

The Chemical Scare: Are Politics Driving the Fear?

By Elizabeth M. Whelan

It will come as no surprise to you I am sure if I begin by saying that Americans are more health conscious than ever before. Exercise, concern about drug and alcohol abuse, emphasis on good nutrition are, at least in concept, high on most everyone's list. And that is good news.

But our increased concern about our health has a darker side in that we tend to be overwhelmed sometimes about the alleged health risks around us. Many of us now expect to find a toxin on every plate and a carcinogen on every pillow. What should be a healthy approach to good health has become distorted to the point that many of us have become nosophobic – literally defined as a morbid dread of mortal illness – somehow convinced that living in America in the 1990s is inherently hazardous to our health – and that the only answer is an array of federal and other regulations that will protect us from the allegedly noxious agents which surround us.

When in the state of nosophobia, we tend to lose our perspective and our sense of priorities.

And that's really what I'd like to look at today.

America's nosophobia – especially our concern about pesticide residues on food – has become so pronounced that recently even the President talked about food safety. Basically what he told us is that we have the best food supply, the safest in the world, but since people do not think so, perhaps more regulations were necessary to allay their fears.

I'd like to get to the dangers of that kind of an approach in a second. Let me assure you that this nosophobia is not limited to food. It affects an entire range of products, and over the years what has struck me is the similarity in the way the media have presented the stories – whether it involved dioxin, PCBs, EDB (ethylene dibromide), a herbicide that was banned about six years ago, or any number of other things.

Threat to Good Health. I would like to step back and look at the exaggeration about risk, which I think is one of the most frightening domestic problems facing the United States today. I find it frightening not only for our standard of living in this country but also, ironically, because I think this nosophobia is threatening our enviable state of good health.

Just by means of background: This is a very historic week. It is the thirtieth anniversary of the first real food scare to hit the United States.

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Cranberry Scare. Thirty years ago today, in November 1959, the head of what was then called the Department of Health, Education and Welfare, stepped forward to tell us that the United States cranberry crop was contaminated with trace levels of a weed killer that caused cancer of the thyroid in rats.

To make a long story short, most Americans had Thanksgiving dinner in November of 1959 without any cranberry sauce. Panic seized the nation. That was just the beginning.

Over the years we were told that the most dangerous thing in the refrigerator was bacon because of the nitrite treatment it receives.

We were told that drinking hair dye was not good for us. Red dye number two was banned, and most recently there have been announcements about electric blankets causing cancer because of the electromagnetic fields.

The big one of course was the Alar scare of 1989. There is no scientific basis for it, but we must take it seriously because so many Americans did.

There was a news report about two weeks into the scare, about a mother in upstate New York who, after she heard on Phil Donahue's show that apples caused cancer, called the state police and had her child's school bus intercepted so that the apple could be removed from his lunch box.

This was a seriously alarmed woman.

The International Apple Institute reports that they had at least one call from a consumer who asked whether it was ecologically acceptable to pour her pantry supply of apple juice down her kitchen drain, or whether she should take it to a toxic waste dump.

And of course, Johnny Carson got involved; he said that the Surgeon General wanted us to have safe sex, but he couldn't even find a safe snack. And that his child could get crack or an Uzi automatic at lunch time, but there wasn't a grape to be found.

Carcinogens Everywhere. Well, the word "carcinogen" is so liberally thrown around these days that the message we are getting almost daily is that we are surrounded by cancer-causing agents, that there is a cancer epidemic. And these stories begin to feed upon themselves.

I went into a health food store a few weeks ago, and they had very, very high priced produce. I asked why this produce was better and they said it was because it did not cause cancer. And on the way out, I saw a display of natural herb cough drops for smoker's cough. This gets at the heart of the problem: our tremendously inverted priorities.

I would like to look quickly at three points. First, a definition of what I see as the problem; second, just a brief attempt at an explanation as to why this is happening; and third, a summary of what the consequences are for the United States if we let this continue.

First, very simply put — the problem is one of inverted priorities, being pushed to center stage are purely hypothetical concerns crowding out the genuine public health challenges that are around us.

We have got to get back to the basics of epidemiology which some of my colleagues in public health — including Meryl Streep who has recently joined the ranks — have forgotten. Our purpose in public health is not to terrify people needlessly, to harass industry, or to

remove from the market useful products. It's to prevent premature disease and death — that's all we are asked to do.

