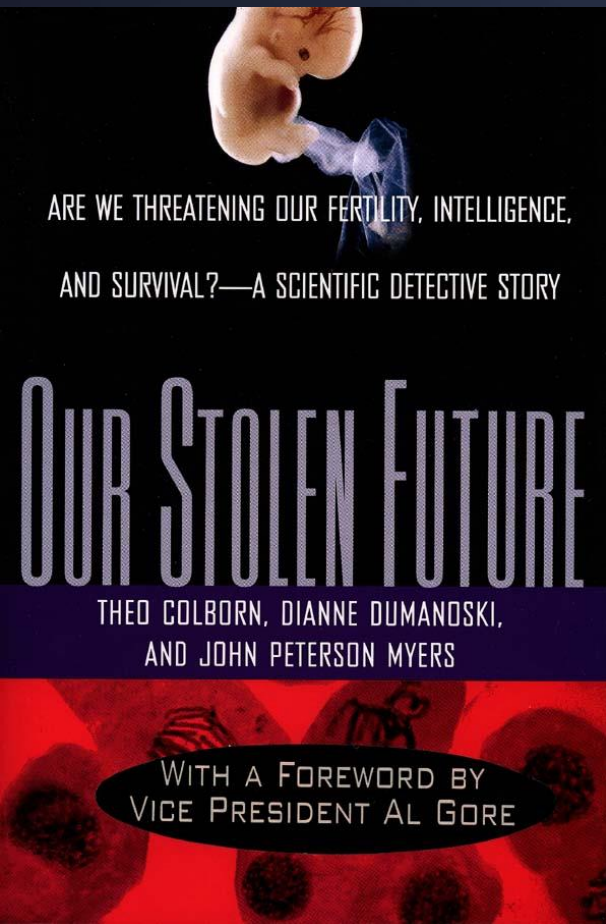


Our Stolen Future

by Theo Colborn, Dianne Dumanoski and John Peterson Myers



Pete Myers, Ph.D.

Environmental Health Sciences and
Carnegie Mellon University

"Its subject is so important and its story so powerful that it deserves to be read by the widest possible audience."

—New York Times Book Review

Our Stolen Future

THEO COLBORN, DIANNE DUMANOSKI,
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FOREWORD BY VICE PRESIDENT AL GORE

ARE WE THREATENING OUR FERTILITY,

INTELLIGENCE, AND SURVIVAL?

A SCIENTIFIC DETECTIVE STORY

노국 빛은 미래

당신의 정자가 위협받고 있다

테오 콜본 · 다ianne 듀마노스키 · 존 피터슨 마이어
권복규 옮김



TAJEMNICE NAUKI

THEO COLBORN
DIANNE DUMANOSKI
JOHN P. MYERS

Ekologiczny manifest naszych czasów:
czy życie na Ziemi jest zagrożone?

NASZA SKRADZIONA
PRZYSZŁOŚĆ



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WITH A FOREWORD BY
VICE PRESIDENT AL GORE

VORES STJÅLNE
FREMTID

Eller
DEN HORMONELLE FORURENINGSFARE



En naturvidenskabelig krimi

Forord Al Gore

Theo Colborn
Dianne Dumanoski
John Peterson Myers

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John Peterson Myers

L'HOMME

THEO COLBORN DIANNE DUMANOSKI JOHN PETERSON MYERS

奪われし未来



生命の存続を支えてきた生殖というシステムが壊れようとしている。
レイチェル・カーソンの「沈黙の春」から30年——
化学物質の危険性はかんただけではなかった!

ダイオキシンやPCB, DDTが体内に入ると
ホルモンのはたらきを攪乱してしまう。その結果——

人類はもう
を残せない!?

NUESTRO FUTURO ROBADO

¿AMENAZAN las sustancias químicas
sintéticas nuestra fertilidad,
inteligencia y supervivencia?

