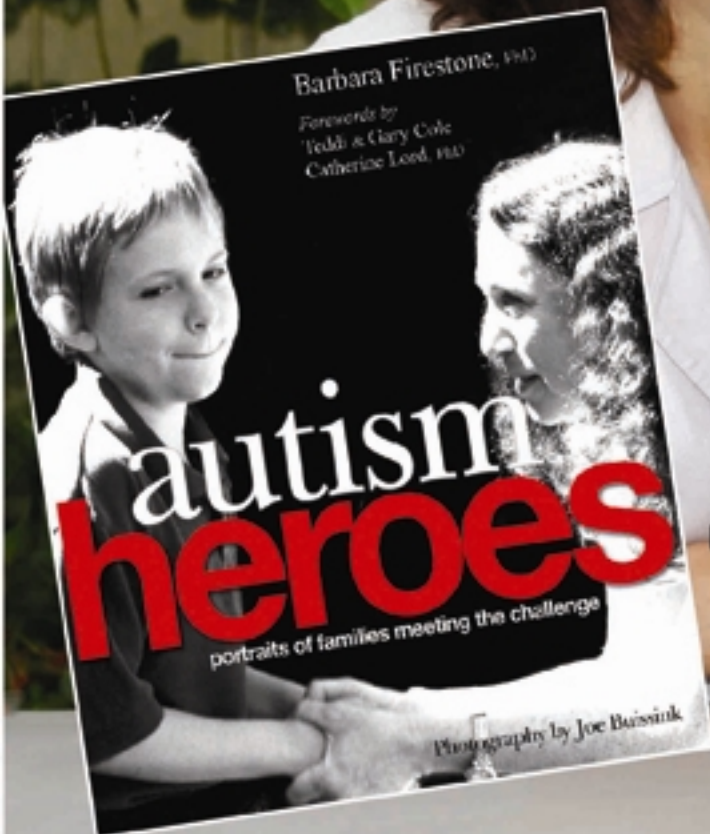


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TAP INTO IT.
perspective

Barbara Firestone, PhD
*President & CEO,
The Help Group*



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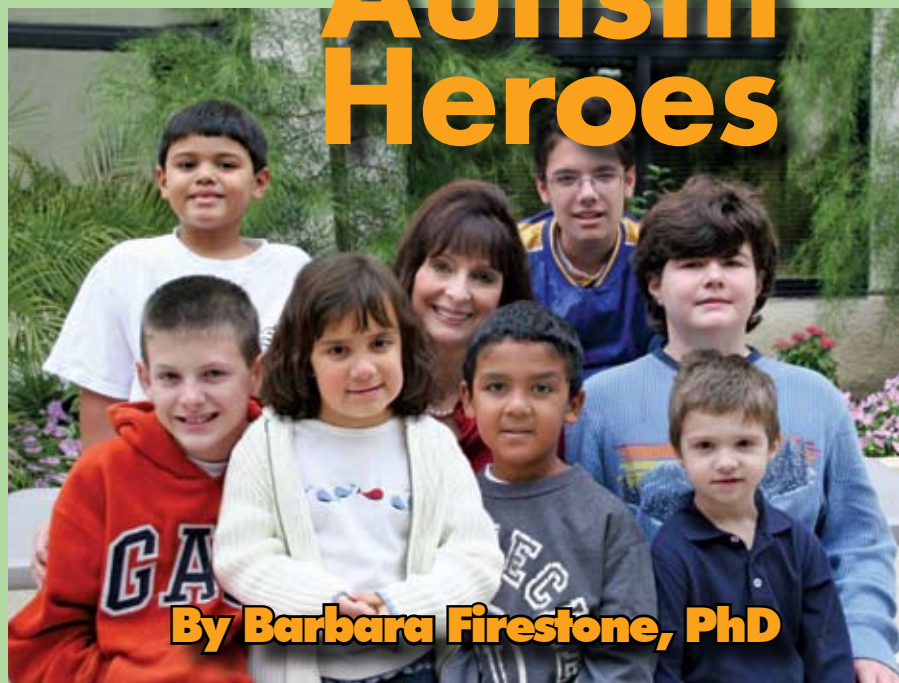
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Environmental Toxins & Autism

By Joanne Lara, M.A.