Causes of Premature Death. So I have a question: How many people die in the United States and how many of those deaths are premature? Simply put, two million Americans die every year of all causes; one million of those deaths, according to our epidemiologist, are preventable in the sense that they are postponable.

The question then is, what are the causes of these one million deaths? That's where we should be putting our effort and our money.

We assembled a team of the top epidemiologist in the United States and they gave us the following breakdown. Approximately 500,000 premature deaths every year in this country — half of the total — are caused by cigarette smoking. You are all numb to hearing this, that smoking is dangerous. But think of that — 500,000. Actually, the number is 485,000, that is the latest peer review estimate. One in four deaths; one in two premature deaths is caused by the smoking of cigarettes.

I would like to point out something that often shocks groups I address — the newness of the cigarette for the United States. The day that Ronald Reagan was born, to pick one well-known American, there were no commercially produced cigarettes available in the United States. And people say, "Oh no, that couldn't be, tobacco is the first product of the United States and it's always been with us."

Recent Problem. Tobacco always has been with us; it was the first crop. It was used safely, relatively, until approximately 1920. The cigarette was not introduced in this country commercially until after World War I. One reason it was not — in addition to the fact that it was considered quite an effeminate product — was that there were no matches people could carry safely with them. Safety matches were not invented until approximately 1918. Tobacco was used after dinner, it was lit by the fire of a candle, it was not used on an all-waking hour basis. It is that new a product; it is that new a disaster in public health. It was not here at the beginning of the century; we hope it will not be at the end of this century.

So that is number one — 500,000. Moving down the list, we attribute approximately 100,000 premature deaths to alcohol abuse and misuse. About half of that would be vehicular accidents.

Unlike smoking, most people can use alcohol safely and moderately. Indeed, the studies that are emerging on moderate alcohol use as a means of prolonging life, and reducing heart disease, are quite striking. A recent, much talked about study in the scientific community showed that men in Scandinavia who drink approximately a half bottle of wine a day dramatically increase by 20 percent their HDL, which is the high density, or the so called "good" cholesterol. The two means that we know of increasing the HDL are moderate alcohol use and exercise on a regular basis.

The third leading cause of premature death is drug abuse, probably in the area of 25,000-30,000 annually, excluding AIDS-related deaths, AIDS being a separate category. AIDS, of course, is a disease that is going to be one of the leading causes of death, and it is already. We are talking about 110,000 cases of AIDS to date, and projections of approximately a million people infected in the United States. In other words, we have only diagnosed about 10 percent of those currently believed to be infected with this disease.

Other factors in premature disease and death include: Failure to use life-saving technology, such as seatbelts and smoke detectors; failure to undergo early screening for preventable diseases, poor diet, in the sense that overconsumption of calories, for example, puts you at risk of diabetes and early death. There are other minor factors as well, but we have touched upon the most important.

Inverted Priorities. We asked these same epidemiologists approximately how many premature deaths they would attribute to factors like dioxin in paper towels, electromagnetic fields in electric blankets, PCB's in water, irradiated food, Alar in apples... and so forth.

The answer we got was basically this: "We do not know – our best guess is zero."

This is the dilemma of inverted priorities. I do not want to be misinterpreted here. I am not saying that anything goes with regard to chemicals. Many of them are toxic – indeed, almost anything can be toxic in high doses.

Regarding pesticides, that is their job – to kill insects with which we compete for food. But I am talking about how many human deaths or illnesses occur when you have the system in place? The answer appears to be zero.

The Environmental Protection Agency, for example, is charged with setting tolerances for pesticide residues in food. They impose extraordinarily conservative ranges, a hundredfold protection, far more than we need. The FDA makes regular checks of these.

Once the system is in place, what do we have to achieve by further regulation? Nothing.

The problem here then is when consumers begin to demand that we approach the ever receding zero, where the costs become enormous, if not prohibitive, and the resulting benefit to public health is nil.

Terrible Document. The American Council on Science and Health was recently asked to review a federal document called "Promoting Health, Preventing Disease in the Year 2000." The document is going to be released by President Bush in July.