生命的隱形浩劫

失竊的未來

Our Stolen Future

THEO COLBORN & DIANNE DUMANOSKI & JOHN PETERSON MYERS 著
吳東賢・李廷欣・李蔚瑾 譯 張懿琳 校訂

有機會懸到，當前被視為發明奇蹟的化合物，竟會成為
生育能力和智力的殺手？

殺蟲劑DDT曾為人類創造乾淨舒適的環境，發明人還因此獲得諾貝爾化學獎；人造塑膠是塑膠產業獲得的神奇材料，塑膠後即誕下全球塑膠的嬰兒；從食物鏈最上層的人類，每日從食物中吸收幾十萬個的有機化學物。

三位一流的偵探揭開了人類為了福利，而造成的化學物污染，所釋放出的類似性的恐懼感，正在一步步威脅著大我們的健康。

野兔體弱多病變形，越過海洋，賣出喝同種蔬菜、公職對交配生育興趣缺缺的現象；海中鱈魚的數量降低，新生鱈魚出生不久，即奄奄一息。

人類本身當然無法逃過這場可怕的浩劫！

近幾十年來，男性精蟲數量減少了百分之五十，女性罹患生殖道的年齡降低，對付環境中的化學物質，遠在地球最偏遠、最原始的化學工業，更普遍地造成了一個實驗室，人類已無法再回到以往簡單的生活，無論我們的知識與想像力，卻永遠無法預測入心力量對未來的改變，生命的實驗之機不再純粹的創新，而是對生活方式重新提出挑戰。

ISBN 957-607-344-8 [416]
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Fruchtbarkeit und
Überlebensfähigkeit?

Mit einem Vorwort
von Al Gore

Droemer Knauer

Er var fruktbarhet og intelligens
truet av «hormonsvindlere»?

WWF Verdens Naturfond Norge
Arets Pandabok 1997

GRØNDALH DREYER

"Its subject is so important and its story so powerful that it deserves to be read by the widest possible audience."
—New York Times Book Review

Our Stolen



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L'HOMME

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AMENAZAN las sustancias químicas
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Are we threatening our fertility, intelligence and survival?

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A SCIENTIFIC DETECTIVE STORY

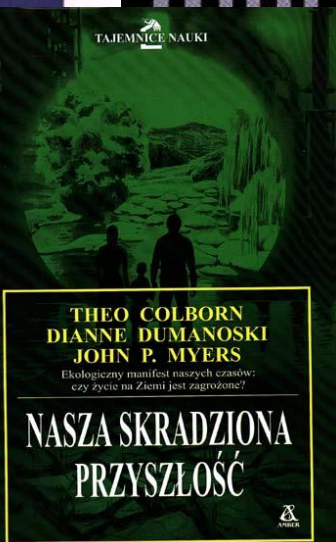
노국 빛은 미래

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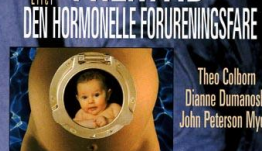
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Hovedland

Zukunft



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WWF Verdens Naturfond Norge
Arets Pandabok 1997

GRØNDALH DREYER

ТИЙМЭЭ

Oui oui

Ano

YES!

نعم

是的

Sí ilaali

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Ja

हाँ दा

Áang





Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image IBCAO



Something is happening and you don't
know what it is, do you, Dr. Colborn?