Over the past few years, there has been an increasing amount of research pertaining to the possible association between environmental toxins and Autism Spectrum Disorders (ASD), and this evidence supports the theory that ASD may be the result of neurological damage resulting from environmental toxins assaulting the immune system of the in vitro fetus occurring long before birth. A result of this assault could be that the entire system of the infant may be compromised, resulting in direct damage to major areas of the brain that are responsible for gross motor skills, speech and language acquisition, and the processing of emotions - all diagnostic characteristics of ASD.



Joanne Lara

In May of 2005, the state of California introduced into legislature a number of chemical safety bills addressing imposing stronger chemical regulations on the production of industrial plastics (PCBs) and other known neurological toxins. Of particular concern is the demand for more stringent controls over industries that emit chemical toxins that are known to affect animals, with the subsequent theory that human development of newborn fetuses and infants, either through breast milk or possibly in the fertility process, may also be at risk (Rau, 2005).

A hormone chemical-mimicking industrial compound, phthalates, found in plastics and beauty products and known to accumulate in humans, was found in the urine of 2,500 people in a U.S. population 1999-2000 Center for Disease Control and Prevention survey reported recently in the

journal, "Environmental Health Perspectives." Phthalates was found to be a probable plausible factor in the disruption of human reproductive organs in offspring of 85 mothers with high levels of chemicals in their urine late in their pregnancies. Their sons, averaging nearly 13 months of age and born in Los Angeles, Minneapolis and Columbia, Mo., had changes to their reproductive organs, manifesting in decreased testosterone, a short span between the anus and penis, smaller penises and scrotums, and more instances of incomplete descent of testicles (Cone, 2005.).

Whales across the globe are losing their sonar capabilities and, as a result, are beaching themselves to die. Species of birds are experiencing rare diseases that cause their young to be born with deformities and abnormalities. In remote areas of the Arctic Circle, feeble newborn polar bears have been discovered in dens suckling, blind and toothless, all most likely a result of industrial PCBs, PBDEs (a flame-retardant chemical used in high concentration in Eastern

America and Europe in the manufacturing of furniture pillows), and pesticides making their way to the North Pole (Cone, 2003 & 2006).

The U.S. Environmental Protection Agency (EPA) defines dioxin, the general term describing a group of hundreds of "at serious risk to public health" chemicals, as a family of toxic chemicals that share a chemical structure and a common mechanism of toxic action. The family includes seven polychlorinated dibenzo dioxins (PCDDs), ten of the polychlorinated dibenzo furans (PCDFs) and twelve of the PCBs. PCBs and PCDFs are found as by-products of the manufacturing of molding, electronics, and burning of organic chemicals and plastics that contain chlorine (EPA, 2004).

Wars are historically the worst offender of mass toxic pollution known to mankind, with the earliest reported toxic pollution occurring in battles 5,000 years ago in Mesopotamia that involved the breaking of dykes to flood farmland. The Indochina War, the Gulf War, the Kosovo conflict, Chechnya, Afghanistan, and ongoing conflict in Africa have wreaked havoc environmentally,

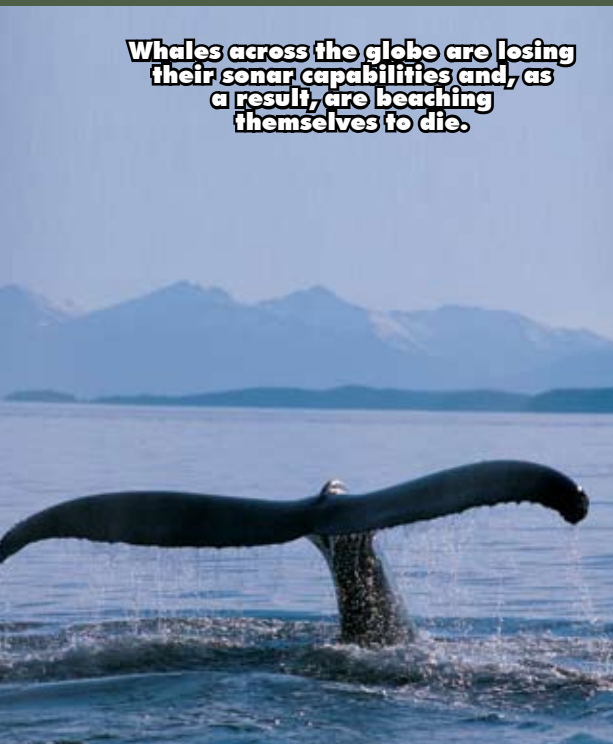
resulting in untold devastation to wildlife and humans alike, with research from the current war in Iraq and the environmental consequences upon humans yet to be told. The conflict in the Middle East has resulted in a number of published articles over the past two decades.

