

2004 Integrity In Science Conference
Corporate and Political Influence on Science-Based Policymaking

July 12, 2004

The International Trade Center
1300 Pennsylvania Avenue, NW
Washington, DC

ACCEPTANCE SPEECH

Rachel Carson Award for Integrity in Science

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I accept this award with deep humility -- and with great joy -- because there are many who should be standing here beside me sharing this honor -- in honoring me, you give me the opportunity to honor them. The past decade has not been easy for a number of brilliant scientists who for obvious reasons I will not name, because many are still walking a tightrope between job security, getting grant support, having their papers published, and losing their scientific reputation. It is extremely important for them to continue to have adequate lab space -- and to keep working in those labs, pumping out data -- not wasting time defending their research and their personal integrity. Some have been scorned and humiliated, others have suffered character assassination, lateral transfers, and even dismissals. You have already heard from Dr. Tyron Hayes about his experience. My heart aches when I think of what may still be ahead for him and others in his predicament. I also ache for those dedicated individuals who have devoted their careers working within government agencies whose science has been, and still is suppressed for political reasons. I know how they are suffering as they see the truth stifled by corporate influence within the government.

I also accept this award with great joy because it gives me the opportunity to speak once again from a podium to a large audience about endocrine disruption -- two words that should to be on the tip of everyone's tongue. Before I sit down you will understand why endocrine disruption should be familiar to have every Tom, Dick, and especially Mary.

But first, back when Pete Myers, Dianne Dumanoski, and I decided to write Our Stolen Future, we knew full well what we were getting into. We had only to look back at the Rachel Carson and Herb Needleman experiences to remind us that the road ahead was not going to be easy. We steeled ourselves for this treatment every time we met to work on the book. Prior to that I experienced corporate harassment back in 1981 when my Master's thesis was attacked by both the Lead-Zinc Institute and the Electric Power Research Institute paid for by AMAX Corporation. They had managed to get a copy of

my thesis before my thesis committee ever saw it. This was followed in 1991 with some pretty rough stand-offs when DOW Chemical sent one of its Vice Presidents to work with the Chemical Manufacturers Association in Washington, DC to establish the Chlorine Chemistry Council -- in a collaborative attempt to take me down. From this I developed a hide a like a turtle and told myself that the viciousness and cleverness of the corporate-driven attacks was actually a measure of how close we were to the truth and therefore a measure of success.

I am especially glad to be here to accept the Rachel Carson Award to speak out once again about endocrine disruption, because it is the last thing industry wants to happen. I remember a leaked internal memo from the pesticide trade association (ACPA) sent to a handful of pesticide manufacturer's members in which they agreed to never use the words "endocrine disruption" or my name. In this memo they were making a pact to act as if endocrine disruption and I did not exist. In the memo there was a notation that warned that if they started a campaign to attack me and used my name they would make me high profile -- like the mistake made when industry decided to attack Rachel Carson 40 years ago. They admitted in the memo that they did not want to make that mistake again.

So quickly, what is endocrine disruption? It is a game chemicals play everyday with a baby as it develops in the womb. At this moment there are approximately four million babies in wombs in the US alone. The game, much like Russian roulette, allows endocrine disruptors to see how many ways they can interfere with the construction of the baby ----- from its brain, to its gonads, to all its organs; to confuse the programming of its neurological, thyroid, reproductive, and metabolic systems; to alter the baby's behavior and ability to fend off disease; and ultimately prevent the baby from reaching its fullest intellectual potential to function as a contributing member of society.

Starting at conception, pregnancy has now become a game of chance -- depending on the timing of the presence of the chemical in the womb, and which developing cells the chemical comes in contact with. Consequently, the permutations and combinations of the possible glitches in the baby's construction are endless. How these glitches will be expressed as the baby matures is unpredictable. Watching a child grow up today is like waiting for a delayed time bomb to go off. As beautiful as a baby may be at birth, the odds are against it before it is born because the chemicals are already in its mother. And unfortunately, not one of the 100,000 or so chemicals in use today has been tested for the endocrine disruption sabotage they can inflict during gestation.

