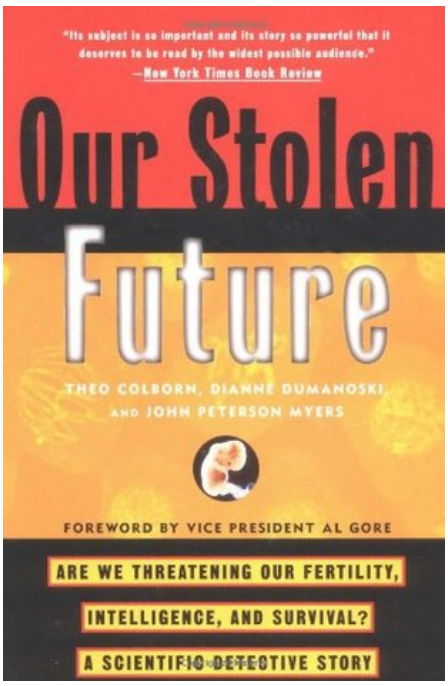

Our Stolen Future: Are We Threatening Our Fertility, Intelligence and Survival? A Scientific Detective Story

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"A critically important book that forces us to ask new questions about the synthetic chemicals that we have spread across this earth."--former vice president **Al Gore**, author of *An Inconvenient Truth*

Our Stolen Future examines the ways that certain synthetic chemicals interfere with hormonal messages involved in the control of growth and development, especially in the fetus.

The developing fetus uses these natural hormonal messages, which come from both from its own hormone system and from its mother, to guide development. They influence virtually all of the growing individual's characteristics, from determining its sex to controlling the numbers of toes and fingers to shaping intricate details of brain structure.

Scientific research over the last 50 years has revealed that this hormonal control of development is vulnerable to disruption by synthetic chemicals. Through a variety of mechanisms, hormone-disrupting chemicals (also known as endocrine disrupting chemicals or endocrine disruptors) interfere with the natural messages and alter the course of development, with potential effects on virtually all aspects of bodily function.

Our Stolen Future explores the scientific discovery of endocrine disruption. The investigation begins with wildlife, as it was in animals that the first hints of widespread endocrine disruption appeared. The book then examines a series of experiments examining endocrine disruption of animals in the laboratory which show conclusively that fetal exposure to endocrine disrupting chemicals can wreak life-long damage. These experiments also reveal some of the biological processes by which these chemicals have their effects, and that endocrine disruption effects can be caused by exposure to infinitesimally small amounts of contaminant. Moving from animals to people, *Our Stolen Future* summarizes a series of well-studied examples where people have been affected by endocrine disrupting chemicals, most notably the synthetic hormone diethylstilbestrol (DES), to which several million women were exposed through misguided medical attempts to manage difficult pregnancies in the 1950s, '60s and '70s.

Our Stolen Future then asks a broader, more difficult and more controversial set of questions. Given what is known from wildlife and laboratory studies, and from examples of well-studied human exposure, and given that exposure to endocrine disrupting chemicals in the real world is widespread at levels comparable to those sufficient to cause animal harm, what effects should health scientists be looking for in people in general? Effects to be expected include declines in fertility and other impacts on the reproductive system of both men and women, impairments in disease resistance, and erosions in intelligence.

Our Stolen Future: Are We Threatening Our Fertility, Intelligence and Survival? A Scientific Detective Story Details

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From Reader Review Our Stolen Future: Are We Threatening Our Fertility, Intelligence and Survival? A Scientific Detective Story for online ebook

Bill O'driscoll says

Just this year read this deeply worrisome 1995 account of the evidence that synthetic hormones are damaging the environment and hence human health. The chemicals are in some pharmaceuticals but our primary exposure to them is through chemicals added to plastic, in everything from toys and baby bottles to shower curtains, and consumer products like shampoo and detergent.
The book essentially jumpstarted concern about these synthetics, which evidence suggests can cause birth defects in wild animals and in people, and possibly make people more susceptible to things like cancer. (It's one possible explanation for the otherwise huge but unexplained rise in testicular and breast cancer in people.)
This is a well-written, thoroughly researched book, co-written by Colborn (herself a researcher) and it's both an explicit and a worthy follow-up to Silent Spring (in which Rachel Carson actually briefly mentions the risks these compounds pose).
Research into the concerns that Colborn brought into popular consciousness has continued and has only gotten scarier -- witness recent efforts to ban chemicals like Bisphenol A (used to line metal cans).

