



*Institute For Theological Encounter  
With Science and Technology  
“Where Faith & Science Meet”*

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Special Olympics

The winter Olympics in Vancouver had barely closed when I attended the state skiing championship of the *Special Olympics* at a ski resort near my home. As they provide athletic opportunities for people with developmental disabilities, it seems that the *Special Olympics* has lots of staff to do administrative things, but is in serious need of volunteers who are able-bodied skiers, for the very simple task of riding the chairlift alongside the participants as they go to their skiing events. It’s easy to do, doesn’t take long, and it’s really a privilege to share a little time with these very special individuals. The camaraderie, friendship, love and happiness of a Special Olympic tournament is an example of the human spirit at its best.

Many of the *Special Olympics* participants suffer from Downs’ Syndrome, although some have epilepsy or other conditions that make them “special needs” children. While waiting my turn, I had time to reflect upon the fact that Downs’ Syndrome may be a disappearing disease—not because a cure is in sight, but because there is now a pre-natal test that reveals the condition, and so most Downs’ Syndrome babies are eliminated by abortion. Sarah Palin’s new baby Trig was one of the lucky ten percent who are allowed to live.

One of God’s gifts to humankind has been the ability to understand genetics and decode the DNA molecule. Through rapidly advancing knowledge, the human genome has been mapped and genetic markers for many characteristics are well-defined. It is now possible to use pre-natal tests to find out all sorts of prospective health information. We would like to see this knowledge used for good, helping to find a cure for maladies like Down’s Syndrome. However, because of the ready availability of abortion, it’s easy to get rid of an imperfect baby. Meanwhile, lots of kindly folks fully approve of the practice of eliminating birth defects.

Of course, the definition of a “birth defect” varies from one culture to another. In some countries, about half the pregnancies have one defect, which (if the baby is allowed to live) brings hardship and an enormous financial burden upon the parents. It’s called “being female.” In the nation of India, the rate at which people are executing unborn baby girls is so alarming that the government has officially banned the relevant pre-natal test; but people (and their doctors) do it anyway.

All this is a very grim reminder that science can be used for good or evil. When the principle of respecting the dignity of each human life is shunted aside, any advance in medical science can be distorted to accommodate someone’s convenience, to the detriment of the weaker, defenseless and innocent.

In the Old Testament we read “I set before you life and death. Choose life.” Jesus said “Let the little children come unto me.” To Christians, this means “cure the disease” rather than “eliminate the defect.” What a stunning contrast there is between the easy-way-out of abortion and the dedicated, lifelong love that is so obvious at the *Special Olympics*.

Thomas P. Sheahen, PhD

Director: ITEST

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## Announcements

Invite your friends and save the date for our one-day conference on September 25 on food: organically grown and biogenetically engineered. The tentative title — **Food, Glorious Food!** We've confirmed our three speakers: Sister Mary Margaret Pazdan, OP, PhD, theologian on the faculty at Aquinas Institute of Theology in St Louis, will speak on food in the Bible; Ms Susan Baird, President of The Missouri Organic Association, will speak on the benefits of organically produced foods and Dr. Eric Sachs, scientist from Monsanto, will bring us up to date on the latest research in the biogenetic food industry.

We will host this conference at **the Cardinal Rigali Center in St Louis from 9:00 AM to 3:00 PM, Saturday, September 25, 2010.** This one day conference will also allow more people to attend from the surrounding Christian and Catholic churches and parishes in the bi-state area and will not involve the expense of overnight accommodations at a hotel. We are working on registration details and will make them available to the membership and the community within the next months.

Update on *Exploring the world, Discovering God!* During the month of February and March our staff conducted two Creative Teacher Think Tank (CTTT) workshops on the second phase of our project, *Exploring the World, Discovering God (EWDG)*, creating faith/science modules for grade 5 through grade 8. With the expert guidance of our Project Manager, Evelyn Tucker, the teachers attending these workshops (from San Antonio and St Louis) have produced more than 100 new lessons for placement on [www.creationlens.org](http://www.creationlens.org), the EWDG web site. After Ms Tucker edits the modules, the EWDG Advisory Council members, professionals in science, education, technology and theology, review the modules ensuring that the material adheres to the highest standards. Sister Marianne, RSM will conduct the next CTTT for the Diocese of Fall River, MA during a professional day for teachers. Saints Peter and Paul School, the recipient of the \$4,000. Scholarship in December 2009, will host the 70 teachers for the day's workshop.

### In Memoriam

Sr. Claire Tynan, died on June 20, 2009.  
A long time ITEST member and former director  
of the School of Nursing at  
Holy Name Hospital in Teaneck, NJ

### *ITEST Student Chapter, Combines Technology with Charity*

News from St. Gregory's University, ITEST student chapter, Shawnee, Oklahoma from the *Shawnee News-Star*, February, 2010. A group of students has a creative fundraising technique: making dollhouses. The most recent organization to benefit from the dollhouse fundraiser is Family Promise of Shawnee. The program's executive director Peggy North and case manager, Patti Marshall accepted a donation this week from the students.

Most of the dollhouses are made from cardboard boxes and take up to 10 hours to construct. The ITEST subcommittee in charge of the fundraiser donates \$100. of its proceeds to a local organization each time it sells 10-15 houses. SGU students Berrah Beaulau Assie, Sachi Hamano, Awoba Vanessa Hemos, Carrie Petticrew, Jennifer Reynolds, Sonoko Takahashi and Miho Takenoya were involved with the creation of the latest round of dollhouses.

"The art of dollhouse making using scrap material is a lost art," said SGU ITEST coordinator Sister Marcianna Kappes, CST. "We use bottle caps, toothpaste caps, toothpicks, empty spools of thread, the little butter and jelly containers from restaurants, and those are just a few of the items. Elmer's glue bottle tops make great ceiling fans when you add four cardboard blades and glue them upside down on the ceiling.

"Students discover that they can spend a few minutes as a study break in the evenings and, after two or three weeks, they have created a zero-budget work of art that benefits others on more than one level."

Family Promise of Shawnee mobilizes faith communities to embrace homeless families and help equip them for a self-sustaining future. It provides homeless families with children the tools necessary to achieve long term financial parental and personal self-sufficiency through a comprehensive program of temporary housing, case management and supportive services.

*[Editor's note: This is just one of the many projects of the ITEST student chapter. Not mentioned in this article from the Shawnee News-Star, Sister Marcianna Kappes, CST, a long-time supportive member of ITEST is undoubtedly the driving force behind the ITEST student chapter. This is a sterling example of what college students can accomplish with a little guidance from a dedicated moderator or teacher who inspires the students to explore their own creative ideas.]*



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## DDT: A Weapon of Mass Survival

(Ethics demand that this powerful insect repellent be in the malaria control arsenal)

by Paul Driessen

(We welcome your comments on this article written for the October 2009 ITEST conference on Environmental Stewardship in the Judeo-Christian Tradition.)

Malaria is Africa's biggest killer of young children. It could and should have been controlled years ago—as it was in so many other places.

But malaria has *not* been controlled in Africa—even though we know what causes it ... even though we have the weapons ... even though it has been completely eradicated in the United States, Europe and elsewhere. A primary reason is that—because of unrelenting campaigns by the global environmental lobby—access to critical weapons for combating malaria was cut off for many years.

Because of misguided, even ridiculous claims about harm to people or the environment—because of stubborn ideological opposition to insecticides by environmentalists and even healthcare agencies—vital weapons were withheld for years from health ministers who could have used them to save countless lives, while programs like Roll Back Malaria continued to be dismal failures.

It is critical that we examine this problem, and the long overdue progress in changing malaria control policies. We must understand the continuing ideological pressure to roll back that progress—and why we must still fight to protect the *fundamental human right* to use every possible weapon to stop lethal diseases like malaria. Above all, we must be better prepared to challenge anyone who stands in the way of bringing health and prosperity to Africa and other poor countries.

