

## More Than A Decade Ago...

Written by James Randi

Wednesday, 30 January 2013 09:00

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On March 18<sup>th</sup>, 1999, I appeared before a packed hall in Washington, DC, attended by Congressional Representatives of highly varied stripes. I felt I'd



delivered an effective and factual address, and looked forward to having some reaction following on my talk. I was very much disappointed. Nothing at all happened, I received no inquiries or comments, and I could not understand the lack of response.

Perhaps SWIFT readers can offer me the reason for this failure. You'll have to follow the account and imagine the actions I took as I spoke.

The following is the text of my talk...

Good afternoon. I am gratified that Congresspersons Brown, Sensenbrenner, Holt, and Ehlers, have invited me here today to address you. I am far from unaccustomed to public speaking, but I seldom have the opportunity of addressing such a distinguished audience that has the potential of acting upon some suggestions that I will make. This is a rare and very welcome opportunity.

This is not the first time that a conjuror has addressed members of the Congress. The justly famous Harry Houdini appeared before a packed House in 1926 to promote an anti-fortunetelling bill that was highly unpopular with the seers and mountebanks of that day. Houdini, as I, was dismayed at the public belief in supernatural forces and pseudoscientific notions. But perhaps his solution—legislation—was not the ideal one. I rather favor education over legislation, so that citizens will avoid surrendering to the charlatans due to better

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information and an understanding of how the real world works. There is no mightier weapon than education.

On the internet, in television commercials, in fact via all the media, the American people are being offered merchandise, medical systems, financial services, and investment plans. That pursuit of opportunity on the part of the entrepreneur is what we call "The American Way," and we must applaud originality and an applied work ethic, of course. But when business becomes hucksterism, the public needs to be protected. How valid are these offers that promise instant weight loss, renewed vitality, overnight youth, and cures for everything from high cholesterol to poor circulation? And how can we educate young people to judge these claims?

### Medical Quackery

Let me give you just one example of the sort of nonsense with which we have to deal. Major drug chains across the U.S. are now offering, as part of their off-the-shelf cure-alls, homeopathic preparations that have zero content! Now, I'll not go into my usual tirade on the worthlessness of this ancient notion called homeopathy, but I *will* offer you a brief example or two of what it really is. First, a demonstration. I hold in my hand a package that purports to be a cure for "insomnia." It is a remedy sold by one of the major nationwide drug chains, and the label instructs me to take a maximum dose of "one tablet every two hours." I'll do better than that. There are 45 tablets here. I'll take the whole works.

What have I just taken? Well, the list of ingredients I see on the back of this box lists "silver nitrate, 6x." I must tell you that silver nitrate is a caustic, deadly poison, and I've just taken a "6x" dose of this material! But the major ingredient listed on this sleep-inducing medication is "coffee." Coffee? Yes, because, you see, homeopathy reportedly works in just the opposite way that "regular" medicine works. But just how much coffee did I get when I ingested all 45 of the pills in this package? Zero. In fact, the concentration of "30x"—the favored concentration in most homeopathy—would mean that there is one part of coffee in one thousand, billion, billion, billion, parts of milk sugar. As my good friend and physicist Bob Park has pointed out, that means we would have to eat 16 swimming-pools filled to the brim with these pills, in order to get just one molecule of caffeine into our systems!

As for the deadly silver nitrate, the other ingredient, not to worry. That "6x" concentration means one part in one million, a harmless amount no matter how many pills I swallow.

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On another list of ingredients we find “9x Arsenic trioxide.” How can this be? Aren’t all compounds of arsenic poisonous? Can this preparation be sold openly on store shelves? Another medication sold at this same drug chain—this one for “Nervous Stress”—lists “9x poison ivy”! One would think that ingesting poison ivy would cause, rather than relieve, nervous stress. But, when you buy these quack preparations, you are buying nothing. The point of this demonstration is not to prove that homeopathic compounds are safe—they certainly are—but to show you that they are useless.

### Government Leadership

And where is the USFDA\*? Standing with their hands tied, I suspect. That agency is well aware that stores are selling this quackery, but they can do nothing because the quackery was here before the agency existed, and it’s “grandfathered” in, fully immune and protected from examination and regulation. In regard to doubtful weight-loss schemes being offered via infomercials, I must say that the FDA has recently put into effect a requirement for strong disclaimers in the promotional material—though no requirements that actual clinical tests have established the efficacy of the products offered. Endless testimonials do not establish validity. Much to their credit, the FTC has come down on the purveyors of the so-called “Vitamin O” scam just recently. Asked about the enforcement efforts of the FTC, spokesperson Michelle Rusk replied, “...we can’t get every problem that’s out there.” That simply should not be the case.