Tim says

The spiritual descendant of Rachel Carson's classic, Silent Spring. While the villains of Carson's book have mostly been banned (in the U.S. anyway), the underlying dynamic that most concerned Carson continues: namely, that technological development outpaces our scientific understanding of technology's effects on human health and the environment. That we are, in effect, all guinea pigs in a great un-supervised experiment.

Our Stolen Future focuses on chemicals that are not acutely toxic nor necessarily carcinogenic. Rather they are endocrine disruptors that can either mimic or block the body's hormones. As the authors point out in case study after case study, the consequences of these chemicals are both potentially enormous and remarkably hard to study. For starters, endocrine disruptors upset the traditional toxicological maxim that the "dose makes the poison." For many of these chemicals it matters more **when** the dose is administered rather than **how much** it is. A minuscule dose of a certain substance delivered at just the right moment in the biological development process can cause remarkably large problems for the organism. And the evidence indicates that our environment is literally flooded with these chemicals, with consequences that we are only perceiving dimly.

The book is another fine example of good science writing, with clear and cogent chapters addressing the tragedy of the "DES daughters" or tracing the remarkable path of a PCB molecule as it bioaccumulates its way up the food chain. There's even a hermaphroditic beluga whale. The scientific field profiled here is one that is very much in its infancy -- pre-paradigmatic, as Kuhn would say -- which makes much of what is discussed somewhat speculative. The scientific picture has become somewhat clearer in the years since publication, although a coherent policy response remains years away.

Omar Kandil says

Best book ever read so far,a very important book , it addresses understanding a main threat to humans where most people are not aware of!

Gerald Kinro says

This work brings to light signs that industrial and agricultural chemicals are causing deformities and other problems by interfering with animals' endocrine systems. The authors do a good job in describing the endocrine system and explaining phenomena such as “biomagnification” (an increase in dose as a substance moves up the food chain.)

While I enjoyed the read because of the subject matter and good writing, the work is more alarmist than I prefer. Correlation alone is not causation. While not alarmed, I am concerned and would like to see more research including duplication of results from some of the literature cited. Good problem identifying and solving require good information.

Miss Clark says

2.5 stars

Very interesting piece, could have been presented in a better format with less repetition and greater clarity. I was hoping for more focus on humans than the animals. Still, a very interesting and timely read. In pride and naivete, mankind forges ahead in their oft short-sighted obsession with "progress" without reference or regard for what that will mean long-term. As we continue to come up with new drugs and chemicals, such as vaccines that are hailed as the cures to all sorts of diseases and are then government mandated to be administered in public school systems after rushed and inadequate testing, I can only imagine we will see more and more scenarios like those in this book and we will have no one to blame but ourselves.

Valerie says

I first heard about this book in the film Bag It, which pulls some information from this book along with commentary from the author. I was very intrigued by the information and decided to read the book to get more information. I thought a lot of the examples of hormone disruption in animals were extremely interesting (and frightening), and could really teach us as humans what can happen to our own species if we are not careful.
For example, I found the story about soy plants and sheep to be extremely interesting, and how soy, over time, biologically evolved to produce larger and larger amounts of estrogen, which eventually caused the sheep in that particular area (who consumed the soy plants to survive) to slowly die out. Females receiving too much of the estrogen developed fertility issues, while the males became disinterested in the females. I liked that there were a lot of in-depth examples and scientific research explained in the book, in a way that anyone could understand. Definitely worth the read.

Selena Calingo says

As a former molecular biologist, I learned about hormone disruptors in school in the early nineties. This book does a good job of describing the problem to the average person. I learned about some cases that I had not heard about when I was learning about it. The book could, however, be much more effective with more diagrams and actual pictures of the developmental problems that result from hormone disruption. Maybe this could be added if there ever is an updated version of the book.