I'm an Eagle Scout. I have degrees in ecology and environmental law. I helped organize the very first Earth Day on my college campus, and used to be an environmental activist. I know we have to use insecticides and other chemicals carefully. But we *have* to use them or millions of lives will continue to be needlessly devastated or lost.

That's why I've become a pro-insecticide, anti-malaria activist. It's why I wrote my book, *Eco-Imperialism: Green power · Black death*, and frequently criticize environmental groups.

### The needless tragedy of malaria

My friend and colleague, Fiona or Fifi Kobusingye-Boynes, has had malaria some 30 times herself and now heads up Congress of Racial Equality's programs in Uganda. "I've suffered high fevers for days, vomited until I thought I had no stomach left," Fifi told me. "It has left me dehydrated, thirsty and weak. And sometimes I couldn't even tell day from night."

"I lost my son, two sisters and four cousins to malaria," she

went on. "My brother is permanently brain-damaged because of it. In one year, 50 out of 500 children at a school that my husband and I co-sponsor died from this Killer Disease. And I have many friends whose lives have been torn apart by malaria."

"One of my friend's little child hasn't been able to walk for months because of malaria," Fifi said. "She crawls around on the floor. Her eyes bulge out like a chameleon, her hair is dried up, and her stomach is all swollen because the parasites have taken over her liver. Her family doesn't have the money to help her, and neither does the Ugandan government. All they can do is take care of her the best they can, and wait for her to die."

The horror of this tragedy is incomprehensible. Malaria infects *half a billion people* every year. That's more men, women and children than live in the entire United States, Canada and Mexico combined! It *kills* up to 2,000,000 every year—the population of Houston. Over 80 percent of all these people are in sub-Saharan Africa—and nearly 90 percent of them are children and pregnant women.

- Just a few years ago, in Kenya alone—a country of just 31,000,000 people—malaria was killing 35,000 children annually. It cost the country 170 million lost working days every year.
- In Uganda, 110,000 people were dying every year—the equivalent of a jumbo jet with 300 passengers crashing into the Rwenzori Mountains every day.
- Nigeria has more malaria than any other single country on earth. And the World Bank says nearly 25 percent of all malaria deaths worldwide occur in Nigeria.

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Paul Driessen

Paul Driessen is a senior fellow with the Committee for a Constructive Tomorrow and Center for the Defense of Free Enterprise, nonprofit public policy institutes that focus on energy, the environment, economic development and international affairs. Dr. Driessen has a BA in geology and field ecology from Lawrence University and a JD from the University of Denver College of Law. His book, *Eco-Imperialism: Green Power, Black Death* is a hard hitting indictment of the ideological elite sector of the environmental movement seeking to impose its views on billions of poor in developing countries around the world. Dr. Driessen can be reached at 703-698-6171 or pdriessen@cox.net

- In Liberia, 90 percent of the population is exposed to malaria on a continuous basis. In Monrovia, up to 50 percent of patients in hospitals and clinics are infected by malaria. One of every five newborn Liberian children dies from malaria and other diseases before reaching age five.

Thanks to wider use of bed nets and modern drugs, these appalling numbers have declined recently in Kenya, Uganda and other African countries. But they are still intolerably, unconscionably high—far higher than they would be if health ministries were also using more larvacides, insecticides and DDT.

The economic impacts of insect-borne diseases are devastating. The World Bank and World Health Organization estimate that malaria alone costs impoverished Africa \$12 billion in lost productivity every year. Namibia's health minister has put the total economic impact much higher: he says the disease costs Africa over \$90 billion a year.

Just imagine what it would be like here in the United States, if we had malaria rates like what prevail in sub-Saharan Africa. For malaria alone, on a proportional basis, we'd have 150,000,000 sick people and 250,000 dead children every year. Our hospitals would be overwhelmed, our economy in a shambles. People would be up in arms—demanding immediate action to protect children, eradicate the disease and make people healthy again, using every pesticide and other weapon in existence.

Malaria is a vicious disease. If it doesn't kill its victims, it leaves them so weak that they cannot work, go to school, care for their families or cultivate their fields—often for weeks on end. Malaria leaves other people with permanent brain damage—or makes them so weak that they die of AIDS, typhus, dysentery and other serial killer diseases that they would likely survive, if they didn't also have malaria.

It depletes scarce healthcare resources that these countries need to fight other diseases, build modern homes and industries, improve education, and increase prosperity. And it keeps tourists and investors from coming to these disease-ridden areas.

It's no wonder that central Africa, where malaria is most prevalent, is also the most destitute region on this impoverished continent. How is this possible, in this age of pesticides and wonder drugs?

### **Moral confusion perpetuates the malaria pandemic**

Malaria ought to be the easiest of the Big Three Third World killers to control. AIDS and TB are a lot more complex and harder to address. With malaria, we know how to do it, and we have the weapons. We eradicated the disease in the United States, Canada and Europe 50 years ago, with a fraction of the

technologies and knowledge we have today.

But for years, we lacked the ethical clarity, moral courage and political willpower to *use* them. Instead, we let environmental ideologues in rich, malaria-free countries dictate what ought to be *medical* decisions—decisions that should be made by health ministers, in poor, malaria endemic countries . . . without pressure and intimidation from environmental and anti-pesticide activists.

For years, we let the World Health Organization, UNICEF, World Bank, wealthy foundations, U.S. Agency for International Development, Roll Back Malaria and radical greens tell these countries that they have to rely on bed nets and drug therapies, and unproven, politically correct concepts known as “integrated vector management” and “capacity building.” Never, under any circumstances, these organizations told people, should anyone use pesticides—especially DDT. Pesticides, they insisted, were dangerous. Using them wouldn't be “sustainable.”

They're flat out wrong about that. Moreover, without pesticides, the lives of millions of African parents and children will not be sustainable. That should be obvious from Roll Back Malaria, which presided for years over significant *increases* in malaria.

These programs and policies represent inexcusable medical malpractice, callous indifference to human life, and eco-imperialism at its worst *and most lethal*.

Yes, the US Environmental Protection Agency banned DDT in 1972. But it did so primarily for *political* reasons—in response to Rachel Carson's disingenuous book *Silent Spring*, and to defuse an unrelenting campaign by the Audubon Society, Environmental Defense and the same people who later concocted the Alar-and-apples scare: the Natural Resources Defense Council. Moreover, EPA banned DDT only *after* we had used it to eliminate malaria and other killer diseases like typhus and yellow fever in the United States, Europe, Canada, Australia and former Soviet Union.

So today, American and European activists like Pesticide Action Network can *afford* to oppose DDT. *They* live in wealthy, malaria-free societies—where we still use pesticides to protect people against diseases like West Nile virus. That disease kills about one hundred Americans a year.

It they travel to malarial regions, they take malarone, doxycycline or other prophylaxis drugs. But these powerful drugs are expensive—and you can't take them every day of your life, without serious adverse side-effects. Meanwhile, every year, malaria kills at least a *million* people.

In other words, the radical activists' unrelenting anti-pesticide

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campaigns have meant that hundreds of thousands of children and parents *die* every single year—who would *live*, if their countries could use DDT and other pesticides, along with “acceptable” weapons like nets.

In fact, since 1972, at least 50 million people have died from malaria. That’s almost as many as died during all of World War II. Heaven knows how many might have *lived*, if their countries had been able to use DDT—how many might have become the next Nelson Mandela, Kenyan plant geneticist Florence Wambugu, or George Washington Carver.

Rachel Carson never mentioned any of these facts in her book. In fact, she never asked any of the most fundamental scientific and ethical questions: Did science really support the claims she made in her book? If we ban DDT, then what? What substitutes do we have, if any? What will happen with killer diseases like malaria? How many will get sick or die?

### **DDT: A weapon of mass survival**

Why DDT? Because just spraying tiny amounts of this miracle chemical on the inside walls of homes, just once or twice a year, keeps 80 percent of mosquitoes from even *entering* the home. It *irritates* those that do come in, so they leave without biting. And it *kills* any that land. No other insecticide, at any price, has this triple action feature. Used this way, virtually no DDT gets into the environment. But it reduces malaria rates by as much as 75 percent.

