# Longevity

**Sermon to the Unitarian Universalist Fellowship of Palo Alto**

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Good morning. Greetings from the Unitarian Universalists of San Mateo, and from what used to be known as "The North Campus."

My topic this morning is longevity. I'm going to talk about what determines how long we live, and about how common beliefs about the answer to that question are culturally determined, and in many cases off the mark.

As you know I'm a teacher. In a teaching course I once took, the instructor said when you give a lecture you should do it the way a preacher gives a sermon: tell 'em you're gonna tell em, tell 'em, and tell 'em you told 'em. This is my first sermon, but I guess I'll give that a try. Here are my main points:

First, most people's views of determinants of longevity focus too much on actions by individuals—things you should do to increase your own life expectancy.

Second, this individual focus is partly due to a very human desire to believe we can control our destiny, but it is also a predictable and unfortunate product of our current individualistic American culture and market economy.

Finally, the biggest gains in longevity have been through cooperation, and the biggest current threats can only be addressed through cooperation.

I may be controversial; I'll welcome questions and discussion. I'd like to start by reading from an article by Dr. Paul Marantz, a New York City general internist.

Dr. Marantz wrote:

My friend Neil suffered a heart attack at 33 years of age, an unexpected and inexplicable event. He was previously in excellent health, has never smoked cigarettes, has no family history of heart disease, was about 5% over his ideal body weight, has no diabetes or high cholesterol. In short, a risk factor analysis suggests that this coronary event should not have occurred in this patient.

Since this occurrence was such an epidemiologic curiosity, I tended to talk about the case. I was discussing this clinical history with colleagues in the hospital when a medical resident who overheard remarked, "Are you talking about Neil \_\_\_?" The resident knew Neil, and could easily recognize the case from my brief description. He did, however, take issue with my contention that this was a patient without any risk factors for heart disease. It was his impression, he said, that Neil was a "real couch potato."

Although this conversation took place several months ago, I have not been able to get it, or its implications, out of my mind. Have we reached such a point in our health-conscious society that every individual who suffers an illness classified as "preventable" must bear the burden of responsibility for that illness? Why isn't it possible to just get sick without it also being your fault?

In a way, this resident reacted as anyone would: humanity is characterized, after all, by the drive to comprehend the incomprehensible. If something happens, we like to be able to explain why it happens: we are convinced that every effect must have a cause. This deterministic view of the universe underlies, I think, much of our zeal to lay blame for every conceivable modern illness at the foot of every conceivable aspect of modern life.

Dr. Marantz goes on to show that, if Neil had exercised and lost some weight, the amount he could have reduced his predicted death rate from heart disease was about the same as driving about 10 miles fewer per week in his car.

I love this article, and use it regularly in my teaching.

But I disagree with Dr. Marantz's title, which is "Blaming the victim: The negative consequence of preventive medicine."

First, it's not preventive medicine as a whole that is at fault, it's our emphasis on risk factors in individuals. As I will discuss, our greatest successes in preventive medicine have been public health measures like cleaning up air and water, rather than interventions focused on individuals, like getting people to lowering their cholesterol levels or get a mammogram. Second, blaming the victim is not THE negative consequence of preventive medicine, it is just one of several.

NOW WHY DO I SAY THIS EMPHASIS ON INDIVIDUAL RISK FACTORS IS CULTURALLY DETERMINED?

Well, I'm not a sociologist, but it seems to me that one of our cultural beliefs is that the society most prospers by having each person attempt to maximize his or her own personal wealth.

We have a tendency to believe that poverty and homelessness are a result of individual defects of character—people who just don't try hard enough. How easy it is gradually to adopt some of that same outlook about illnesses. People like Neil who develop heart disease must have eaten too many cheeseburgers or not have exercised enough. We seem to believe that we'll be healthiest as a society by having each person attempt to maximize his or her own personal health. (Especially if they need to buy things to do so.) We're getting to where being overweight is being seen as almost unpatriotic.

