foods—but mixtures of foods, whole and processed, called diets, and it's very difficult to tease out which molecule in those diets might be the magic bullet the scientists are looking for.

We got some of our first clues about the relationships between diet and cancer by looking at genetically similar Japanese populations living in Japan, Hawaii and the U.S—eating Japanese-Japanese, Hawaiian-Japanese and California-Japanese diets. But it's much simpler to detect important differences in the food intake of populations

eating diets modified from a single tradition than it is to tease out the relevant dietary differences between groups drawn from the genetic and cultural stewpot that is the U.S., who eat from a food supply into which many thousands of novel products now enter every year.

All we really know about is foods and diets. And so, many years ago, when draft chapters of the Diet and Cancer report kept coming across my desk saying that vitamin C or *beta* carotene seemed to be protective against cancer, I kept changing the text to read "foods containing Vitamin C" or "Foods containing carotenes." I objected to conflating the food and the nutrient, but I also objected to their picking out a single familiar carotene, ignoring all the other carotenoids that might also be present. Of more than 600 of these identified in plants 50 are prominent in common fruits and vegetables[5], and since many of these occur together, it's impossible to say when you're looking at someone's diet, which one—or several—of them might be helping protect against cancer.

Given the reductive nature of our scientific models, however, the desire to find a single isolated substance to test was overwhelming. Beta-carotene was a substance nutritionists had known about for years—because the body converts it to Vitamin A and, as I said earlier, it had been identified as a possible cellular anti-oxidant—so beta carotene was chosen! Tests were set up feeding human subjects beta carotene capsules and gradually it became clear that things were not as simple as they had seemed. Not only did the feeding studies fail to show positive effects from beta carotene, but some of those who took it did worse than those who didn't. For example, it increased rather than decreased the chances of smokers developing lung cancers.

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[5] Thomas, Paul. Carotenoids: Foods, not supplements, are the best sources. *The Dietary Supplement*, October/December 2001, pp 1-11.

An editorial in the *Journal of the American Medical Association* commenting on the disappointing results noted that. "Beta carotene may be just an indicator nutrient for other substances in fruits and vegetables that are beneficial in warding off disease." Consuming too much of it might actually flood the system, reducing absorption of other protective substances—of which there are many. Fruits and vegetables are, after all, sources not only of 40-odd carotenes, but of vitamin C, iron, calcium, magnesium, zinc, selenium, manganese, copper, and what has been described[6] as "an almost staggering list of micro-or nontraditional nutrients that are . . . now believed to be roughly equivalent to beta-carotene when it comes to preventing cancer."

So that's the story of what I discovered in my last attempt to make it clear why we just had to eat food, and I confess that I have not really been surprised to learn that the negative results from nutrient trials have not daunted researchers who have gone on to do subsequent extended trials with beta-carotene and various other antioxidants that have produced equally negative outcomes. I have no time this morning to go into detail, but a recent summary of the existing studies showed no effect of various isolated nutrients and nutrient combinations on cancer, heart disease, bone health or any other endpoint.

Meanwhile, I'm happy to say that my conclusion that we have to eat food has gained some modest fame since, as Michael Pollan remarks in *In Defense of Food*, it was my speech that led him to think about the conflict between food and nutrients. And since he has a trumpet so much bigger than mine, I'm thrilled that he has broadcast into the world the idea that we should eat food, not nutrients, and that we've gotten trapped in what he calls "nutritionism," that we've been led down a primrose path paved by regulators ever since they allowed food companies to pretend that processed products are real foods as

[6] Mark Bittman, Eating Well,NY Times 4/6/94

long as they are "nutritionally equivalent" to the whole foods they are imitating. "Nutritionally equivalent," as I am sure you understand means nothing more than that the edible substances—whether nature made or factory made—contain roughly equivalent amounts of the nutritive substances *that we know about and have decided to pay attention to*—given our present, inevitably incomplete state of knowledge.

Now at this point I want to confess that I honestly don't know how those of you here who intend to practice in the field of nutrition will be able to find ways to do all you need to do while avoiding the nutrient trap, but by now, I am utterly convinced that we simply must make that our goal. I am well aware of how difficult it is to set quantitative standards that do what you want; I once tortured the students in my nutritional policy class by asking them to write a definition of "nutritious" that included an apple and excluded a candy bar. And I know just how difficult it is to escape the conditioning that says we *have* to do it by the numbers because of something that "nutritionism's" scourge Michael Pollan himself, recently put into very public print.

It was in an article on food and agriculture policy last fall in the *New York Times Magazine*, an article so widely admired in certain circles that Michael was nominated by some in the advocate community as a potential Secretary of Agriculture. In the article he complained that "We need to stop flattering nutritionally worthless foodlike substances by calling them 'junk food'—and instead make clear that such products are not in fact food of any kind. Defining what constitutes real food worthy of federal support will no doubt be controversial. . . " And then, innocently heedless, he plunges in, "One approach would be to rule that, in order to be regarded as a food by the government, an edible substance must contain a certain minimum ratio of micronutrients per calorie of energy."

