



THE NEXT STEP Toward a Healthier Future

A BI-MONTHLY NEWSLETTER OF THE SEBASTOPOL TOXICS EDUCATION PROGRAM

Greening Chemistry

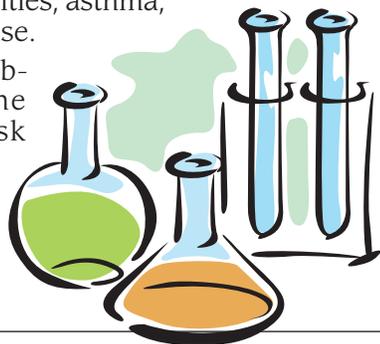
I recently attended the annual Bioneers Conference in Marin, and one of my favorite talks was the engaging plenary presentation of Dr. John Warner, a seminal founder of the field of green chemistry.

I've previously seen and written about Dr. Paul Anastas, who with Warner co-authored the industry-defining textbook, *Green Chemistry: Theory and Practice*. (See *TNS VII/6*.) So I was delighted to have a chance to hear Warner describe his approach.

His segment got off to a rollicking start with a creative introduction by eco-health educator Charlotte Brody, a registered nurse and co-founder of Health Care Without Harm. In contrast to the conference's usual formality, Brody got the audience roaring with laughter by walking on-stage dressed as a white sperm with a long white "tail" bouncing above her head. The large screen showed a chagrined cartoon sperm with the phrase, "S.O.S. Save Our Sperm."

Brody used this humorous approach to bring up a serious topic, the threat that toxics pose to both male and female fertility rates, plus their demonstrated links to other diseases such as breast and prostate cancer, learning disabilities, asthma, and Parkinson's Disease.

Saying "this is a problem we can fix," she encouraged us to ask Congress to strengthen our primary federal toxics law, TSCA (see over).



Warner then came on stage and said, "You may be thinking that it's strange to be introduced by a sperm. But if you really think about it, you *all* were." The crowd again filled with laughter. How wonderful to see folks find fun ways to bring up this topic!

Then Warner asked, "Did you ever ask yourself *why* we have hazardous materials? Who in their right mind would synthesize a red dye that caused cancer? ... [Or] develop a plasticizer that causes birth defects? Why are we in this situation?"

To answer that question, he took us on his personal journey. Rather than the standard science-kit adolescence, he came from a huge blue collar Boston family, a fact evident both in his broad Boston accent and frank manner of speaking. This family of plumbers and electricians didn't understand his desire to go to college, let alone study music. But he went anyway, and there to his surprise discovered that chemistry could be as creative for him as music.

His curiosity and passion about this science led him to create hundreds of novel molecules, write scientific articles and papers, work on a successful anti-cancer drug (a derivative of which his mother used in her cancer treatment), and more.

A key milestone for Warner was creating a scientific approach he called NCD or non-covalent derivatization. The underlying concept, he said, was to work *with* molecules' inherent nature, instead of forcing them

Detoxing Tips

■ **Upcoming Community Toxics Collections.** One of the most important actions we can take is to always dispose of our toxics properly, thus protecting human health, natural ecosystems, and our water supply.

Sonoma County residents can either bring their toxic items to the Household Toxics Facility at the County dump, or to a Community Toxics Collections event, which occur each Tuesday at rotating county locations.

Upcoming dates in Sebastopol are Dec. 7 and March 8.

An appointment is required for these events, so call (707) 795-2025 at least 24 hours in advance. There's no fee for Sonoma County residents; bring your ID.

For more about what's accepted and not, plus information about transporting toxics and business disposal, go to www.recyclenow.org and click on "Toxics."

■ **The TNS Online Index** makes it easy to look up past newsletters by topic. You can quickly discover what's toxic, and the effective alternatives, in everything from landscaping to pest control.

Look there for seasonal tips, such as: less-toxic approaches to ants and mold; less-toxic pet care, including flea management; less-toxic holidays; healthier housecleaning and air fresheners; and buying organics to avoid toxics in our bodies and nurture our health. www.healthyworld.org/STEPIndex.html

■ **Anyone can receive email alerts when new TNS issues are put online.** Just email that request to me at STEP@healthyworld.org. Sebastopol residency is not required!

to be what they're not. Through this, he found he could elegantly avoid toxicity and eco-harm. His employer was ready to move into production based on his approach, but the EPA rejected the application because they didn't understand it! He went

See Greening Chemistry, over

Greening Chemistry, continued

to Washington to further explain, and while he was there ran into Paul Anastas, a childhood friend who'd become a top EPA official.