I hadn't considered our view of risk factors like cholesterol to be peculiarly American until I got out of the country a little.

When I talk about cholesterol, one slide I show has an advertisement by the American Medical Association with the headline that the AMA has declared war on cholesterol. I juxtapose this headline with the Corporate Sponsors of the AMA's war—companies making low fat foods and companies that make cholesterol-lowering drugs. I call that slide my cholesterol-industrial-complex slide. Anyway, I showed this slide when I gave a lecture in England, and someone from the audience said this was so typically American—dealing with something by declaring war on it. (He pointed out that in this case the something is a molecule essential for life.)

Several years ago I attended a very interesting talk when I went to what they called a "Cholesterol Non-consensus Conference" in Germany. A German sociologist described his research on the transformation of the U.S. Occupational Health and Safety Administration (OSHA) under President Ronald Reagan in the 1980s. Previously, OSHA had focussed on workplace health and safety—permissible workplace levels of toxic substances, required safety equipment, and so on. The emphasis was on things employers needed to do to protect their employees. Under Ronald Reagan, the focus changed. It was no longer acceptable to focus on employers and the workplace. Instead, the focus turned to the workers—targeting their blood pressure individually, rather then the workplace conditions that increased it, measuring their cholesterol, and even approaching safety by doing drug tests and pregnancy tests on employees. This professor's thesis was that the refocusing of traditionally public health efforts on individual risk factors like cholesterol was part of a more general trend in the US at that time, of dismantling public programs and emphasizing personal responsibility.

WHAT'S WRONG WITH THIS FOCUS ON INDIVIDUALS?

First, although perhaps very American, taken to excess, it's spiritually and morally unappealing.

Now, unlike money, good health isn't something one can accumulate in grotesque amounts. But we can spend grotesque amounts in an effort to stay healthy, and thereby take resources away from other programs that would do a lot more good. Unlike spending on treating diseases, which is at least theoretically limited by the number of people who have the disease, potential spending for prevention is practically unlimited—everyone in the population is at risk for multiple diseases. In many cases, the yield—what you get out compared with what you put in—is pathetically low. My favorite example of this was the first big randomized trial that suggested that lowering cholesterol could prevent heart attacks: the Lipid Research Clinics Coronary Primary Prevention Trial. Although publicized as an enormous success by proponents of cholesterol lowering, even in these high-risk middle-aged men, it took 11.2 tons of the drug cholestyramine to prevent one coronary heart disease death. And of course the effort/yield ratio is even worse in women. If cholesterol-lowering drugs defer any deaths in women who do not yet have heart disease, which nobody really knows yet, they cost up to a million dollars per year of life gained.

This sort of extravagance is most tragic in developing countries, where precious health resources may be spent on things like cholesterol-lowering drugs and mammography for upper and middle classes, when the poorest citizens do not even have access to clean water. But we are already seeing competition for funding in this country as well, and it is going to get increasingly ugly. We tend to see health care as an entitlement, and believe this extends to preventive interventions as well. Politicians, who are in many cases totally clueless about costs and benefits, are entering into these discussions for purely political reasons. For example, the United States Senate voted 98 to 0 to recommend mammography for women beginning at age 40, overruling a more judicious recommendation of an expert panel convened by the National Cancer Institute. [Note added 9/2/02: see the sermon ["Healing American Healthcare"](file:///Users/geoffdaily/Desktop/TN%20Website%20as%20of%202020-0226/Healing_American_Healthcare25Aug02.htm) for more on mammography's questionable value.]

Thus we are starting to get what is known as "Body Part Legislation"—legislation requiring health plans to cover specific services, such as recent bills in the California legislature to require health plans to cover mammography and prostate cancer screening. These bills are currently cast as supporting worthy patients against evil insurers. But it is only a matter of time before this individualistic view of health care, coupled with finite resources, will lead to patients in different disease advocacy groups, many financed by industry, fighting against one another for a share of the pie—certainly an unappealing prospect. Of course the patients and diseases that get the money will not be those who most need it, or those for whom the treatments are most cost-effective, but those with the most money and political clout. And health will become just one more commodity in our society, about which the prevailing attitude is "Hell with you, Jack, I've got mine." This is what I mean when I say "spiritually and morally unappealing."