"Dr. Christine Gosden, a professor of medical genetics at the University of Liverpool, in a report to the U.N. Institute of Disarmament Research detailed serious medical problems occurring from her study on civilian populations following the Iraqi attacks in Iraqi Kurdistan between April 1987 and August 1988. In the town of Halabja, bombed over a three-day period in March 1988 with chemical and biological agents, Dr. Gosden reported findings of rare cancers, congenital malformations in children, infertility, miscarriages, recurrent lung infections and severe neuropsychiatric disorders, noting that delayed effects following exposure may occur five to ten years later" (Pearce 2000, p. 2).

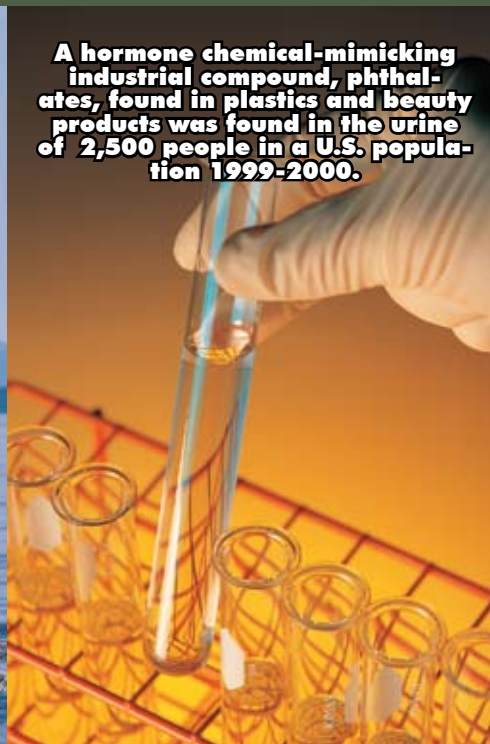
In the United States there have been numerous ongoing studies conducted on the post-effect of a dioxin herbicide, Agent Orange (the name derived from identifying

bands of orange painted around the barrels), used in the Vietnam War to demolish foliage in enemy territory between 1965 and 1970. Tetrachlorodibenzo-p-dioxin (TCDD), the most toxic in the family of dioxins, was the key component of the chemical compound Agent Orange. Fifteen additional untested toxic herbicides were used in Vietnam between 1962 and 1970.

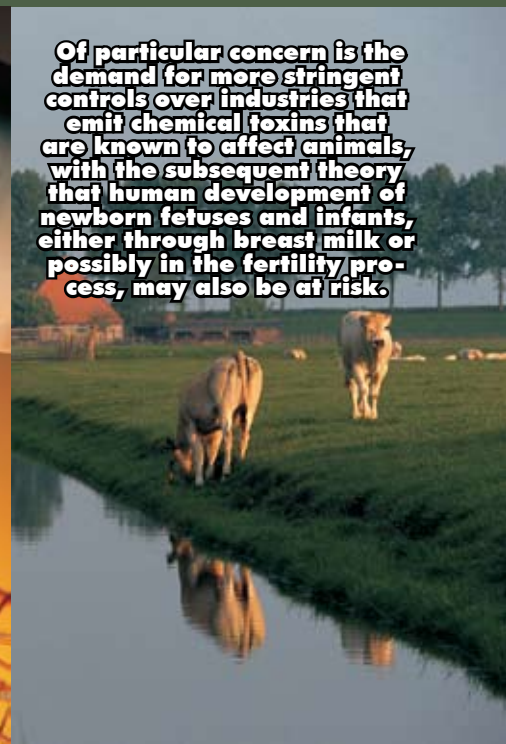
According to Le Cao Dai, director of the Agent Orange Victim Fund set up by the Viet Nam Red Cross, the breast milk of women in former South Vietnam who were exposed to Agent Orange in childhood contains about ten times more dioxin than that of women in former North Vietnam or industrialized nations such as the United States. And according to Professor Hoang Dinh Cau, the chairman of Viet Nam's 10-80 committee, which investigated the consequences of the use of chemicals during the war, tens of thousands of children were affected. Common symptoms of Agent Orange exposure are limbs that are twisted or missing altogether, and eyes without pupils. There is now growing concern that a third generation