The good news is that it was a draft; the bad news is that it was terrible. You would think that if you were trying to prevent disease and death in the year 2000, the very first chapter would be to tell you what the leading causes of death were and how you were going to go after them.

This draft was something that was based more on popular wisdom. It talked about pesticides, about nuclear waste and never got to the real threats to public health.

Most important, the document was characterized by a tendency to call on government to protect our health. Early in the century in this country, to be sure, government did a lot to promote public health such as chlorinating water and requiring immunization. But in 1990, from what we know about what causes human disease, the government can't do very much more. It's all within our lifestyle patterns to manipulate our odds. This was not reflected in the President's report.

Again, we are back to priorities, and the false assumption in that document and elsewhere that all risks are created equal. That is not true. We do not have unlimited time and money in our personal lives or in planning for public health.

Scientifically Illiterate. Point two on my list of three: Why is the most health conscious, presumably best educated nation in the world inverting its health priorities? Why is our government so willing to put into effect crippling regulations, chasing after bogus threats, in the name of “public health”?

We may be an intelligent, educated country, but in many ways we are scientifically illiterate. A recent study, for example, showed that one-third of us did not know that planets revolve around the sun; 70 percent of Americans did not know that lasers had anything to do with light.

When it came to food chemistry, it is even worse. People want chemical-free food. But all food is chemical – 100 percent chemicals. Basically the moral of that story is if we applied the same standards to Thanksgiving dinner as we do to pesticides and food additives, we would have nothing to eat next week or any other day.

Food is a highly emotional issue and always has been. I think many of you or your spouses or children probably did act emotively when you heard that apples caused cancer and this was an intolerable risk. I think it is human nature to react that way when you are told something as frightening as that – particularly when it involves children.

But we have a choice here: Are we going to act on the basis of emotion or science?

During the Alar scare, I was asked by the *Los Angeles Times* to write an article and give some perspective. I began it by saying that what this country needs is a national psychiatrist to figure out why people are throwing out wholesome food.

Fear of Unknown. Well, about four days later, I got a call from a psychiatrist, who said he had some answers. His name is Dr. Park Elliot Dietz. And he told me that people have always feared invisible things, things they cannot see. He said that throughout history, human beings have projected their anxieties and fears onto mysterious elements like electricity and magnetism. Invisible hazards, he said, have always played a major role in the psychology of mass paranoia. Human beings have long tried to explain misfortune by postulating invisible, hostile agents. He went on to say:

In a nation where one-third of the people believe in astrology and that the *National Enquirer* outsells any other newspaper, in which every sort of misinformation and quackery, from nutrition misinformation to reports of alien visitations make the *New York Times* Best Seller list, we shouldn't be too surprised at this type of reaction.

I would like to stress that point of not understanding something. Let me give you two contrasting examples for you to think about. Saccharin. Twelve years ago, to the day, when Alar was in the news, the government announced that our then only artificial sweetener was going to be banned because it caused cancer in Canadian rats.

Do you remember what happened that day? People ran out and bought up every pink packet they could. Congress intervened and we now have saccharin, which is a perfectly safe substance. You see, the difference there was that people knew what saccharin was, they were familiar with it.

Microwave ovens. Nine years ago there were scare stories galore about radiation and people fearing microwaves – but 75 percent of homes now have microwaves. You don't hear anything about that any more.

Industry Cave-In. Again, it is the perceived value and it is the familiar that we are willing to accept. Why is this happening and why are we so fearful of chemicals? Well, I think American industry is very largely to blame for this. How often do you see them putting signs on like “No Alar,” “100 percent natural,” or “No palm oil”?

Any time there is a charge, it seems industry – instead of standing up to defend the facts – actually caves in and folds.

Recently we approached one of the major food distribution firms in this country, and asked for some funding. “We need your help in restoring confidence in the food supply,” we said, adding that it would be in their interest.

They thought about it and they came back and said, “No, we don't care what the facts are. If the lady wants to pay \$20 for 10 pounds of apples, we don't care, we'll give the lady what she wants. So forget the science. And by the way, Dr. Whelan, we have no intention of helping you point to the real causes of death – we happen to sell cigarettes here.”

So it gets a bit complicated.

Catering to Fears. The food distribution and other industries play major roles in catering to fears. You have heard perhaps about “BST” (bovine somatotropin hormone), which is now being used or planned to be used to increase dramatically the milk supply in this country.