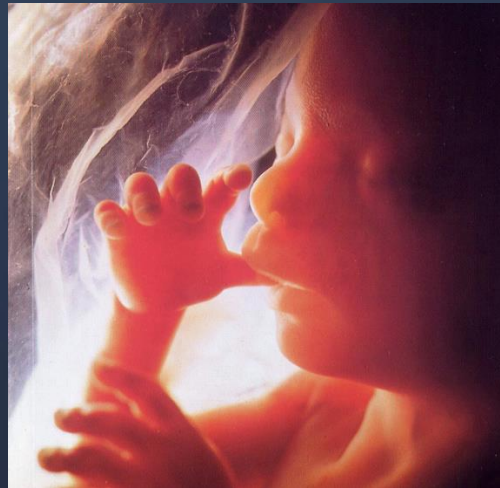
Bob Dylan. *Ballad of a Thin Man*



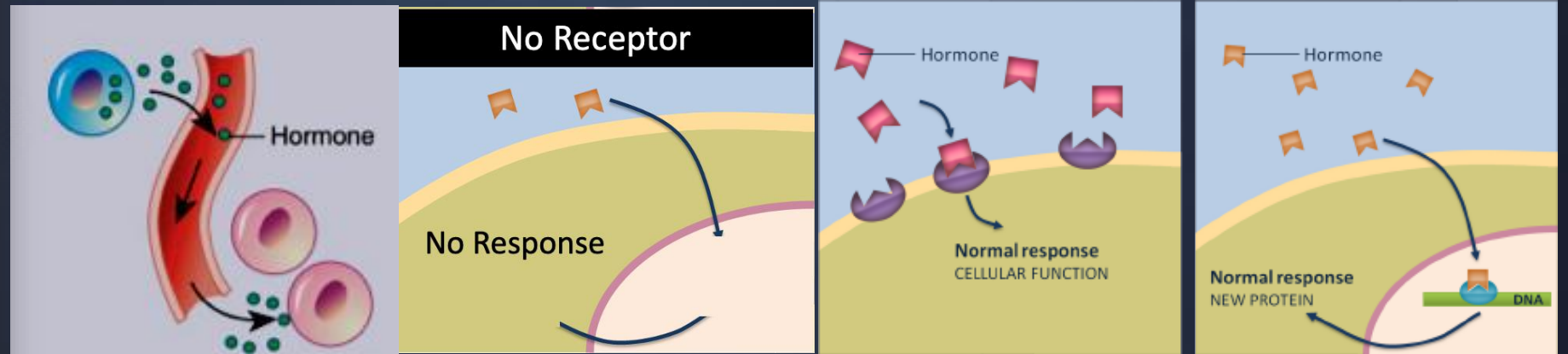
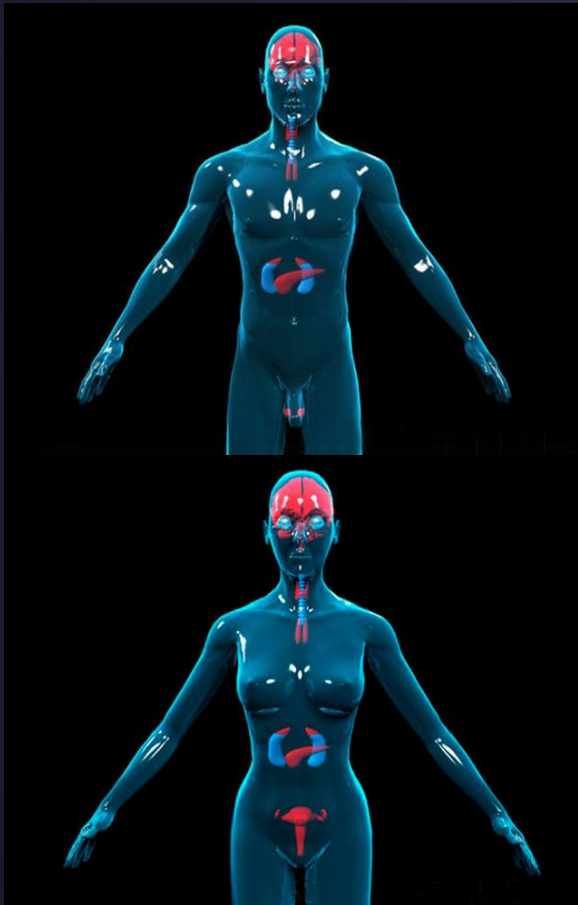
Something wrong with hormones

Hormones... not just about puberty!