The second problem with the focus on individual risk factors for illness is in that in many cases, it is based on distorted views of their importance caused by wishful thinking and mixed motives.

When you hear a recommendation to do something for your health, it is important to ask yourself: Who is paying for me to hear this? Maybe some of you saw the magazine ad that features a beautiful six- or seven-year-old girl standing in a field of flowers. The caption says, "She has her mother's eyes, and her father's cholesterol level." This is an ad from Kellogg's, a company that wants you to worry about cholesterol in your children, so that you can consider Frosted Flakes and Froot Loops to be healthy for them. You may laugh, but in fact, Kellogg's has bought full page ads in the journal *Pediatrics*, in which Tony the Tiger lets pediatricians know that Frosted Flakes have no cholesterol.

Even if the sponsor of a health message you hear sounds like a wholesome, non-profit group, you need to wonder where they get their money. For example, maybe some of you have seen public service advertisements from the American Liver Foundation, promoting "liver awareness" and urging people to get tested for hepatitis C. Now I'm all for liver awareness—the liver is one of the most underappreciated organs in the body. But since I knew that there was no treatment that had been shown to be effective for hepatitis C infection, I wondered why the American Liver Foundation was so eager to encourage people to be screened for it. It turns out that the advertising campaign was actually paid for by Schering-Plough Corporation, a company that makes an expensive interferon preparation marketed for treating hepatitis C.

Let me give you another example of distortions due to wishful thinking or mixed motives. Has anyone here ever heard of the MRFIT? MRFIT stands for the Multiple Risk Factor Intervention Trial. (MRFIT—isn't that a clever name? I once nicknamed it the Monetary Resources For Investigators Trial.) The MRFIT was an enormous, more than 100-million-dollar trial done in the 1970s to demonstrate the efficacy of multiple interventions to prevent heart disease. The study was done on 12,000 middle-aged men selected from more than 360,000 because their cholesterol level, blood pressure, and/or smoking put them at very high risk of heart disease. Their high blood pressure was treated with drugs, and they received intensive counseling to stop smoking and change their diets. At the end of five years, there was no difference in heart disease rates between the intervention and control groups. At the end of seven years, there was still no difference. Finally, after 10.5 years the authors published a paper saying that the intervention group had a 10% lower rate of coronary heart disease death, and declared the intervention a success. What do you think of that—a 10% decrease in deaths? Sounds respectable, doesn't it? Well, if you look closely at the paper, you see that this 10% decrease in deaths over 10.5 years is actually the difference between a death rate of 3.4% in the control group and 3.1% in the intervention group. 3.4% and 3.1%. Does everyone see how the difference between these two is 0.3%, and that 0.3% is 10% of 3.4%? That's where the 10% decrease in deaths comes from. Furthermore, for those who know about statistics, the difference was not even close to statistically significant—the P-value, which is supposed to be less than 0.05, was 0.2.

A final example. In Finland, where they have the highest heart disease rates in the world, a similar multiple risk factor intervention trial was done. Unlike the MRFIT, the 15-year follow-up of the Finnish trial had highly significant results: a 2.5-fold difference in deaths from heart disease. The trouble was, it was the intervention group that had the higher death rate.

It is instructive to look at how this finding was reported in the media. The Finnish trial had also been a five-year trial. Interestingly, although the intervention group already had a higher death rate during the five-year time period of the study, the divergence of the two survival curves continued for 10 years afterwards. The headline in the San Francisco Examiner read as follows: "Study finds stopping diet, exercise can be fatal." That is, even though it was the bad luck of being assigned to the treatment group in the first place that led to the demise of dozens of these poor Finns, because many of the deaths occurred after the trial, the Examiner reporter blamed them on stopping, rather than having started treatment.