But many, many industries – including ice cream makers and food distributors – are now putting signs up that they will not use BST treated milk (though it is identical to any other milk). In other words, they are catering to human fears.

I will discuss this more in a moment, but my fear is not so much of the environmentalists and their exaggerations. My greatest fear is that mainstream America and the corporate leaders of this country are going to cave in to public pressure and begin making decisions not on science, but on perception.

Why do we have such scares like the Alar? I will give you another reason. Scientists are mute; they are comatose. How many scientists did you see on television this spring when parents were so anxious about food safety? Where was the American Cancer Society? Where was everyone?

They were all hiding. We asked many scientists why they did not come out, and they all gave us the same reasons. One, they do not like to go on TV. Two, they do not know how to speak in lay language. And third, and most important, they are defensive about their funding.

Scientists tell us that because they receive money from industry – which every university does, the American Cancer Society does, everyone does – they are afraid if they get up and say the truth about the food being safe, that they will be dismissed as paid liars. Therefore, they remain silent.

Media Hypocrisy. I have recently begun to point to the hypocrisy of the media in this area, its assumption that anyone who has ever accepted money from any industry in any form is therefore a liar. This chills any kind of dialogue on public health because only one group is the considered legitimate, and that is the environmentalists.

On April 5th, the American Council took out full page ads in a number of newspapers declaring America's food was safe. It was signed by sixty of our scientists, with their affiliations. It was in the *Washington Post*, *USA Today* and the *New York Times*. It was during the height of the scare, and we tried to do something to calm people down.

I received a call from a major national newspaper, a livid editor. She did not bother to use euphemisms. "You're a paid liar and all those people who signed it are paid liars and I'm going to prove it," she said. "I'm going to call every single one of them and I'm going to determine if they now have or have ever consulted with industry, and if I prove that, I'm doing a front page story saying you were all paid liars – and I know I'll be able to. I have your directory and am calling every one of them."

I was in a state of shock, and after about a half hour, I thought, "If she does that, these scientists will never speak out again, they will never publicly put their name on something if they're going to be intimidated."

And then I did something I never did in my life, but I am going to do it again. I called the ombudsman at this paper and reported this incident. And while he was very defensive and supportive of her, that story did not run.

I think if more of us began to intercept those – with good cause – that we could stop this type of thing.

Also on April 5th, a major morning TV show booked ACSH's chairman and me to discuss food safety, but at the last moment canceled it on the basis of the fact that 10 percent of our money came from food and chemical companies. "Now wait a second," I said, "who funds your program? Look at all the ads your network gets."

Shortly after that particular incident, it was learned that the show's hostess-to-be was working on the side for Phillip Morris. Such hypocrisy, I think, needs to be brought prudently and politely to everyone's attention.

Scares occur because people have some very odd premises. Consider the Consumer Union. They seem to believe in their editorials that natural is safe and that synthetic is by definition suspect. That is false. The more we study, the more we realize that nature abounds in carcinogens at very low, non-hazardous levels.

Strange View of Economics. These groups also seem to have a very strange view of economics: that the big bad chemical companies put these poisons in products to increase profits and that the public has to suffer.

That is ridiculous. Economics is a two-way street. We all benefit from modern chemical technology, both in price and quality. Indeed, these groups do not talk about the risks of not taking risks.

What happens when you do not, for example, use agricultural chemicals?

Take a look at your flour canister at home and there is a good chance you will find little black things in it. Most Americans are reporting that right now because we are not fumigating flour as we used to. Insects get into flour, and lay their eggs; over the course of about a month you begin to see the results. This is not unusual at all. It is not harmful, but it is hardly aesthetically pleasing.

There is another greater risk in all of this. Example: I lecture at private schools in New York. In March I gave my regular lecture on smoking and told the fourth graders that smoking caused cancer. First question: "So do apples, Dr. Whelan — what's your point?" When everything is dangerous, then nothing is — this being one of the more insidious consequences of overstating risks.

Why are Americans so confused? One reason is because many of the claims they hear are based on animal experimentation. The extrapolation from high dose exposures of animals to humans and the knee jerk reaction of the so-called Delaney Clause of 31 years ago — if it causes cancer in animals, you must ban it in Man — will lead to economic suicide in this country if we continue down this path.