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Of particular concern is the demand for more stringent controls over industries that emit chemical toxins that are known to affect animals, with the subsequent theory that human development of newborn fetuses and infants, either through breast milk or possibly in the fertility process, may also be at risk.

of children may be affected by Agent Orange (Pearce 2000, p. 1).

The battle between American enlisted soldiers who were participants in Operation Ranch Hand, the code name used for the spraying of herbicides to demolish foliage to flush out enemy troops, and the herbicide manufacturers continues to this day.

And although dioxin was banned in the U.S. in the 1970s, PCBs and related PCDFs and PCDDs can still be found decades later in the environment due to their long half-lives stored in fatty acids in organisms and their continual production and recycling through industrial activities (Kimbrough, 1985). PCBs, dioxin, mercury and numerous other toxic chemical compounds continue to exist as components in herbicides, pesticides, and as by-products of plastic manufacturers, municipal waste incinerators and coal-fired power plants throughout the world - finding their way into our soil, our food chain, our water, and the air we breathe.

A chemical compound of rocket fuel was recently found in high levels in the breast milk of young women in Texas (Cone, 2005). Additional studies indicate that toxins

are being passed onto the embryo in the prenatal, 20-24 day gestation periods (London & Etzel, 2000). The long-term consequences of contaminated breast milk, umbilical cord and blood plasma are yet to be seen. Furthermore, due to global toxic mercury emissions from the coal-fired power industry, the fish we consume are so highly contaminated that the EPA has issued ongoing bulletins urging the public, specifically pregnant women and women of childbearing age, to limit their intake of fish until mercury emission levels can be reduced.

The effects of environmental chemical toxins resulting from modern industrialization may well be the mechanism for the biomarkers that have the potential to alter the immune system, whereby causing the disability of autism in not only the present but also the future generations of all living organisms on the planet. **TAP**

About the Author - Founder/Director Autism Movement Therapy®, CCTC Mod/Severe Ed Specialist K-12, Faculty National University, LA (DVD at www.autismmovementtherapy.com)

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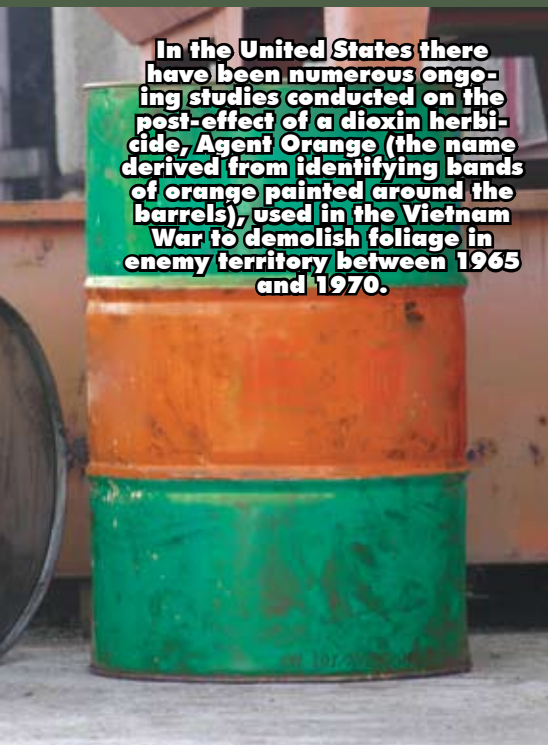
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