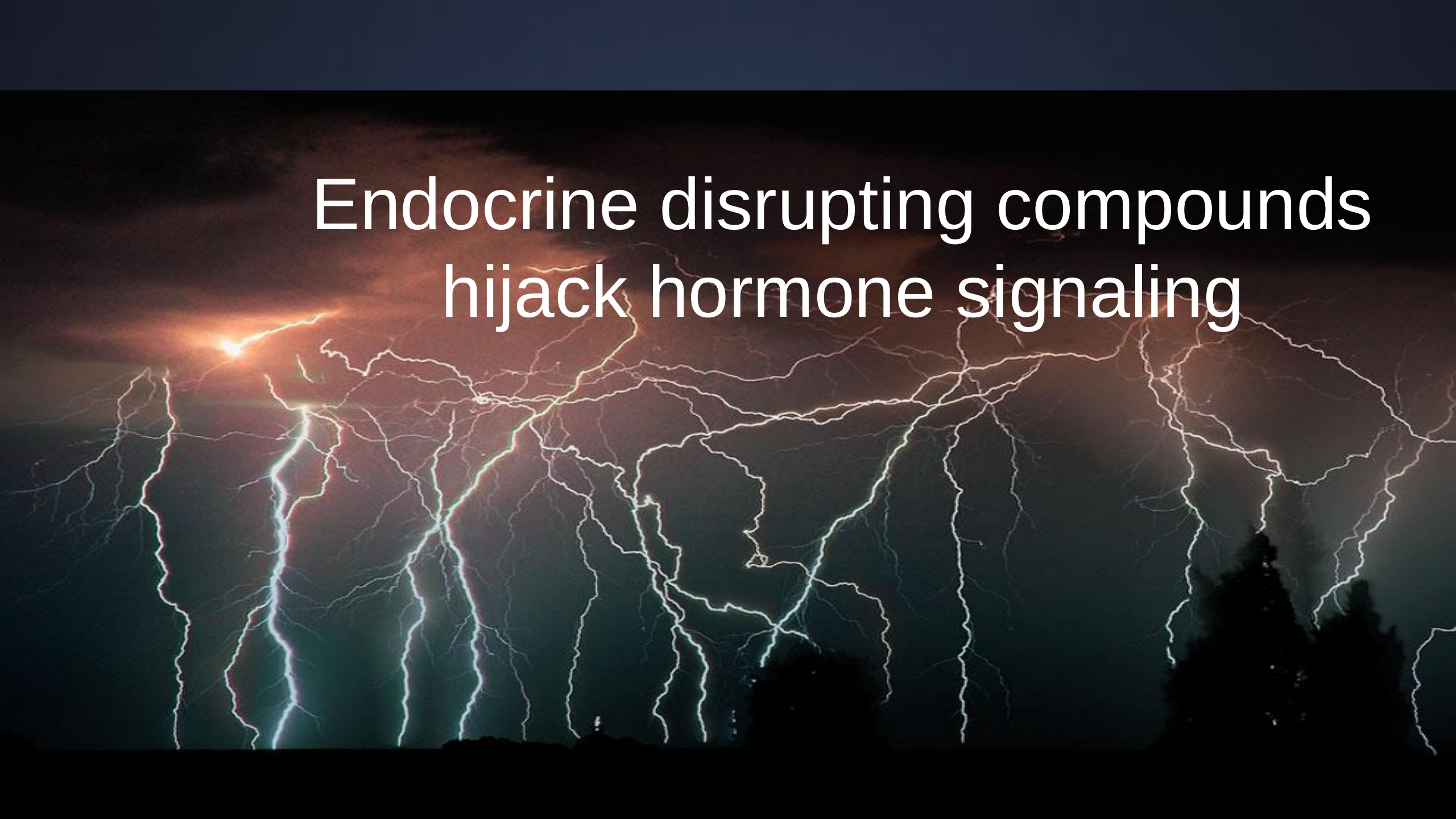
Chemical signals in the symphony of life!