The amounts used in these household spraying programs truly are tiny. In fact, a country the size of Liberia (which is the size of Ohio) could protect every family in its most malarious zones with the same amount of DDT that American farmers once sprayed on a few thousand acres of cotton!

Where DDT is used, malaria cases and deaths plummet. Where it is not used, they skyrocket. South Africa learned this the hard way. After using DDT for years to control malaria disease and death rates, the country got complacent. It bowed to environmentalist pressure, stopped using DDT and switched to bed nets and different pesticides. Within just a couple years, malaria shot from a few thousand cases a year to nearly 65,000!

So South Africa reintroduced DDT, for use in spraying the walls and eaves of mud and cinderblock homes. In just 18 months, malaria rates plummeted by 80 percent! It then added artemisinin-based combination drugs to treat a much smaller number of serious malaria cases. In just three years, it cut malaria rates by almost 95 percent! Hundreds of people lived, who would have died.

That’s the key. Reduce the total number of malaria victims, so that every single patient who still gets the disease can be treated with the best drugs available. Do it before mosquitoes become

resistant to more insecticides, and malaria parasites become resistant to more drugs. And you can break the cycle of malaria transmission.

### **Politics trump science, health and lives**

South Africa, Swaziland, Zambia, Mozambique and other countries understand this. Why didn’t healthcare agencies and other organizations gasp this? Why did so many of them let ideology trump science, glaring evidence, common sense, ethics, medicine, basic humanitarian principles—and *people’s lives*? Why didn’t they realize that, despite vocal claims to the contrary, DDT is *not* harmful to humans ... poor nations can afford it ... and used properly, it’s perfectly safe for the environment?

The fact is, we knew all this even back in 1972, when EPA administrator William Ruckelshaus banned DDT. His own scientific panel had concluded that DDT is not carcinogenic. That it does not cause mutations or other harm to humans. That, used properly, it is not harmful to birds or other wildlife.

Ruckelshaus ignored all this knowledge. In fact, he never attended a single hour of hearings over a six-month period, and never read a single page of his own panel’s report. That’s why he later admitted that it was a political decision. He never gave a moment’s thought to how a US ban on DDT was likely to send global malaria rates into the stratosphere. He never asked the most fundamental scientific and ethical question: What happens if we ban DDT?

Bear in mind ... malaria-carrying mosquitoes are far less likely to build immunities to DDT than to other pesticides, which are still used heavily in agriculture. Pesticides like pyrethroids, which aren’t just used in agriculture. They’re also used in *bed nets*!

Even more important, even mosquitoes that have become resistant to DDT’s insect killer talents have never become immune to its awesome repellent properties.

But Greenpeace, Pesticide Action Network, NRDC, Environmental Defense, Physicians for Social Responsibility, WHO, USAID, the European Union and other organizations *still* opposed DDT. In fact, some of them went way beyond just opposing DDT. They lied about its effects ... about supposed substitutes ... about malaria disease and death tolls ... about the efficacy of bed nets and new drugs.

Several years ago, when Uganda’s health minister said his country was planning to start using DDT again to control malaria, the EU and Bayer Crop Sciences (which wants to sell its own insecticides) warned that Europe was likely to ban all agricultural exports from Uganda, if even a trace of DDT was found on them.

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Today, we can detect one part per billion. That's like one second in 32 years. That's the kind of "traces" we're talking about. Up to 110,000 Ugandans die every year from malaria—and the EU was telling them not to use the most effective weapon available, or risk losing their export markets.

Nor were USAID's malaria programs much to brag about. Back in the early 1990s, USAID told Belize to stop using DDT, or it would lose a sizable chunk of its foreign aid. So Belize caved in—and malaria rates soared. In 2004, USAID spent \$80 million "on malaria." But 85 percent of this went to DC area consultants, 10 percent was devoted to "capacity building," and 5 percent was spent promoting the use of insecticide-treated nets. Nothing was spent on actually buying nets or drugs. And not one dime was spent on pesticides.

Just as appalling, until a half dozen years ago, the WHO, USAID, UNICEF, World Bank and Roll Back Malaria were still promoting, prescribing and providing Africans with the anti-malarial drug Chloroquine—which they had known for years is *no longer effective* in treating this killer disease. In fact, it fails 30 to 80 percent of the time! That is flagrant medical malpractice, in my opinion.

Worst of all, even today, if you go on the websites of various environmental pressure groups, you will still find statements—unsupported by any scientific evidence—warning about all sorts of speculative risks from *using* DDT. What you won't find is a single word about the horrendous, *life-or-death* risks that using DDT could *prevent*.

Just listen to a few of the absurd claims that they've used to justify their unconscionable opposition to DDT in countries where malaria is still the biggest single killer of little children.

- Greenpeace: "*Measurable quantities*" of DDT and its breakdown product DDE are "*present*" in human fatty tissue, blood and mother's breast milk. "Some researchers *think* DDE *could* be inhibiting lactation because of its estrogen-like effects and *may* therefore be contributing to lactation failure throughout the world."
- World Wildlife Fund: Wildlife and people are "contaminated" by a "cocktail of highly toxic chemicals," including DDT. DDT poisons food chains, harms fish, thins bird eggshells, *might* cause cancer or reduced male hormones in animals, and is *related* to premature births and slow reflexes in babies.
- Teresa Heinz Kerry: wealthy country club women will get a "devastating triple whammy" from "the chemical soup" they encounter daily from birth control pills, makeup, sunblock and daily games of golf on courses that are "perfectly manicured, thanks to estrogenic pesticides."
- Physicians for Social Responsibility: Studies "*suggest* that DDE and *possibly* other organochlorines *can* weaken

the immune systems of children, increasing their *risk* of developing asthma and certain infections."

- Environmental Defense: "Chronic low dose DDT exposure is *associated with* premature birth and low birth-weight in babies who were exposed before birth, and with decreased duration of milk supply in nursing mothers."
- Beyond Pesticides and Pesticide Action Network: "Studies have *linked* DDT exposure to reduced breast milk production among nursing mothers" —and to slight developmental delays in babies and toddlers exposed to [large amounts of] DDT in the womb.

I could point out that *not one* peer-reviewed scientific study backs up *any* of these claims. They may not fall into the flat-earth category—but they are pure conjecture and fear mongering. I could point out that premature births, low birth-weight babies, lactation problems and weak immune systems are relatively minor health issues that are *definitely* associated with the malnutrition, malaria and other diseases that are prevalent throughout the Third World.

I could remind you that we sprayed every single concentration camp survivor with DDT, right on their bodies, to prevent the spread of typhus. We sprayed soldiers and tents in the South Pacific during World War II with DDT, to prevent malaria. We sprayed DDT all over the United States throughout the 1950s and 1960s, to protect crops and eradicate malaria and yellow fever. Not one of these people ever got cancer or any other affliction more serious than skin rashes. I could also remind you that indoor spraying programs involve tiny amounts of DDT— and virtually none gets into the environment. But I think Fifi has a better answer:

"I lost my son, two sisters and four cousins to malaria. Don't talk to me about birds. And don't tell me a little DDT in our bodies is worse than the risk of losing more children to this disease. African mothers would be overjoyed if a little DDT was their biggest worry."

Fifi might also have noted that dead babies have *no* reflexes—and that only people in rich, healthy, malaria-free First World countries can afford to obsess about these trivial and far-fetched problems, instead of about malaria. And mind you, these are the most horrific things radical activists can come up with to pillory DDT.

Let's look at this another way—from the perspective of someone living here in the malaria-free United States. What if your doctor prescribed a medication that could cause anemia, fatigue, nausea, diarrhea, increased risk of infection, fertility problems, fetal defects or hair loss? Would you take it?

What if the benefits were clearly greater than these risks? For

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example, what if this *chemotherapy drug* were your best—or only—chance of beating *terminal cancer*, and *not dying* in three months? Of course you'd take it. And chemo drugs do have all these risks and side effects.