Prudent Limits. We are going to have nothing left if that is our assumption. It makes no sense whatsoever. We do not treat *human* carcinogens that way. In the last century, we have made a lot of progress in understanding the causes of human cancer — causes such as radiation. But do we ban radiation? No. We use it prudently.

I think the time has come when we have to start looking at chemicals in that way. We do on natural chemicals. Aflatoxins, for example, are highly potent carcinogens that occur as a result of the formation of molds on corn and wheat and other products. Do we ban things with aflatoxins? No. We set prudent limits and set a no-effect level. This is what we have got to do.

You know things are getting out of hand when, in the *Journal of the American Medical Association*, doctors wrote in complaining about the animal experiments used to absurd levels. And they wrote: "In response to all this nonsense, we inserted sterilized dimes into various apertures of 35 rats, and after 10 months we noted that 50 percent of the rats exposed to dimes got cancer." They referred to this as "foreign body tumor genesis," and concluded that: "there's an excellent chance that folded money, credit cards, government paychecks, all cause cancer and should be banned."

I am not proposing total elimination of the animal experiment — it is useful, it is central in biomedical research. I am just asking for some common sense in interpreting those results.

Hyperbole About Risk. Point three in my list of three. The consequences of not doing something about exaggerating risk. I believe that hyperbole about risk is the most important domestic problem facing this country today, permeating every aspect of our life — food, consumer commodities, energy.

It is adversely affecting our quality of life here and our ability to compete in foreign markets. The hyperbole is everyone's problem, but it is no one's problem because it is all wrapped up in a general spiral of inflation, and we never actually get to see the deleterious effects, per se.

There are days in which I think a foreign hostile agent could not do a better job of threatening the future of the United States than our own domestic hyperbolists.

If the Natural Resources Defense Council and their allies continue to raise anxieties about food such that we throw out our food, such that we demand tighter and tighter regulations so there is less food, we are all going to suffer.

We live in urban areas, and we tend to forget that nature is not benign to those of us who abandon technology. Without deliberate human intervention, nature would rapidly eradicate the world's food supply.

Outside pesticides: If we proceed to reject the phenomenal contribution of biotechnology, which has been related in importance to the discovery of fire, we are going to reject a whole new family of pharmaceuticals and the agricultural advances we need to feed this country and the world.

If we continue to demand that every trace of every chemical at any dose that causes any problem in any animal be removed, well, economic growth will come to a halt.

Grim Scenario. This psychiatrist I referred to earlier states: "When fears are magnified greatly in proportion to true risk, nearly everyone suffers. People worry needlessly, products and services fail to achieve market potential – and producers are thrown into crisis."

Certainly you saw that this spring.

It is a grim scenario: a diminished standard of living, and ironically, poorer public health.

So in conclusion, I think you can see that my main points that we have a tremendous potential to increase our chances of long life and good health in this country, but killers are not lingering outside of nuclear power plants, they are not hidden in a toxic dump, and they are not lurking in a jar of applesauce.

They are within our control, and no miracle drugs are needed. At a time when we should be rejoicing about our unprecedented state of good health, we are moping about like a nation of healthy hypochondriacs blaming our sophisticated society for problems that simply do not exist.

My fear as I said, is not so much of the environmentalists – but of the growing tendency of American business leaders not to recognize this problem.

I have been in this business for about ten years, and I know of only six or eight leaders in the business community in the United States who I believe understand the seriousness of this problem. The rest of them seem to be catering to myopic short-term games of "give the lady what she wants."

CommonSense. When in doubt, you can try common sense – we are living longer than ever before: industrial chemicals have been used for more than forty years, and during that time period, cancer death rates have either declined or stabilized, with the exception of lung cancer and melanoma, particularly. We have the highest standard of living in the world, and we have had this high standard of living because of our dependence on technology.

Fears are normal. Emotional responses are normal. But we have a choice of either brooding in the dark or putting on the light and using science to help find these answers, and to educate people about risks.

And the time to act is now. We have been so passive in our response. We, too, are environmentalists – and I think it is time to point out to people that it is not the profits of industry that are so dangerous to our health, but the prevailing prophets of doom.