I'm afraid I barked something more obscene than "Ouch" when I read that. I'm afraid that's where Michael gives away the fact that he's never been a nutritionist, never tried to decide what constituted a "nutritious" food that could go into a vending machine or a school lunch line, never tried to characterize what constituted a nutritious cereal for WIC or a school breakfast program.

I'm afraid he's never considered how we ought to think about breakfast cereals named Cinnamon Toast Crunch and Honey Smacks that are "enriched" with all the major nutrients, plus color, flavors, preservatives and a flood of sugar, and then marketed heavily to children. As for myself, I've been down that road too many times before; I figured we had hit bottom in defining foods as nutrients when I heard a food chemist describe vegetables as "phytochemical delivery systems."

I found some hope for our profession in a fairly recent *Nutrition Reviews* paper titled provocatively, "Food, Not Nutrients is the Fundamental Unit in Nutrition"[7] whose authors concluded that we need more whole-food based research. That's good news for nutrition research, I think, which has increasingly hit dead ends. And it tells us with certainty that in the teeth of what Yale's Kelly Brownell has called our "toxic food environment," it is time for nutrition educators to start taking our own stand, insisting that whole foods not collections of nutrients must become the fundamental unit for eaters and educators as well as researchers.

In thinking how we might do that, I've personally had some success in suggesting that we use the term "indigeous" nutrients in our specifications which would mean they had to be there to start with and "nutrition" couldn't be achieved by just dumping appropriate quantities of the most popular nutrients into any old mix of

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[7] Jacobs, David R., Tapsell, Linda. Food, Not Nutrients, Is the Fundamental Unit in Nutrition. *Nutrition Reviews* 65:10:439-450, October, 2007.

corn, soy and sugar. But we need to go further than that. We definitely need to push for food, food that comes fresh into homes and institutions and is cooked so that it tastes like actual food. Simple, good tasting food that eaters sometimes have a chance to handle raw.

Before I close, let me offer one contribution to how you might begin thinking about foods as other than bags of nutrients. It's a document that has just gone up on the website of The Strategic Alliance, the product of a challenge that Dr. Betty Izumi offered to a meeting of nutritionists almost two years ago: urging us to find a way to get away from nutrient standards. That idea has been put into drafts and has been pushed through to completion with a lot of back and forth on the internet by Leslie Mikkelsen of the Prevention Institute. The result was originally called a Manifesto—which I liked—now it's more quietly called "Setting the Record Straight: Nutritionists Define Healthful Food"

Here is a brief excerpt which comes after a page of discussion of the ways in which the present food system is biased against healthful production, processing and marketing practices, and the fact that "healthy food comes from a food system where food is produced, processed, transported and marketed in ways that are environmentally sound, sustainable, and just.

> As health and nutrition professionals, we choose to stand up for a food system in which wholesome food is the norm. We support the following principles, which provide a definition of healthful food and a framework for developing programs, shaping community food systems, and advocating for food, nutrition, and agriculture policies that truly promote health. We also challenge all the food and beverage companies to produce food that reflects these principles and to stop using deceptive health claims and green marketing to blur the lines between wholesome food and highly processed food products.
>
> *Healthful Food is wholesome.*

- Includes minimally processed fruits, vegetables, whole grains, legumes, nuts, seeds, eggs, dairy, meats, fish, and poultry.
- Contains naturally occurring nutrients (e.g., vitamins, minerals, phyto-nutrients).
- Is Produced without added hormones or antibiotics
- Is Processed without artificial colors or flavors or unnecessary preservatives.

You can go to <www.preventioninstitute.org/sa/settingtherecordstraight.html> read the rest for yourselves and sign on if you want. It's a carefully worded and serious document and should help us all.

So let me end with the following. As the devastating statistics indicate—the rising rates of obesity and diabetes, the forecasts that our children will have lives shorter than ours—we are threatening ours and our children's futures by how we feed them and allow them to be fed. We know just enough about the composition of food to know that, in seeking health, our only real choice is to eat actual traditional foods, not those collections of nutrients that the food industry will be happy to provide to us in a variety of forms, even as candy bars. And we know, therefore, that our most determined enemies in the attempt to improve diets will be the food companies that profit from selling all of us these unhealthy ~~food~~ products.

This means that as we try to change diets, we will all need to be ready to stand up to some of the most powerful and moneyed interests in the United States—which means that at the very least we need to begin to think seriously about how to successfully take such stands. That is, of course, what I began doing 40 years ago in this nutrition program that was then a mere 60 years old. This morning, on the occasion of the 100th anniversary of the oldest nutrition program in the U.S., I urge you to join me in waging that battle.