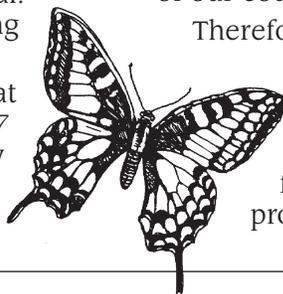
The other key crystallizing moment for Warner was the death of his 2-year old son from a birth defect. Horrified to think that some chemical he'd created or handled might've caused his son's disease, he realized that chemists' training never required them to understand what makes a molecule hazardous.

"And that should outrage you," he said. "My father was an electrician. He couldn't come into your house and change a *light bulb* unless he had a document that said he could do it safely," a principle that other professions follow as well. "How is it possible that the only humans on the planet given the gift of making a new molecule that has never existed before ... have absolutely no responsibility to anticipate if they're about to make the most potent neurotoxin [or carcinogen] in history?"

Which brought us to his answer to his initial question. Scientists are creating toxic materials, he said, because they're not trained to avoid them from the start. This realization led him to work with Anastas in defining and developing the field of green chemistry, which he considers vital for creating eco-respectful options in the marketplace.

Unfortunately, though, he said that there's no U.S. federal funding for green chemistry programs. Instead, other countries such as China and India are leading in institutionalizing safer techniques. They're doing so because they see a competitive advantage in meeting the demand for safer materials that also offer superior performance and cost. He hopes that the U.S. will soon join them in helping chemists be green, and encourages us to consider how we can assist with that goal. I think he makes a compelling case for doing so!

You can watch the video at www.vimeo.com/15922167 (free for a limited time) or buy it at www.bioneers.org.



Take Action to Fix TSCA

"Every day, consumers rely on household products that contain thousands of chemicals. The American public expects the federal government to do all it can to ensure these chemicals are safe before they reach the market."
~ Senator Frank Lautenberg (NJ) ~

This consumer expectation of safety is reasonable, but we're unfortunately falling far short of it in the U.S., largely because our federal toxics law, the Toxic Substances Control Act (TSCA), isn't working.

In fact, according to the group Safer Chemicals, Healthy Families, very little is required to be known about nearly all of the tens of thousands of chemicals produced and used in the U.S. Instead, "over the past three decades, the EPA has required testing on just 200 existing chemicals and restricted only five." Meanwhile, every American tested has multiple toxics in their bodies, materials proven to be linked to our currently increasing diseases.

At a House subcommittee hearing, Environmental Working Group President and co-founder Ken Cook noted that even babies are being born "pre-polluted," with nearly 300 chemicals being found in their umbilical cord blood. He concluded that "TSCA leaves the government so stunningly powerless to deal with the soup of toxic chemicals in the environment and, indeed, in the blood of all of us, [that] the American public has lost confidence that the products they are using, the chemicals they are being exposed to, are safe."

However, there's great news right now in this domain. We currently have a rare and long-needed opportunity to fix TSCA, thus better protecting ourselves and future generations while improving the reputation of our country's products.

Therefore, I strongly encourage you to support our allies on the front lines who've succeeded in bringing to Congress this stand for our right to have safe products for our families.

Two bills are pending to improve TSCA, the Senate's S 3209 and the House's HR 5820. Both would require that manufacturers: 1) prove their chemicals are safe, rather than waiting for the EPA to prove them unsafe; 2) follow standards that better protect vulnerable populations, such as children and pregnant women; and 3) make basic health and safety information available.

Although the industry is resisting real change, with its usual claims that it would hurt company income and thus jobs, bill proponents argue that this proposal will actually help create new and healthier jobs while better positioning us competitively and reducing the currently enormous financial and emotional costs of illness among innocent victims.

One unexpected person to testify in support of strong action was a (Republican) manufacturer of commercial construction products, who reported that his difficulties in getting chemical information on raw materials make it difficult for him to offer the green and healthy products that consumers are demanding. As a result, HR 5820 could be "one of the more beneficially impactful pieces of legislation of our generation."

For a summary of the two bills, including the ways that the House version is stronger than the Senate one, see www.saferchemicals.org/about/want.html. This site also has an easy "email Congress" action and other information on the issue. Another quick action is at CHANGE's www.saveourperm.com.

ABOUT STEP

The Next STEP (TNS) is published six times a year by the **Sebastopol Toxics Education Program (STEP)**. **STEP is a project of the City of Sebastopol**, implemented by local citizen volunteers. **STEP's mission** is to support city residents in reducing their toxic use and exposure, creating a healthier and safer Sebastopol for everyone.

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