Something wrong with hormones

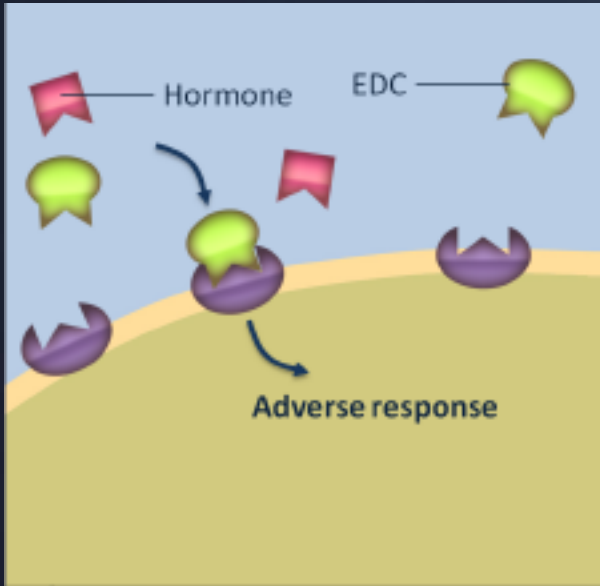


Endocrine disrupting compounds
hijack hormone signaling



Hijacking the symphony of life

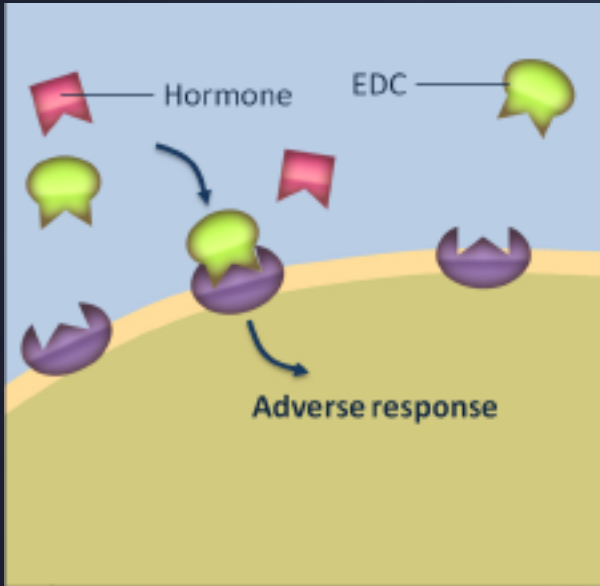
Multiple ways, among them:



They send a signal at
the wrong time

Hijacking the symphony of life

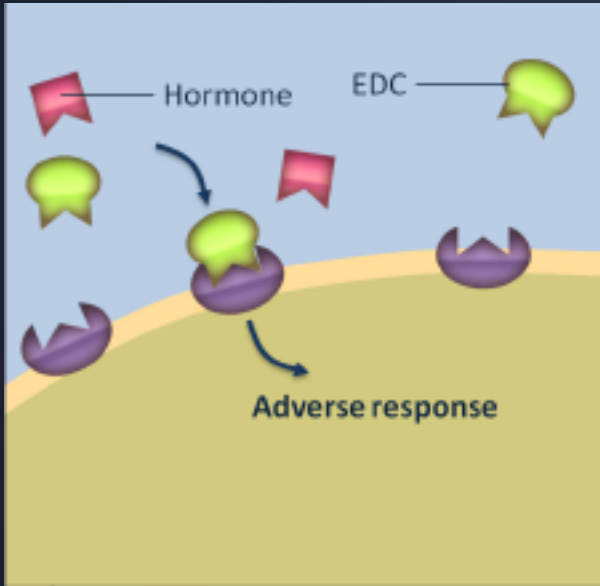
Multiple ways, among them:



They send signals that block the right signal

Hijacking the symphony of life

Multiple ways, among them:



They send the wrong signal
at any time

Wingspread Racine WI

26-28 July 1991 21 Scientists



Advances in
Modern Environmental Toxicology

Series Editor, M.A. Mehlman, Ph.D.

VOLUME XXI

Chemically-Induced Alterations in
Sexual and Functional Development:
The Wildlife/Human Connection

edited by:
Theo Colborn and Coralie Clement

PRINCETON SCIENTIFIC PUBLISHING CO., INC.