What if some NGO activist threatened your doctor with legal action, to keep her from starting you on chemo—because this “stakeholder” was concerned about the possible side-effects ... and the “ethics” of letting people take such “risky” medications? Suppose he told your doctor to employ “acceptable alternatives” to chemo therapy: like radical surgery, Extra Strength Tylenol, more broccoli—or maybe hospice care, so you could “die with dignity”?

A mild reaction would be outrage. A normal reaction might be to punch his lights out. This is precisely the situation faced by hundreds of millions of people in countries that are wracked by malaria. They were being told they cannot use the most effective anti-malaria weapons available today.

Why? Because outside agitators—environmentalist “stakeholders”—hate pesticides, and worry about trivial risks that are virtually *irrelevant*, in contrast to the death and devastation caused by diseases that DDT and other pesticides could *prevent*. No wonder the malaria disease and death rates are out of sight.

### The “Population Bomb” factor

What *drives* these inhumane anti-pesticide policies? Never having to worry about getting malaria is certainly one factor. Putting environmental values ahead of everything else is another. A third is fear of chemicals that borders on the pathological. Another is a tendency to look only at the supposed risks of *using* chemicals—never at the risks of *not* using them. To glorify ultra precaution over alleged risks *from* pesticides—at the expense of millions of deaths from diseases that these pesticides could *prevent*.

A fifth factor is the double standards that dominate these public policy decisions. Zero tolerance for any risk from *chemicals*, for example—coupled with astounding tolerance for malaria deaths. Proclaiming that DDT was a failure because it didn't *completely eradicate* malaria in Sri Lanka, for instance—and then insisting that insecticide-treated bed nets are a success because they might reduce malaria rates by 20 or 30 percent in Liberia, Bolivia or the People's Republic of the Congo (where 225,000 children die every year from malaria).

Another is a determined belief that radical elites have a right to impose their beliefs, agendas and ideologies on others—even when the evidence *screams* that their policies are a dismal, lethal failure.

But I suspect another, even darker motive may also be at work: a belief that we have too many people, and Third World lives

simply aren't as valuable as First World lives. It's a serious charge, I know. But I don't know how else to explain statements like these.

- Developing countries would be better off, said one USAID worker, if people were “sick with malaria and spread the job opportunities around.” In fact, people in the Third World would be much better off “dead than alive, and riotously reproducing.”
- Maybe banning DDT *would* cause a lot of deaths, former Environmental Defense scientist Charles Wurster once remarked. “So what? People are the cause of all the problems. We have too many of them, and banning DDT is as good a way to get rid of some of them as any.”
- “To stabilize world populations,” Jacques Cousteau told a French magazine in 1991, “we must eliminate 350,000 people a day.”
- Radical biologist Garrett Hardin described the Earth as an overcrowded lifeboat in danger of capsizing. “Those who hate life,” he claimed, “try to pull more people onboard and drown everybody. Those who love and respect life use axes to chop off the hands that are hanging onto the gunwale.”
- Club of Rome founder Alexander King has written: “My chief quarrel with DDT in hindsight is that it greatly added to the population problem.”
- And University of Texas biology professor Eric Pianka has said: the world needs a new “killer virus, to make Earth nearly human-free,” by exterminating “90 percent” of human beings. Maybe he thinks malaria would at least be a good start.

To their everlasting credit, many other people have taken a far more humanitarian and ethical position. The *New York Times* said in a strongly-worded editorial: The developed world “has been unconscionably stingy in financing the fight against malaria or research into alternatives to DDT. Until one is found, wealthy nations should be helping poor countries with all available means – including DDT.” (December 22, 2002)

“There is no charitable way to put it,” said the *Washington Times*. “Children are dying, while Westerners worry about fictitious environmental effects. Aid agencies need to drop their opposition to the use of DDT in Africa and encourage the countries now considering using it, to do so.” (April 17, 2004)

*Jurassic Park* author, physician and molecular biologist, the late Michael Crichton was even more blunt. “Banning DDT,” he told San Francisco's Commonwealth Club, “is one of the most disgraceful episodes in the twentieth century history of America. We knew better, and we did it anyway, and we let

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people around the world die, and we didn't give a damn." (September 2003)

Even a couple of Greenpeace and World Wildlife Fund officials have finally begun to recognize reality: "If alternatives to DDT aren't working, you've got to use it," one said. "If there's nothing else and it's going to save lives, we're all for it," said another.

However, inflammatory anti-DDT polemics still dominate their websites. And neither group has acknowledged that insecticides must play a key role in the battle against parasitic diseases.

*DDT is certainly not some magical potion* that—all by itself—can wipe out malaria, and bring health and prosperity to Africa. But it is a *vital weapon* in the war against a killer disease that is carried by many species of mosquitoes, and exists under varied conditions in different countries and even different regions of the same country.

To make it even more of a challenge, both the mosquitoes and the malaria parasites are constantly mutating. Mosquitoes are building resistance to pyrethroid insecticides. And in Southeast Asia, malaria parasites are becoming resistant to artemisinin.

*So we need every weapon in our arsenal*, if we are to defeat malaria: bed nets, larvacides and the removal of brush and standing water around homes. More effective drugs. Modern homes with screens on windows and doors. Better education programs. A malaria vaccine. Computers and monitoring systems to track mosquitoes, malaria, successes and problems. And a full battery of pesticides and repellents, including DDT.

Decisions about which weapons to use—and where and when to use them—should be made by health ministers in countries with malaria problems. Not by anti-pesticide activists and bureaucrats in air-conditioned, malaria-free offices in Washington, Geneva or Brussels. And not in the face of lies and intimidation from these activists and officials.

These health ministers have the responsibility to protect their people from killer diseases. They must have the right to make decisions based on science, medicine and practicality—without fear of threats or reprisals if their decisions include DDT and other pesticides.

Niger Innis, my colleague at the Congress of Racial Equality, puts it this way: "There is no more basic human right than to live. Saving, sustaining and improving lives is the most fundamental form of ethics, environmental justice and corporate social responsibility. We all want to protect the environment. But we must stop trying to protect it from distant or imaginary threats. We must stop trying to protect it on the backs, and the graves, of the world's most powerless and destitute people."

Unfortunately, that is exactly what rabid activist groups like Greenpeace, the Pesticide Action Network and Environmental Health Perspectives are doing. By attacking DDT and other insecticides, they are ensuring that countless parents and children—countless potential Einsteins, Wmbugus and Mandelas—will die in the coming years.

That's why the Congress of Racial Equality, Africa Fighting Malaria, Malaria Foundation International, and other friends and allies have been fighting so long and hard to change global malaria policies.

Thankfully, things are changing! In recent years, we've had some huge victories.

In 2005, Nobel Peace Prize Winners Norman Borlaug, Archbishop Desmond Tutu and F W DeKlerk—along with hundreds of physicians, clergy and infectious disease experts—signed the Kill Malarial Mosquitoes NOW Declaration, demanding changes in malaria control policies. We took it to President Bush, Congress, USAID and the WHO.

Led by Oklahoma physician and Senator Tom Coburn, the US Congress held hearings and enacted legislation that told the USAID it needed to spend substantial funds on DDT, other insecticides, bednets and modern Artemisia-based (ACT) drugs. President Bush launched the President's Malaria Initiative, which also emphasizes these strategies.

USAID changed its programs, people and policies. PMI and AID inaugurated new programs to provide nets and spray the inside walls of houses with DDT and other chemicals. This was a *huge* victory for malaria victims—and I applaud the agency. The Global Fund for AIDS, Tuberculosis and Malaria took similar actions.

Dr. Arata Kochi, former director of the World Health Organization's malaria program, issued revised guidelines that underscore the "major role" that DDT and other insecticides must play in preventing malaria. Indoor spraying and ACT drugs are vital to any cohesive, comprehensive, effective program, Dr. Kochi emphasized. "Please help us save African babies," he pleaded, "as you help save the environment." That put the most important healthcare agency in the world officially behind the commonsense policies I'm advocating.