Forty years ago, Rachel Carson alluded to endocrine disruptors in her book "Silent Spring". She sounded the first warning that chemicals were violating what I call, "inner-space", when she pondered the consequences of mothers sharing their body burdens of synthetic chemicals with the developing babies in their wombs. I am certain that if Rachel Carson had not passed away prematurely, she would have discovered the phenomenon of endocrine disruption in the 1960s. It is clear from what she wrote in "Silent Spring" that she was at the cusp of that discovery when she left us. I am also certain, because of her elegant, literary skill she would have found a better name for the phenomenon, than endocrine disruption. Unfortunately, her untimely death gave a free

ride for unrestricted technology to romp into the future and continue to dump millions of pounds of chemicals into the biosphere year after year.

Let me take a minute to tell you about one of these chemicals that is produced in billions of pounds a year that has been kept a big secret. It is in practically everything you use or touch. It has been shown to interfere with the development of almost every physiological and organ system in which it has been tested, and at concentrations you are all walking around with in your bodies and most people have never heard of it . . . it is called Bisphenol-A. Its nickname is BPA. It is the basic building block of polycarbonate plastic used to make baby bottles and other food and water containers. --- How many of you have become attached to those wonderful Nalgene water bottles? --- It is found in most high impact sporting good products, in every compact disc, and a long list of domestic products that make life as we know it possible. It cannot be avoided. It is used as a fire retardant and is on EPA's list as an inert ingredient acceptable for formulating pesticides. It does not bio-accumulate like some of the earlier discovered endocrine disruptors, but because it has become an integral part of vast numbers of household and office products, it is found in everyone's bodies wherever it has been looked for. There are now over 75 peer reviewed papers from academicians around the world who used very low doses of BPA ----- within the range that it is found in amniotic fluid, and fetal tissue demonstrating the insidious damage BPA can inflict to the developing embryo. BPA is truly a chameleon chemical whose damage changes -- one effect at a low dose and another effect at a high dose -- and depending on the stage of development of the tissue or organ that it comes in contact with. BPA is the first synthetic chemical that has been shown to directly interfere with the thyroid receptor thus indirectly able to alter metabolism and brain development; it directly alters the development of critical regions of the brain -- such as the hypothalamus and hippocampus; it alters the development of the Islets of Langerhan in the pancreas, the cells that produce insulin; it alters cell activity in the spleen; it causes enlarged prostates; and increases the weight of animals exposed prenatally in the lab.

If you want to learn more about BPA get into Pete Myer's Ourstolenfuture.org web site. Pete has a section devoted solely to it.

The BPA scenario reveals the serious predicament society faces today -- Shell Corporation for many years was the sole producer of BPA and more recently was joined by DOW and Dupont. They are also members of the trade associations who are sponsoring the campaign to improve their image and tell you how safe and useful their products are.

Think about this -- BPA and almost every one of the other chemicals that have been identified as endocrine disruptors are produced from the byproducts of cracking crude oil to make gasoline. Endocrine disruption provides just one more reason why we must kick our nation's addiction to gasoline. Cheap gas means cheap plastics and cheap pesticides and cheap domestic products -- and huge profits for practically every major corporation in the world. **This is only one part of the well hidden secret about endocrine disruption -- that it is truly a matter of national and international security. What**

could be more important than the well being of our children? It's easy to understand why the chemical trade associations have joined forces and are giving 50 million dollars a year to Ogilvie and Mather, an international PR firm, to bury the truth with slick spin about the activities and products that have become an integral part of our life style and economy -- yet at the same time destroying our national security through the undermining of human integrity and biodiversity. This recent huge expenditure to confuse the public should come as no surprise. Some of you may remember when those gorgeous ads on TV about the wonders of plastic began to appear -- that was back in 1991 following the release of the Wingspread Consensus Statement in which the name and concept of endocrine disruption were first introduced -- and listed the phthalates (plastic components) as endocrine disruptors. That integrated campaign by the American Plastics Council has been hailed in the PR world as the most successful effort ever to reposition an entire industry.