Intergovernmental Panel on Climate Change Executive Summary 1990

CLIMATE CHANGE

The IPCC Scientific Assessment

EXECUTIVE SUMMARY

We are certain of the following:

- there is a natural greenhouse effect which already keeps the Earth warmer than it would otherwise be
- emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases carbon dioxide, methane, chlorofluorocarbons (CFCs) and nitrous oxide. These increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface. The main greenhouse gas, water vapour, will increase in response to global warming and further enhance it.

We calculate with confidence that:

- some gases are potentially more effective than others at changing climate, and their relative effectiveness is estimated. Global models have been used to estimate the likely increase in global mean temperature during the next century of about 0.3°C per decade (with an uncertainty range of 0.2°C to 0.5°C per decade), this is greater than that seen over the past 10,000 years. This will result in a likely increase in global mean temperature of about 1°C above the present value by 2025 and 3°C before the end of the next century. The rise will not be steady because of the influence of other factors.

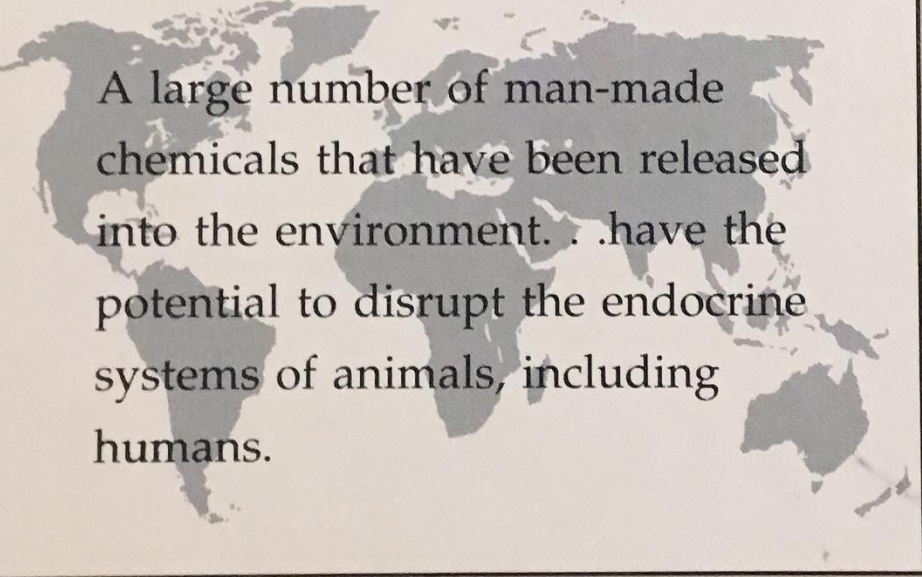
global mean temperature during the next century of about 0.3°C per decade (with an uncertainty range of 0.2°C to 0.5°C per decade), this is greater than that seen over the past 10,000 years. This will result in a likely increase in global mean temperature of about 1°C above the present value by 2025 and 3°C before the end of the next century. The rise will not be steady because of the influence of other factors.

- under the other IPCC emission scenarios which assume progressively increasing levels of controls, rates of increase in global mean temperature of about 0.2°C per decade (Scenario B), just above 0.1°C per decade (Scenario C) and about 0.1°C per decade (Scenario D).

- that land surfaces warm more rapidly than the ocean and high northern latitudes warm more than the global mean in winter.

Wingspread 1991

We are certain of the following:

A world map with a light beige background and dark grey outlines of the continents. The map is centered on the Atlantic Ocean. Overlaid on the map is the text 'A large number of man-made chemicals that have been released into the environment. . .have the potential to disrupt the endocrine systems of animals, including humans.'

A large number of man-made chemicals that have been released into the environment. . .have the potential to disrupt the endocrine systems of animals, including humans.