Monica says

This book tries to be like "Silent Spring" by pointing scientific fingers at the post World War II chemicals now firmly implanted into our air, water and soil.

With many case studies about how we've poisoned ourselves, I found it scary that the sited scientists found direct cause for cancer...but couldn't get their hands on the exact petro-chemical because the plastic company had a secret patent. And so, the plastic remains.

The book documents the declining rate of our fertility as well as many other animals. Fertilizers and soy acting as estrogen in the blood is changing our make up.

Again, a must read as a respnsible citizen of the planet. Add that to "The Omnivore's Dilemma," "Story of B" and "Silent Spring"

I hope I can have kids one day...and that they can have kids...that we haven't screwed ourselves into natural procreation without the use of IVF.

Emily says

This book is scary! Science explains where cancer, autoimmune disease, allergies, Autism come from and why they are a relatively "new" problem. Certainly makes sense to me. They have a good website too!

David says

The subtitle of this book says it all "Are we threatening our fertility, intelligence, and survival? A scientific detective story." Basically a call to arms over the increasing threat to our long term future from the myriad number of man made chemicals which increasingly pollute our environment. Very much a follow up to Silent Spring, it deals not with the short-term, direct toxic effects of chemicals, rather with the long term potential of chemicals to change fertility patterns in the newly developing young. A case is made that many of the effects are very subtle and insidious, affecting the next generation. Written in the form of a detective story it makes a convincing case and one that does not seem to have been heard except in a few individual instances. Well worth a quick read.

Marcy says

This is the second time I've read this book. The first time was over 20 years ago when I was writing my dissertation and was trying to understand the environmental causes of cancer. This time around I re-read the book to better understand the role that plastic plays in endocrine disruption and the way that plastic contributes to cancer as well as a whole host of other diseases and health problems. It's amazing to me that after 20+ years there are so few books that deal with this topic; Colborn seems to be the primary voice on the subject. It's such a great read, too - as the scientific narrative unravels like a detective story.

Jennifer Abdo says

I read at the suggestion of my boss at NIEHS when I had a student position helping in a lab studying endocrine disruptors. Still such a fascinating topic- environmental estrogen and the cancer and dysfunction it causes in successive generations. It could be considered in the vein of Silent Spring or as a part two maybe. If you're interested in biology, the environment or have followed the controversy about BPA or other compounds in plastics, you should give this a read.

Ingrid says

Just as Silent Spring brought about awareness and prompted actions to protect human life, so should the information presented in this book. We should be reexamining the hormone disrupting, endocrine disrupting chemicals that are insidiously pervading our environment and are drastically affecting us all.

Dan says

My introduction to Our Stolen Future came about ten years ago at a sustainable packing conference when a young German woman sat down at our table for lunch and asked: "Did you know that male sperm counts have gone down 50 percent in the last 50 years?" I lost my appetite, but at least my interest in this topic was successfully piqued.

Our Stolen Future deals with endocrine disruptors and endocrine mimickers present in-among other things-plastic packaging that, through coming into contact with food, reduces male sperm count. When Rachel Carson's Silent Spring came out 40 years ago, DDT was already widely used to control mosquitoes. Although DDT did have an impact in controlling malaria, it also had a fatal impact on wildlife: and toxic chemicals made their way into the human food chain through the birds and fish that fed on these DDT-exposed mosquitoes. In fact, students at my university (years before I attended) collected some dead birds around campus after an aerial spraying of DDT, hung them from a clothesline strung across the middle of campus and announced with a scoreboard: DDT 15, Birds 0. Our Stolen Future is a somewhat more scientific attempt to sound the alarm on chemicals in plastics, PCBs and other chemicals that infiltrate our ecosystem on a daily basis.

Like DES (a synthetic female hormone used to stop breast milk and as a ‘morning after' pill, and readily

available to woman for 40 years), DDT successfully mimics natural estrogen. Possible DES side-effects include vaginal cancer, uterine deformities, miscarriages, undescended testicles and devastated T-helper cells (which are essential to the body's immune system). Hormones and hormone receptors fit together like lock and key and activate different responses at required times, but when hormone mimics or hormone blockers (which make it impossible for natural hormones to bind to the receptors) enter the body through DDT, DES or a host of other chemicals in plastics and pesticides, the responses become incorrect.