And at about the same time, in August 2006, European Commission President José Manuel Barroso wrote a letter to Senator Coburn. The European Union supports the right and responsibility of countries to use DDT and other "appropriate malaria control techniques," under Stockholm Convention and WHO guidelines, Barroso declared. Only produce "contaminated with DDT above accepted residue levels" would be affected, he continued.

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Of course, such contamination is highly unlikely under limited modern indoor residual spraying (IRS) programs. And the EU has similar safeguards against contamination from bacteria, other insecticides and dangerous chemicals.

So the real lesson is simply this: Use DDT and other insecticides carefully, to avoid harming the environment ... contaminating food and other products destined for Europe or other regions ... or violating even unreasonably low safety standards.

We vigorously applaud actions by the WHO, USAID, EU and other organizations that at long last are again supporting the use of life-saving insecticides. They will do a lot to help save African babies, while also protecting the environment.

Even some environmental organizations have refrained from criticizing the new USAID, WHO and EU positions. Now they say they support DDT use when it will save lives, *and there are no alternatives*. They won't acknowledge that there are no alternatives to DDT's amazing mosquito-repellent properties. But at least they aren't waging open warfare on DDT and African babies any more.

These changes helped encourage India to increase its use of DDT and other strategies—with amazing success. In less than a decade, malaria deaths in India have plummeted from nearly 800,000 year to almost none. Instead of 50 percent of the population being infected with malaria, today less than 1 percent is infected.

Other countries have taken notice. Several African countries—including Ghana, Tanzania and Zambia—launched USAID-funded programs that emulate successful South African and Swaziland programs which use DDT and ACT drugs. Others are ready to follow.

However, some environmental groups, foundations and even companies are still working behind the scenes to support hardcore, radical anti-pesticide groups that continue to attack DDT, using every deceptive tactic in their playbook—and making the same bogus claims I quoted earlier. Pesticide Action Network is clearly the worst—with Greenpeace, Beyond Pesticides, and Physicians for Social Responsibility close behind. They apparently believe that even a *million deaths a year* from malaria is a less serious problem than the trivial effects they attribute to traces of DDT in people's bodies or the environment. Their campaigns are lethal, immoral and unconscionable.

The World Bank still resists requests that it support DDT and other insecticides. Meanwhile, the Gates Foundation still focuses heavily on new vaccines, drugs and insecticides, rather than lending solid support to using existing technologies and strategies. That research is certainly important. But millions will die waiting years or decades for vaccines, drugs, and

modern homes and hospitals.

The WHO also appears to be backsliding. Some WHO officials still insist that DDT and insecticides are dangerous and should not be used. That WHO is phasing out DDT use. That countries should focus on bed nets and ACT drugs. And that people should just learn to live with “acceptable” levels of malaria disease and death. Thankfully, others in the health organization continue to support DDT and insecticides.

Meanwhile, the growing resistance of mosquitoes to bed-net insecticides and malaria parasites to Artemisia-based monotherapy drugs is compounded by a serious and growing problem of substandard, and even counterfeit, anti-malarial drugs. People depend on these drugs for their very lives.

And yet large quantities of the Artemisia-based drugs are being produced by Chinese, Indian and African companies, under substandard conditions, with woefully inadequate quality control, and too often with no anti-malaria compounds except Artemisia—and then sent to malaria-endemic regions. Some are complete fakes, made in China with Indian product labeling, while others have little or no anti-malaria medication in them. Countless millions are at risk.

The use of artemisinin monotherapies will increase resistance and wipe out a critical line of defense. Although India is trying to address these problems, Africa Fighting Malaria doubts that China is doing much. Even worse, says AFM, African governments appear to be doing little to keep supplies of poor quality drugs out of their countries and educate people about the need to take combination therapies.

So the battle against malaria and insecticide haters is far from over. But we are far closer than we have ever been to stopping this killer disease—and to putting Liberia, Uganda and other malaria-endemic countries on the road to health and prosperity. Here is what we can do to help achieve ultimate success.

- Continue to learn, speak out and be heard. Don't let misinformation about DDT, pesticides and substandard drugs go unchallenged. Emphasize that the use of these life-saving chemicals is justified and even imperative on moral, ethical and environmental stewardship grounds.
- Applaud the efforts of the USAID, WHO and others who support truly comprehensive disease control programs. Thank them personally and publicly, for emphasizing science and medicine over ineffective, politically correct policies that perpetuate disease and death. Tell the World Health Organization how important DDT is—and that any misleading anti-DDT health claims, or assertions that the chemical will be phased out, will be met with vocal public anger and outrage.

*Continues on page 10*

- Make sure these programs actually are reducing malaria. Make sure they are transparent, accountable, sustainable at the local level. Make sure they include built-in mechanisms to track progress and modify strategies as necessary ... properly train people in handling chemicals carefully and in compliance with applicable safety and environmental guidelines ... and include regulations and penalties for quality manufacturing of anti-malaria drugs.
- Insist that critical decisions are made by local health ministers, and not by bureaucrats or activists in wealthy, malaria-free countries—or even by environmental or agricultural agencies in poor countries.
- Demand that environmental groups support the proper use of DDT and other insecticides. Applaud those that do. And condemn radical organizations like Pesticide Action Network and Physicians for Social Responsibility—publicly and vigorously.
- Stand united against any NGO, government agency or company that tries to put its ideology or special interests above the health and lives of people in poor countries. Let them know we will not tolerate immoral, inhumane policies that violate basic human rights and kill African babies and parents. Challenge and excoriate them and their enablers and funding sources in public, for supporting policies that perpetuate poverty, disease, misery and death.
- Tell Bill Gates and the World Bank that you deeply appreciate

all they are doing—but we need progress *right now*—not 10 or 20 years from now. Tell them they need to support strategies that will help reduce the disease and death tolls *now!*

- Donate to malaria control causes and organizations, like CORE Uganda, Health & Prosperity International, Africa Fighting Malaria and Malaria Foundation International, so that they can continue the battle and achieve ultimate victory.
- Finally, remember what Sir Winston Churchill said, in the darkest days of World War II: “Never, never give in, except to convictions of honor and good sense.”

Malaria is preventable and curable. If we adopt the proper measures. If we employ honor, ethics and good sense. If we work together—to *stop malaria NOW!*

**Important websites for information to Stop Malaria Now**

Congress of Racial Equality Uganda and CORE Africa  
[www.CORE-Africa.org/](http://www.CORE-Africa.org/)

Health & Prosperity International the US division of CORE  
Africa Fighting Malaria  
[www.FightingMalaria.org/](http://www.FightingMalaria.org/)

Malaria Foundation International  
[www.Malaria.org/](http://www.Malaria.org/)

Eco-Imperialism  
[www.Eco-Imperialism.com/main.php](http://www.Eco-Imperialism.com/main.php)



The Parliament of World Religions  
Melbourne, Australia  
December 3-10, 2009

(A report from Sister Carla Mae Streeter, OP, ThD, who attended this parliament and chaired a session.)

**A Rather New Phenomena**

The religions of the world first gathered in Chicago in 1893. The occasion was the Chicago World’s Fair, and for many westerners, it was the first time they encountered Hindus and Buddhists. One hundred years passed. Then in 1993, at the urging of several Hindu monks, the anniversary of the first gathering was celebrated, again in Chicago. From this gathering, which produced a Document called *The Declaration of a Global Ethic* from the pen of theologian Hans Küng, plans began for a gathering every five years. Cape Town hosted in 1999, Barcelona in 2004, and now Melbourne in 2009. The site for 2014 will be announced in October of 2011.

**Last Minute Challenge**

Two days before departing for Australia, Aquinas faculty member Carla Mae Streeter, OP was contacted to chair a session still needing this “traffic cop” function. Knowing it would be such, Carla Mae agreed. As she arrived in the sectional meeting room in Melbourne, she met the panelists and the Australian author whose book, *Dharma as Man* was the object of the session. Titled “The Life of Christ from a Buddhist Perspective,” the session would attract a select group interested in the topic...so Carla Mae thought. The door opened, and they came, and came, and came...until the room

*Continues on page 11*

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was full and participants were sitting on the floors and lining the walls. Finally Security came and announced that the session must be closed, as any more participants would present a fire hazard! Carla Mae's job was to introduce the panelists, a Muslim, a Jew, and the author, and be sure questions were honored. The interest in this topic, of explaining the Christian Christ in language another tradition could understand, was huge.