But—and this is my major point here—a properly educated and informed public would know about this, and protective laws would not be required. Again, education is the key. A recent survey conducted through the Journal of the American Medical Association showed that of current smokers, only 29% believed that they were at higher-than-average risk for heart attack, and only 40% thought they were more likely to develop cancer. That’s incredible, and shows that we have not successfully educated the public to understand and accept factual discoveries made by science. Misinformation, purposely and effectively distributed through the internet, has led to the belief that anthrax vaccinations cause cancer and sterility, even death. Armed forces personnel have been demoted or dismissed from the forces, for refusing to accept the ordered immunity measures, and others have resigned commissions rather than be treated. And this is for a disease that is invariably fatal, and is easily contracted by simple inhalation. The truth about the vaccination process has fallen on deaf or merely uneducated ears.

The words “natural,” and “herbal,” are seen and heard a-plenty in advertisements for quack

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products. Herbal panaceas and magnetic devices have re-emerged from the uninformed 1800s into the present world. They've taken on a new gloss by the use of terms such as "quantum physics" and "new science." And American citizens, some 70 million of them, are embracing untested and unproven nostrums. We owe them better than to ignore their need for information. No one can dispute the proven value of herbal substances in medicine; they've been used effectively for centuries now. Indeed, herbals are a solid base from which a majority of our working remedies are obtained. But we must first evaluate, and second standardize, these materials before putting them on the market.

### The Tax Dollar Issue

Federal and state agencies, police departments, the FBI, U.S. Customs and the Border Patrol are annually spending hundreds of thousands of dollars of their budgets on devices and systems that have been tested by other federal agencies and found to be useless at best, and fraudulent at worst. How can these agencies ignore the results of these extensive tests? A few years ago, the James Randi Educational Foundation made formal complaints to the FBI and the FTC about a seemingly high-tech device that was advertised to be able to detect almost any object or substance, even without batteries. It was a simple swiveling metal rod on a plastic base, with no circuitry, said to work by "molecular resonance." It could be "tuned" by attaching to the handle small plastic "chips" marked "crack cocaine," "currency," "marijuana," "bullets," and even "golf balls." A course of instruction was required, and the device plus the course could cost up to \$8,000. Who, you ask, would fall for such a scam? Well, there were endless endorsements from chiefs of police and customs agents who had used the device to locate drugs and weapons. We at the Foundation checked out those affidavits and found them supported. We'd not heard any response from the FBI, nor from the FTC, to our warnings. But when we discovered that retired FBI agents were investing in \$40,000 franchises to sell the "Quadro Locator," as it was called, and informed the FBI office in Beaumont, Texas, our phones lit up with interest. For the next two months, we obtained and forwarded to the FBI every scrap of information we could come up with, and finally the agency moved in and shut down the Quadro operation. It appears that there was no interest in the scam until it began to hit close to home.

Currently, the Quadro scam has re-emerged in a different guise, this time as a gimmick that is supposed to detect human heartbeats over long distances and through any barriers. The James Randi Educational Foundation, in contact with Sandia Labs in Albuquerque, New Mexico, suggested to them an experimental protocol that was then followed, and definitive tests of the "DKL LifeGuard" device showed clearly that it simply did not work; it was nothing more than a dowsing rod, operating on the same principles as the traditional forked stick. Yet this device has received a patent from the U.S. Patent Office!

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But there's been another huge "carrot" offered in the Quadro and the DKL investigation. We formally issued a notice to the managers and personnel of both companies that we would award any one of them our million-dollar prize if they could actually make the device work. They ignored that offer, and that would seem to indicate that they themselves rather suspected that the thing didn't work, anyway.

### One Million Dollars is Offered

The million-dollar prize is admittedly a flamboyant gesture, but it proves our case every time. Any homeopathic manufacturer can earn the money just by being able to tell homeopathic pills from dummy pills. It's that simple, and that direct. Any astrologer can win by casting a true horoscope. Any of the graphologists employed by U.S. employment agencies to sort out honest from dishonest potential employees, can retire in style, if they can prove their abilities. Yet Wall Street investors are sold horoscopes to guide their clients. The million-dollar prize is an irritant to the scam-artists, and they would dearly like to see it go away.

If the American public had a better understanding of astronomy than they do of astrology, if they knew more about numbers than about numerology, they would be better able to defend themselves against the charlatans who function freely in the USA, unafraid of the consequences. As a case in point, you might recall a device called "The Stimulator," which was sold on TV infomercials by Lee Meriwether, a former Miss America, and Evel Knievel, the daredevil motorcyclist. It was a plastic gimmick that made a snapping noise, and was said to relieve aches and pains. The FTC finally closed down that operation, but only after they'd been on the air for more than three years. The maximum fine was imposed, \$40,000, but after bringing in millions, I hardly think that the promoters cared very much.