PCBs and other persistent chemicals like dioxins and furans become magnified and concentrated as they move up the food chain-stored in fatty tissues until they reach the top predators. As PCBs move from phytoplankton to zooplankton to larger and larger fish and then to herring gulls, the chemical concentration in animal tissue can be magnified up to 25 million times! Effects on the animal kingdom range from insufficiently thick eggshells and infertile populations to birth defects and cancer. Synthetic chemicals often confuse the hormone-producing glands (e.g. the thyroid and pituitary), which means that the body doesn't know what to turn on, turn off, speed up or slow down, and this can cause defects or disease in organs like the testicles, ovaries and pancreas.

Water run through PVC tubing comes out containing Pnonylphenol, which is not only added to polystyrene and PVC as an antioxidant and to make plastics more stable, but is also found in contraceptive creams like nonoxynol-9. Also, polycarbonates and plastic linings of food tins contain P-nonylphenol and bisphenol-A, which leach in to water and food from packaging and act as hormone blockers. Even reusable plastic bottles can seriously damage our health.For such a scientifically daunting subject, the authors of Our Stolen Future have produced a very readable and understandable book that even people without a solid scientific background can appreciate.

Alexandra Grabbe says

I read this book in 2010. Our Stolen Future describes how endocrine disruptors can affect unborn children. Turns out we better rethink our lives, from the picture-perfect lawns to flea collars for our pets, know where our water comes from, choose food intelligently, avoid unnecessary exposure. And wash hands even more frequently.

Sometimes I wonder what it was like to be Theo Colborn, whose scientific detective work and vision is described so well in Our Stolen Future. How distressing to have one’s research ignored, although her book is practically a sequel to Silent Spring, as Al Gore points out in the foreword.

I am not a science person. I got a D in physics/chemistry. And, yet, Our Stolen Future contains science that it is urgent for us all to grasp and share.

As I understand it, prenatal exposure to endocrine disruptive chemicals, in the environment of the mother, at certain periods of prenatal development, can create the following problems once this child grows up:

Low sperm counts
Reproductive problems ranging from testicular cancer to endometriosis
Masculinizing females and feminizing males
Increase in hormone-responsive cancers (breast, prostate, uterine)
Enlarged prostate
Smaller penis size ...

You get the idea.

What's more, Dr. Colborn warns of transgenerational exposure, in other words, a problem may not show up until the next generation. And, this book is being ignored. It is so important to recognize the gravity of the threat toxic chemicals pose to humanity and support the bill now before Congress. Tomorrow, we will return to the beach and Wellfleet, but in the meantime, please read through two short excerpts and consider borrowing Our Stolen Future from your local library:

"If this book contains a single prescriptive message, it is this: we must move beyond the cancer paradigm ... The assumptions about toxicity and disease that have framed our thinking for the past three decades are inappropriate and act as obstacles to understanding a different kind of damage. Hormone-disrupting chemicals are not classical poisons or typical carcinogens. They play by different rules."

"At levels typically found in the environment, hormone-disrupting chemicals do not kill cells nor do they attack DNA. Their target is hormones, the chemical messengers that move about constantly within the body's communications network. Hormonally active synthetic chemicals are thugs on the biological information highway that sabotage vital communication. They mug the messengers or impersonate them. They jam signals. They scramble messages. They sow disinformation. They wreak all manner of havoc. Because hormone messages orchestrate many critical aspects of development, from sexual differentiation to brain organization, hormone-disrupting chemicals pose a particular hazard before birth and early in life ... Relatively low levels of contaminants that have no observable impact on adults can have devastating impacts on the unborn. The process that unfolds in the womb and creates a normal, healthy baby depends on getting the right hormone message to the fetus at the right time. The key concept in thinking about this kind of toxic assault is chemical messages. Not poisons, not carcinogens, but chemical messages."

I have been giving this book away to guests at my B&B when they seem interested in the subject.