**Strangers becoming Neighbors**

Such was the title of the session where six participants presented a window into the Interfaith activities of their local spot on the planet. Jim and Mike were from San Francisco, Janet was from

Los Angeles, Paul was from Minneapolis, Donald was from Scotland, and Carla Mae was from St. Louis. The panelists wove a tale not often in the press, of interfaith cooperation on the local level. Only six were chosen for this presentation out of dozens of possibilities.

**Hope taking Flesh before your very Eyes**

For a week 6500 people, representing over 200 religions from over 90 countries talked, prayed, laughed, ate, and learned together. Understanding was the focus, not conversion. We learned about one another as people...and this is the seed we carried home to be planted. Despite the news about religious violence, watch for its growth!



**Tribute to Fr. Ernest G. Spittler, SJ (1929-2010)**

*by Thomas Sheahen, PhD*

*[Ordinarily we simply list the names and dates of death of our members while asking for your prayers. However, in some cases, as with Robert Greenley, PhD, who died in July, 2009, we include a personal reflection on that person's life and work. Tom Sheahen a loyal friend writes of his visit not long before Fr. Spittler's death in January, 2010 at age 81. Eds]*

While visiting my Cleveland relatives just before Christmas, I also visited Fr. Ernie at the Jennings home for older adults, an assisted-living facility. Ernie said Mass at 11 am each day in his room, and several elderly people attended regularly. On Dec 22 I was there, too. After Mass, Ernie and I had lunch and a nice conversation — mostly about ITEST — and I left about 1:30 pm. I have visited him at “Jennings” about 3 times a year for the last 6 years, coincident with trips to Cleveland.

Over the past decade, the other residents of the Jennings home have greatly appreciated all that Fr. Ernie brought to their lives, and were on very friendly terms; several came up to say hello as we were having lunch on Dec 22.

The big decline in Ernie's health came probably seven and a half years ago, when he needed a pacemaker installed. Slowly his health improved, but at no time did he get back his former strength. I witnessed the change in him as he went from the healthy man who worked on his relative's farm in the summers to the person with greatly diminished strength barely getting around in a wheelchair.

Unlike early 2008 when Ernie had been in and out of hospital care frequently, this time there was no particular indication that he might be about to die soon. In some abstract way, I have known that there would someday be a “last” visit with Ernie, but this time I went away expecting to visit him again in a few months on my next trip through Cleveland.

The great thing about Spittler was that his advanced knowledge of chemistry (including the history of chemistry) enabled him to see God's hand in creation. This parallels Fr. Brungs' perception of God via his knowledge of physics. Each of them, men of science and men of faith, went forward from that foundation to grasp spiritual realities in a way that most scientists never do. Ernie was also a long-time member of ITEST and a friend of Fr. Brungs.

I personally feel very blessed to have been an associate of Fr. Ernie Spittler. Among other things, he brought me to John Carroll to co-teach his course “Issues in Science and Religion” in spring term 1999, one result of which was to set me to reading much more in the field; plus it gave me some confidence that I might actually have something to contribute. It was during our visit on Easter Sunday 2008 that Ernie convinced me that I should take the position as Director of ITEST, advice for which I am especially grateful.

*From the published obituary in the Cleveland local paper.*

“Fr. Spittler taught chemistry, history of chemistry and issues in science and religion at John Carroll University until his retirement. In addition to his academic duties he also helped lead Marriage Encounter programs around the country. Father Spittler is survived by nine of his 10 siblings and step-siblings. Traveling widely, Spittler baptized most of the group's roughly 100 children and grandchildren.”

## HELL: the Natural Result of Staying Completely within Human Limits

By Thomas P. Sheahan, PhD

Among scientists, one conventional viewpoint is to insist upon being very empirical-minded, attending only to the realm of space and time as science experiences it. Consequently, such a person sees in death only the decaying body, and draws the hasty conclusion that there is no “eternal life”. I want that individual to re-examine the very limited set of facts and premises which led him/her to that view. To encourage that, here I try to show where that line of thinking leads: to a terminal state, a dead end called “Hell”.

### Background

An interesting anecdote about St. Thomas Aquinas has it that at age 48, he saw a vision of heaven. He was so impressed by this that he stopped writing, and said some vulgar and very disparaging things about the volumes of his own writings, the totality of his life’s work. He must have been *really* impressed. Unfortunately, he died three months later, so the only thing we can be sure about is that words failed him. Perhaps St. Thomas found out something about how vastly smarter God is than us.

Fortunately, my topic here is hell, not heaven, and this is a far easier topic to treat. My working hypothesis is that hell is what you get when you don’t reach beyond customary human experience, when you only believe what you can see, when you stick entirely within the framework of space and time that we are all so familiar with. Because we know quite a bit about the way nature works, it ought to be possible to construct a description of such a state.

### Space And Time

I start with the notion that at death there is a transformation into a new form of life, a new “space”, a new relationship with God that is totally disconnected from the space and time that we live in now. In that new state, the individual interacts with God (and possibly with others) in a way that defies description in conventional language. There is no “passage of time”, nor is anything “statically frozen in time.” The entire system is simply unrelated to time, *orthogonal* to our customary framework of space and time. Since language is fashioned within that customary framework, language is at a loss to describe it. Hell, by contrast, is the condition of remaining firmly entrenched within space and time, with **no** escape from it. Hell is the full, lingering experience of cessation of being, permanently and irretrievably.

At death, if you watch your consciousness go away, experience the dismantling of thought and feeling, that’s hell. In hell, one is conscious only of the fact that consciousness is disappearing, never to return. Moreover, one is also aware that it didn’t have to be that way, that there *was* an alternative, now closed off

forever. Because of the unique way humans experience time, Hell lasts “forever”; it is eternal; it is unlike the escape from the constraints and inexorability of time that heaven provides; it is the fulfillment of the natural process that occurs in a domain where time is immutable and supreme.

To make sense out of this, it is necessary to understand the meaning of the phenomenon of *time dilation*. To explain this concept, an excursion to an ancient story is helpful:

### Xeno’s Paradox: the Rabbit and the Turtle:

Recall the ancient story of the race between the rabbit and the turtle, widely known as *Xeno’s paradox*. The turtle gets a head start, and the rabbit tries to run past him. The Greek philosophers thought about the point where the rabbit has almost overtaken the turtle, and paused to think about their relative positions. In the next moment the rabbit closed half the distance; in the following moment, half again of the remaining distance; and shortly after, half of what little remained. The philosophers continued to focus in on finer and finer details, and pronounced that the rabbit would never pass the turtle, because it would at all consecutive moments close up only half the remaining distance.

Baloney!

This tale has often been recited by engineers to humorously underline the difference between engineers and scientists; but actually scientists and engineers agree on the outcome of this one. If we dissociate ourselves from Xeno’s foray into intensive micro-scrutiny, we can sit in the grandstand and watch the rabbit pass the turtle at a time determined fully by their two velocities and the size of the head start:

$$X(\text{rabbit}) = V(\text{rabbit}) \times t$$

$$X(\text{turtle}) = V(\text{turtle}) \times t + X(\text{head start})$$

The time of passing is when  $X(\text{rabbit}) = X(\text{turtle})$ ,  
and the solution is

$$t(\text{pass}) = X(\text{head start}) / [V(\text{rabbit}) - V(\text{turtle})]$$

At earlier times, the turtle is ahead; at later times, the rabbit is ahead. It’s that simple.