### Science Education

The public's understanding of science is weak. A large percentage of those who regularly scoff at the progress science has made would simply not be here if it were not for advances in our understanding of the world around us (and I am an excellent example of that fact) and that is exactly what science is all about. Science is part of our survival mechanism, it works, and it can be shown to work. The quacks and scam artists out there do not have a record of success, and leave behind them broken hearts, crippled bodies, and shattered dreams.

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A recent National Science Foundation survey shows that, although an overwhelming number of Americans support scientific research and government sponsorship of the same, half of the Americans surveyed were unable to answer fundamental science questions about the world around them. Historically, there has been a close relationship among perception, misperception based on “apparent” reality, and scientific knowledge derived from critical analysis. An education in the process of critical thinking investigating why we think what we think, trains students to examine the gaps and inconsistencies in their knowledge base, and to more accurately separate fact from fantasy.

The U.S. Patent Office, at one time issued patents only after a working model of a proposed device or system had been produced. Regularly today, plans for perpetual motion and free-energy machines, cheap-and-easy counterfeit money detectors, control systems triggered by thought-waves, and devices that find drugs, guns, minerals, and oil, are received by the office. Are working examples still required by the office? No. It now seems that all that is needed is for a “master” to look over the application, and rubber-stamp it.

I hold in my hand a device that many of you will have run into when you tried to spend a \$50 or \$100-bill. It’s called “The Counterfeit Detector Pen.” The makers claim that a phony bill stroked by this pen will register a black line, while a genuine bill will show an amber-colored line. And it bears U.S. Patent Number 5,063,163. The patent examiner who approved this patent read that counterfeiters would use cheap recycled paper, which has starch content, and since this is an iodine pen, the cheap paper would turn black, as starch does when in contact with iodine. Do you really think that a counterfeiter would use cheap paper to print on, folks? Of course not. But this pen has made a lot of folks very happy. First, we have those who sell the pen, by the hundreds of thousands in major office supply houses. Second, even happier, are the counterfeiters themselves, whose product will never show up this way, and will go right back into circulation. And who pays for this? We do. We allow, by this means, some hundreds of millions of dollars in bogus bills to circulate freely, since countless restaurants, stores, and other businesses in this country depend upon this device—this quite useless pen—to decide whether they should accept a currency bill. This is costing money!

I’m all for simple experimentation. Here I have a \$50 bill. I suspect this bill might be counterfeit. Sir, please take the Counterfeit Detector Pen and in accordance with the instructions, stroke a line upon an open portion of the face of the bill. What is the result? That means the bill is genuine, according to the patent papers, which states, “a light golden-brown colored test area will indicate the presence of genuine paper currency.” Please turn the bill over and tell us what you see there. The bill is a photocopy made on newsprint.

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Ladies and gentlemen, we like to believe that we're sophisticated and aware. That we can't be fooled. But we're human beings, with all the failings of our species. Customs agents, police officers, legislators, patent examiners, even scientists and technicians, are all subject to bad judgement from time to time. It's inevitable. But much of that weakness can be avoided by education at an early age. We owe it to our kids to inform them and train them how to think, not what to think. In many ways, we've failed this generation. Let's not allow ourselves to be taken advantage of any more. We can and must oppose those who would cheat us.

In my work, I've seen first-hand the ravages of superstition and misinformation. It's appalling, I can tell you: kids who have checked out of reality and adopted fantasies rather than facts; adults who have abandoned any efforts at improving themselves and want to hire gurus to run their lives.

My heroes are few but large. Carl Sagan was a good friend. Isaac Asimov was close to me in many ways. Martin Gardner is a minor god of mine. Richard Feynman and I exchanged many useful thoughts. And Richard Dawkins has supported me and the James Randi Education Foundation in many ways. But heroes should be more abundant.

Lest you get any notion that this dependence upon nonsense is new to us, let me read you a quotation:

Heroes have gone out, quacks have come in; the reign of quacks has not ended with the nine-teenth century. The scepter is held with a firmer grasp; the empire has a wider boundary. We are all the slaves of quackery in one shape or another. One portion of our being is always playing the successful quack to the other.

That was spoken by Thomas Carlyle, a prominent philosopher and historian, in the year 1881, 118 years ago. We are, it seems, reliving a bad aspect of our own history. We should learn from that, and put an end to it.

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*\*United States Federal Drug Administration* □