This gets us to another reason why endocrine disruption has remained low-profile. It is a difficult concept to put into writing and for people to visualize. I cannot count how many editors, TV producers, and film producers have called me and asked for help putting the message into pictures. It is almost impossible. You can't stand around with a camera and wait to see what inconspicuous chemicals do. Their impact may not be expressed measurably or visibly until adulthood long after the fetus is exposed. Can you imagine a reporter trying to sell a story like this to his editor?

But let me remind you that the evidence from human epidemiology and laboratory studies is telling us that endocrine disruption is real and taking its toll in each new generation. Actually, we no longer have to wait a generation to measure the damage if you look at the increases in prevalence of such disorders as autism, ADHD, childhood diabetes, testicular cancer in young men, and gonadal cancers in adults to mention a few of the disorders that used to be rare events but are now of epidemic proportion. The problem is closing in fast. It now takes only a span of five years to measure significant increases in these disorders in our population. While at the same time, chemical production continues to increase, as more and more chemicals are being introduced into our homes, workplaces, and outdoors, through hi-tech, innovative uses.

Economists are telling us that the costs of endocrine disruption are prohibitive. It is obvious that unless we reduce exposure, more individuals will need medical attention throughout their lives. Many of our children will never reach their fullest intellectual and social potential -- and in some instances may never become healthy tax paying citizens, but instead live in a state of dependency. Are we going to reach a point in our society where more people are on disability than there are people to take care of them?

There is adequate evidence that endocrine disruptors have already undermined the construction of our children's brains compromising their intelligence and behavior -- and there are chemicals that interfere with the development of that part of the brain that makes us human -- where we learn to love, to bond, to parent, to feel empathy, and to arrive at some comprehension about the consequences of what we are doing.

As we look around the world today, we see continued environmental destruction, starvation, unrest, strife, wars, and the world imprisoned by the threat of terrorism. As we move forward in this new century we need people with the capacity to solve these problems. People who do not react to dire situations with violence, but with the intelligence, patience, and courage needed to resolve problems without disseminating fear and hate to accomplish their goal.

The greatest challenge to humankind today is to achieve world peace. To do this we need more and more statesmen and stateswomen, scholars and thinkers, men and women of courage with good health who have the stamina to lead us to world peace. We need a world where children are born healthy and as whole, caring human beings capable of becoming world leaders. Certainly, cleaning up the womb environment comes under the scope of global security. It is important that everyone, including our leaders and policy makers understands that "peace begins in the womb".

I am certain that if Rachel Carson were here right now, given what is known about endocrine disruption today, she would be leading a women's march on the capitol calling for the removal of endocrine disrupting chemicals from the biosphere. But as we have seen in the recent past, as research strategies and technology have become more sophisticated and are closing in on endocrine disruptors, and even though these findings pass peer review, there is still no action by responsible parties to take preventive action. Crash government programs to build outer-space shields will not provide security for our unborn in the womb from endocrine disruptors. Outer-space research is not going to reverse the increasing trends since 1970 of human disorders, especially in our children --- many disorders that within the past 5 years have been shown to be of fetal origin.

In closing I would like to mention that while Dianne, Pete, and I were working on Our Stolen Future over 10 years ago we wanted to focus more on the impacts of endocrine disruption on the brain than we did. There were several on-going independent research studies looking at contaminant influences on brain development at that time, but few results had been published yet. Consequently, there was no way we could provide the evidence to support our concern. Today, however, the evidence provided in the increasing number of published manuscripts on the endocrine/brain connection, from the cell to the population level, clearly calls for immediate action.

It is imperative to break the corporate barrier that is keeping endocrine disruption a top secret as soon as possible, before there no longer are enough people with the brain power to understand the threat posed to national and international stability by endocrine disruption. This will require leaders with intelligence, good health, and lots of courage, because the only option is prevention.

Thank you once again for this opportunity to speak out.

Theo Colborn, July 12, 2004