What’s wrong with Xeno’s philosophers? Their problem is, they are using a very special “reference frame” of their own. We in the grandstand can see the overall picture, and we call that the “*laboratory reference frame*”. The rabbit and the turtle each have their own reference frame. For example, in the rabbit’s, the turtle is ahead for a while and is behind later on; conversely in the turtle’s frame. But Xeno has selected a most

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unusual reference frame. It is one very much like Einstein's imaginary streetcar, moving along at almost the speed of light. Of course, the ancients didn't appreciate that the speed at which information propagates is *finite*; they incorrectly assumed it was *instantaneous*. That makes a huge difference.

The philosophers paused to consider a moment in time. In doing so, they locked onto one bit of information, and when they returned their attention to the race, both the rabbit and the turtle had progressed forward. Then they paused on a new, later bit of information. But they didn't attend to the finite rate at which information arrived.

In order to accommodate their stop-motion analysis of the race, they either had to have a videotape with instant replay (no such thing in ancient Greece) or they had to take a long enough step back from the racetrack so that the light emitted by the rabbit and turtle arrived at their new position somewhat later -- late enough for them to have finished contemplating their first observations. For the following moment, they again had to take a long step back to permit the light to travel far enough so that once again they completed their contemplation. This process occurred again and again as they went on philosophizing. Modern physics says that time is *dilated* in their reference frame.

The required steps backward became larger and larger as the time interval between events became smaller and smaller, as the rabbit closed on the turtle. In fact, Xeno and friends would essentially have to be on a rocket ship (or a fast Einsteinian trolley car) accelerating away from the scene at a velocity approaching the speed of light. Only in this way could they delay forever the arrival of the photons showing that the rabbit had passed the turtle at time  $t(\text{pass})$ . In the meantime, they can spend forever analyzing the consecutive bits of information arriving that tell them (*very belatedly*) of the rabbit's progress in catching up to the turtle.

Xeno and friends have selected a reference frame in which the rate of arrival of information is severely delayed. This is in no way related to the reference frame used by those of us actually attending the race. In their peculiar reference frame, it is indeed true that the rabbit "never" catches the turtle. In *our* reference frame, they simply never find out about it. By choosing a reference frame with dilated time, the ancient philosophers have cut themselves off from the flow of information.

The "paradox" comes about when we remember both Xeno speeding away *and* the folks in the grandstand acknowledging the victorious rabbit; and then we wonder how *both* could think themselves correct. Notice that we don't actually *observe* Xeno; we only *remember* that he left! All we *see* is the light arriving from the comparatively nearby point where Xeno's spaceship was located several moments ago.

The paradox is unresolved only so long as we fail to apply Einstein's reasoning about traveling near the speed of light, and the time dilation which accompanies such motion. Of course, prior to Einstein, all observers failed thus, and hence the paradox persisted for centuries.

### References Frames And Death

Hell is a lot like the trip of the philosophers away from the scene of the action. (Imagine how tedious it would be to have nothing whatsoever to do, truly forever, except verify repeatedly that according to the latest information, the rabbit had not yet caught the turtle.) Here is what I think takes place:

At death, a body starts a process of decay. One important characteristic of this process is that the information-handling ability of the brain slows down drastically. Everything in our ordinary-life perception is keyed to a certain familiarity with time, and that breaks down. Indeed, it shuts off entirely eventually, and the body ultimately returns to dust. We on the outside see this taking place on a time scale in the "*laboratory reference frame*." The elapsed time may seem quite short by our clock; the "flat EEG" in the hospital room may appear very quickly on the oscilloscope. A fatal heart attack or stroke produces "brain death" very rapidly, as the brain stops giving off EEG signals about 4 to 6 minutes after the supply of oxygen ceases. Sometimes other bodily functions continue, despite the apparent total disconnection of the brain from the outside world. Hence the people in *Persistent Vegetative State* or irreversible coma raise the difficult question of whether they are dead or not.

However, no one has yet asked what death looks like in the reference frame of the one to whom it is happening. Not having "been there" yet, I can't say, of course. The slowing down of the brain's ability to perceive inputs, to process information, will create a backlog of yet-to-be-processed information waiting in line for neurons and synapses to function. However, these functions are grinding to a halt, and their processes only get slower and slower. As the information-processing capability fades away, the time scale will become elongated, and the perception of the passage of time will thus be stretched out to infinity. It's analogous to Xeno's unhappy choice of reference frames.

The movie *2001 - A Space Odyssey* contains a scene that vividly illustrates this notion. The extremely advanced, almost-human computer "HAL" attempts to kill the astronaut but fails. When the astronaut gets the upper hand, he enters the computer chamber and starts removing the chips for "higher brain functions". (He can't simply pull the plug, because the computer also manages spacecraft control and trajectory.) As one after another of these functions is shut down, the

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computer's voice gets slower. HAL reverts to reciting "Mary had a little lamb", and soon trails off into nothingness as it loses consciousness. This fading away of the "higher brain functions" in the computer is the movie's way of conveying the "death" of the computer.

Returning to the human case, the stretching out of the time dimension makes it last "forever" in the brain's own time frame, even though the external observer sees it all happen in a finite span of time. Meanwhile, for the person who at death transforms to a totally different kind of life, disconnected from time and space, this whole process becomes irrelevant.

### Fire & Damnation

The prophets of old always spoke in terms of hell as "fire". I observe only that the process described here is one in which oxidation takes place. and of course fire is one form of oxidation. Perhaps the awareness of the oxidation of the brain, when the time frame is greatly elongated, is somehow similar to the perception of burning. Perhaps since burning seems a particularly slow and painful way to die (to those of us in the "laboratory reference frame", i.e., the spectators), the mention of "fire" was the prophets' best way to convey "slow and painful". I don't know. But then, the authors of the ancient texts were constrained by their milieu to communicate what they had to say in terms their audience could grasp.

The notion of being aware of, and participating fully in, the total decay and loss of one's personhood is bad enough, but we are taught (by Scripture or church tradition) that those in hell are *aware* of their separation from God. So it must be that one component of hell is the realization that it didn't *have* to end this way.

A plausible reading of Scripture says that at death a new way of life begins—and a scientist familiar with relativity might add that this life is dissociated from space and time. Those who have explicitly chosen the opposite path, saying there is no such new life, have locked themselves into space and time permanently. They have elevated space and time above God. Accordingly, they get to experience the ultimate that space and time have to offer: death, including the time dilation that makes disintegration into nothingness last *forever*; accompanied by awareness of that decay every step of the way.

### Cautions

It is important not to draw hasty conclusions from this description. We all like to speculate on who populates hell—Dante's *Inferno* has been a source of entertainment for centuries. Most people's list begins with Stalin, Hitler, and then diverges into something reminiscent of *The Mikado* by Gilbert & Sullivan.

Also, it is incorrect to think that people who regard space and time as immutable are headed for hell. Prior to 1900, everybody believed that time was an absolute; most people still think that way. Surely there are lots of souls in heaven who showed up there inculcated with the expectation of sitting on a cloud strumming a harp. Lack of scientific knowledge certainly doesn't obstruct sharing in the love of God.

My recurring assertion is that God is a lot smarter than us, which must never be confused with "I am almost as smart as God." The thoughts offered here are only one possible scenario for hell, constructed by requiring absolute immutability, indeed supremacy, of space and time. This can best be called preliminary thinking; in the years ahead, as we learn more about the mind-body connection, a *much* more sophisticated understanding of death is sure to arise from new discoveries in biological science. This picture is emphatically subject to change.

### Summary

Throughout history, God has repeatedly offered humankind the freedom to make choices; God presents lots of options. Anyone is free to choose to remain entirely confined to the world of space and time as we know it. I don't make that choice, even if many other scientists do. When I look at the plausible ending of a conscious living system confined entirely within the boundaries of ordinary space and time, I give the name "hell" to what I see.

The one new element that I bring to the topic here is that of *time dilation*, which provides an explanation of how different observers can see the same thing happening over short or long periods of time. In this picture, there is no way to get death over with in a hurry; the only "way out" is to transform to an entirely new kind of life, having nothing to do with either time or space. Moreover, this model is silent on the terribly important question about what criteria decide whether that transformation takes place, or the interminable decay is fully experienced.