In JAMA, the Journal of the American Medical Association, where this study was published, an editorial accompanying the article was subtitled "a lesson in expectations." The authors implied that it was expecting too much to think that interventions aimed at preventing a disease should not sometimes be shown to more than double the death rate from that same disease.

To summarize, as Thomas J. Moore writes in *Lifespan*, his excellent book on this topic:

Much of the information about longevity in daily circulation is provided by parties with another motive besides providing a balanced view about an inherently emotional subject. The cast with its own separate agenda includes zealous health advocates, ambitious medical bureaucrats, and profiteers relying on the cynical manipulation of the fear of dying...

Finally, the last problem with this focus on individual preventive treatments is that it distracts attention from more important things. If we broaden our perspective beyond San Mateo County at the beginning of the 21st century to other times and other places, we see that the most important threats to life expectancy are inadequate food, unclean water, wars, and infectious diseases.

Clean water and a political system that allows people to work together without killing each other—just those two things—contribute many more years of life expectancy than all medical discoveries to date.

But here in San Mateo County, perhaps you think most of these things do not seem like much of a threat. And of course you're right—we're very lucky to live in a time and place where threats of starvation, war, and infectious diseases seem remote. But that doesn't mean we are still not close to potential disaster. A number of authors have recently pointed out just how tenuous our relationship with the microbial world is.

The combination of increasing population, especially increasing population density in some areas of the world, political upheaval leading to hundreds of thousands of refugees living in squalor, and widespread prevalence in many of these areas of human immunodeficiency virus provides, as my former classmate at UC Santa Cruz, Laurie Garrett, puts it, an enormous pool of walking petri dishes, in which microorganisms can thrive, swap genes, and undergo endless evolutionary experiments.

Add to that the speed with which an epidemic can spread around the world via global jet travel, and you have the makings of a disaster. This is not to mention the possibility of biologic terrorism. And of course, let's not forget chemical, nuclear, or plain old-fashioned conventional terrorism.

Perhaps it's unfortunate that the approach to preventing these things is harder than getting a blood test or taking a pill. They can only be prevented by working together. In particular, by working to help the least fortunate among us on this small planet.

It's time to wrap up. I'd like to sum up by reading from the conclusion of Thomas Moore's book: (I've paraphrased just a few parts.)

Although some heavily promoted interventions turn out to have a notably smaller effect than advertised, this does not mean that nothing matters, or that individual actions are inconsequential. Life probably offers many, many more actions with a beneficial effect on longevity than the handful being currently promoted. However, it appears that the effect of each is quite modest. And most individuals would be happier and healthier choosing a way of life to suit themselves rather than slavishly trying to follow simplistic prescriptions being promoted by organizations with other agendas.

The final dimension of longevity involves not what we do as individuals, but the joint efforts of families, communities, and nations over many years' time. It is the achievements of stable, prosperous democracies, over many decades of continuing effort, that have produced the [longest predicted life expectancy] in human history. And the single greatest hazard to longevity—a breakdown in our now mostly harmonious relationship with microscopic forms of life, can only be managed, or mismanaged, on the level of community, nation, and world...

One cannot observe events in the United States without wondering about the ultimate consequences of the increasing pursuit of personal advantage at any cost while mortgaging our future as a nation and community...

If the study of longevity reveals any central and enduring lesson, it is that securing a longer and healthier life is not something that will be achieved primarily by individual actions—be they hormone injections, jogging, or megavitamins. By its very nature, longevity is something that we can achieve together, not only for ourselves, but for our children and our neighbors.

SO HERE ARE MY RECOMMENDATIONS IF YOU WANT TO LIVE LONGER:

Don't smoke.

Wear your seat belt.

Eat, drink, and exercise for enjoyment and in moderation.

And most importantly:

Focus your efforts to live longer *outwards*:

* Try to improve the standard of living of the poorest people
* Save our democracy
* Support the United Nations, the Unitarian Universalist Association, and other organizations that attempt to build community

Finally, focus on quality rather than quantity. It's a lot more under your control.

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