This concept of hell has some remarkable similarities to the hell familiar from Scripture. It also has some differences; they may be due to language constraints in olden days, or they may be because I'm just plain wrong. Either way, I think most religious people would agree that heaven is beyond our imagination, while hell is just what we ought naturally to expect, devoid of any relationship with God.

Our scientific knowledge leads us only so far, and when we look over the edge beyond science, we should not assume that everything out there is going to be covered by tomorrow's science. If it were, it would be hell.

## Dark Green Religion: Nature, Spirituality and the Planetary Future

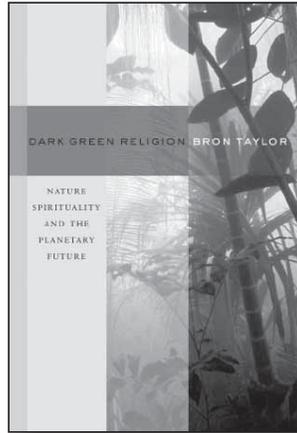
by Bron Taylor

University of California Publishing Services, 2009.

Reviewed by Jay W. Richards, Visiting Fellow, Heritage Foundation;

Author, Money, Greed, and God, Enterprise Blog, February 1, 2010. *Printed with permission.*

Religion Dispatches has an interesting interview with Bron Taylor, the author of a new book called *Dark Green Religion: Nature, Spirituality and the Planetary Future*. From his years of observations of grassroots environmental movements, Taylor came to the conclusion that something new and critically important was emerging that could decisively reshape the political, environmental, and religious landscape. I called this phenomena Dark Green Religion, and by this I mean religious (or religion-resembling) beliefs and practices that consider nature to be sacred and worthy of reverent care, and non-human organisms to be kin and as having intrinsic value.



His basic thesis (to judge from the interview) is that Darwin's theory of evolution (natural selection and random variation)

shattered traditional religious explanations for the fecundity and diversity of the biosphere. Where this cognitive shift has been made, traditional religions with their beliefs in non-material divine beings are in decline. The desire for a spiritually meaningful understanding of the cosmos, however, did not wither away, and new forms of spirituality have been filling the cultural niches previously occupied by conventional religions. I argue that the forms I document in *Dark Green Religion* are much more likely to survive than longstanding religions, which involved beliefs in invisible, non-material beings. This is because most contemporary nature spiritualities are sensory (based on what we perceive with our senses, sometimes enhanced by clever gadgets), and thus sensible. They also tend to promote ecologically adaptive behaviors, which enhances the survival prospects of their carriers, and thus their own long-term survival prospects.

So apparently he thinks that Gaia worship is more adaptive than worshipping a supernatural sky god, or something like that. Therefore, natural spirituality is likely to predominate in the future—just as natural selection makes sure that the faster-running gazelles predominate in the long run. The obstacle is that people don't realize they're dependent on the material eco-system, and so they stick with their gods, guns, and gas-guzzlers. The good news, in his view, is that the ecological crisis we hear so much about might dislodge our old ways of thinking.

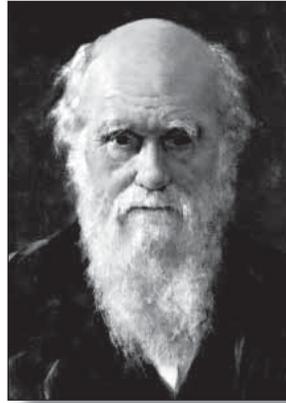
I'll need to read the whole book to justify a full evaluation and critique of Taylor's thesis; so I'll offer just a few comments here.

First, it's simply false to claim (as environmentalists have been claiming since Lynn White's famous article in *Science* in 1967) that Judeo-Christian religions do not "consider nature to be sacred and worthy of reverent care, and non-human organisms to be kin and as having intrinsic value." The Judeo-Christian tradition certainly distinguishes human beings from other animal life, but it also makes them stewards over the creation—stewards who have responsibility to God for how they care for creation. And since everything is created by God for some purpose, everything has intrinsic value.

This has always been a part of the Christian tradition at the very least, and it's just the impression you'd get from reading the first several chapters of *Genesis*. In the Judeo-Christian tradition, the Earth is the Lord's, even if it's not the Lord.

Second, his claim that nature spiritualities are more adaptive than (presumably) theistic religions seems to be a pure deduction based on his assumptions, rather than being based on the empirical evidence. He assumes that ecological catastrophe is imminent, and that nature religions "promote ecologically adaptive behaviors." But it's not clear what nature religions he has in mind, since the ones that have actually existed historically don't obviously qualify. In fact, over the last few thousand years, various nature religions have been largely displaced by theistic religions. (My northern European ancestors were probably practicing nature religions two thousand years ago, for instance.) And those places where theistic religions have displaced nature religion seem, at least in broad economic and environmental terms, to be doing a lot better than the places where nature religions have held on. This is less than obvious to Taylor, perhaps, because he thinks carbon dioxide, that footprint of industrial civilization, is a destructive pollutant.

Still, I do think he's onto something. It's clear that there is a movement afoot, which is hostile to traditional theistic religion and inclined toward nature worship. It's infiltrating the traditional religions themselves. I'm hoping that those Christian activists who so uncritically baptize environmentalist orthodoxies will notice Taylor's book and start to think more critically about the incompatibility of those environmental orthodoxies with Christian orthodoxy.



## Clobbering Darwin

by Tom Sheahan, PhD

In November, 2009, I attended a lecture detailing why Darwin was wrong about geology. The lecture was by Dr. Steven Austin, and the event was sponsored by the *Creation Science Fellowship* in the Pittsburgh area. My motivation for going was to listen to a person speak for himself, as contrasted to reading newspaper accounts about the event. Hearing it firsthand removed a filter and gave me new insight.

The host of the event clearly stated that they are 6-day creationists, adding “we believe the Bible is divinely inspired and historically accurate.” So everyone was on notice right from the start.

Austin’s professional field is geology, and in his presentation he found much to criticize in the geology that Darwin practiced in the 1830s while on the *Beagle* trip around South America. Austin discussed the Santa Cruz river valley in Patagonia, as well as other geological sites that Darwin visited. Austin had earlier made a video entitled “Where Darwin went wrong,” which is posted on YouTube.

Austin stressed that Darwin called himself a geologist. The audience learned details about the incorrect interpretations Darwin made of assorted geological features. Darwin based his interpretation of geology on the earlier work of Lyell, which stressed gradual change. With the modern understanding of the influence of catastrophic events upon geology, all that has long since been set aside.

The entire purpose of this presentation is neatly encapsulated by Austin’s closing lines: “Darwin got it wrong because he came with pre-conceived notions. . . . Darwin’s methodology was flawed. He was wrong about the formation of the Santa Cruz valley. What else was he wrong about?”

The detailed presentation about geology was entirely just a vehicle to reach the closing question “What else was he wrong about?” The point was to sow doubt in the listener’s mind about Darwin in general. Austin did not say anything at all about biology, wildlife, or any of Darwin’s observations about animals. He didn’t go anywhere near the subject matter of *Origin of Species*. Austin stayed strictly on geology, where his criticism of Darwin was valid. Of course, Austin had the benefit of 170 years of progress, including things like *plate tectonics* which were unheard of in Darwin’s day.

It occurs to me that, as a physicist, I could strongly criticize Darwin, too. He knew nothing about even the simple model of the atom (Bohr, 1913), let alone quantum mechanics (1925-29); he didn’t even know that light was a form of electromagnetic radiation (Maxwell, 1872). My ability to clobber Darwin for not being a 20th-century scientist is excellent. It does not surprise me that Steven Austin is able to point out Darwin’s mistakes about geology.

What Austin did *not* do was find flaws in Darwin’s insight into the life sciences. It was left for the audience to infer that there must also be something wrong with that aspect of Darwin’s work. The detached observer calls that a *non sequitur*. But that *is* standard practice within the realm of creation science.

The round trip was 218 miles, partly in rain; but I’m glad I went. I now have a much better understanding of the way creation science sustains itself, and why it still has plenty of adherents.