We are certain of the following:

We estimate with confidence that:

Current models predict:

There are many uncertainties in our predictions because:

Our judgment is that:

To improve our predictive ability:



Most scientists agree that we are altering the climate by pouring polluting gases into the atmosphere. Changes in climate will bring changes in habitat. How will habitat-sensitive species, such as these shorebirds, cope? And what should wildlife managers do about it? *Kenneth W. Gardiner*

Global Warming, Climate Disruption, and Biological Diversity

R.T. Lester
and
J.P. Myers

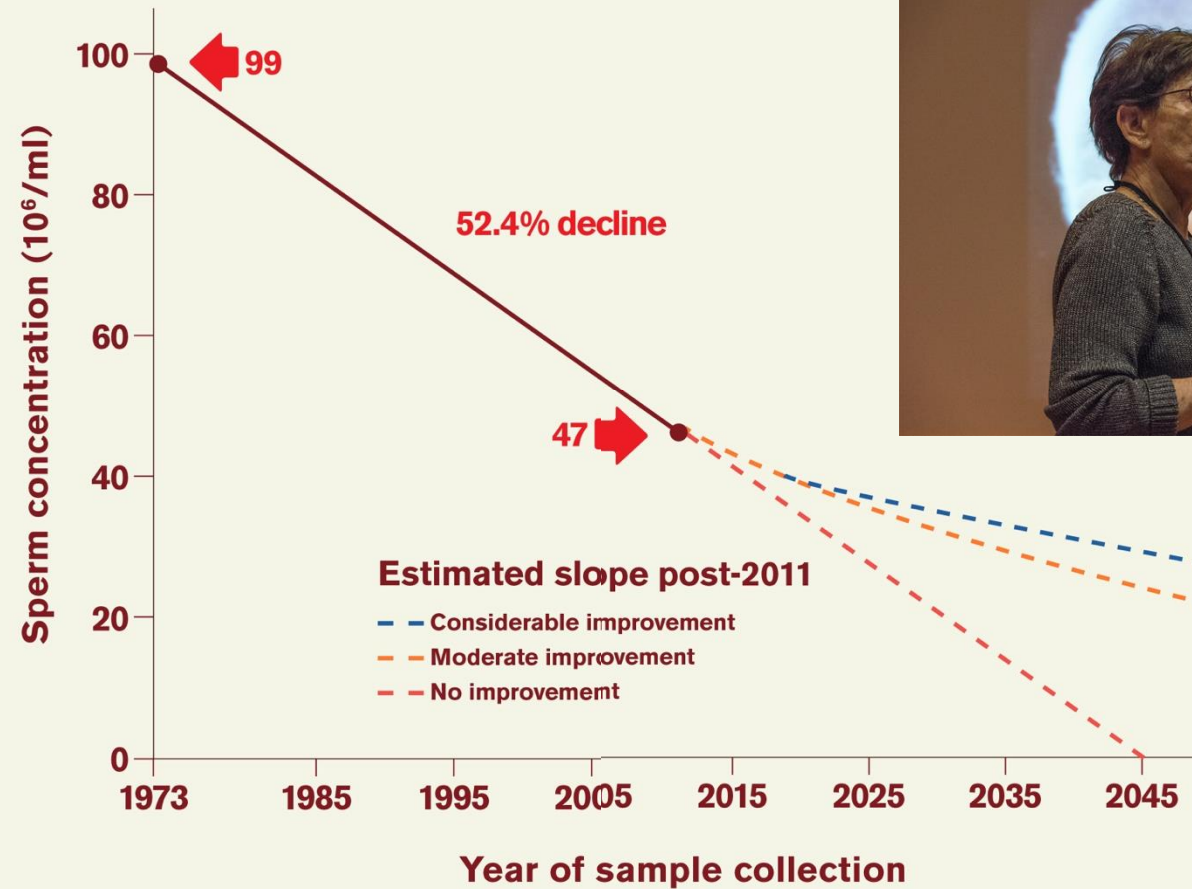
INTRODUCTION

The gaseous wastes of human activities are now so abundant that they change the physical balance setting the earth's temperature. Since the beginning of the Industrial Revolution humans have pumped carbon dioxide (CO_2) into the atmosphere at such prodigious rates that current levels are about 25 percent higher than they were in 1860. The amounts of other gases also have increased dramatically; some—for example, chlorofluorocarbons—never even existed before the beginning of the 20th century.

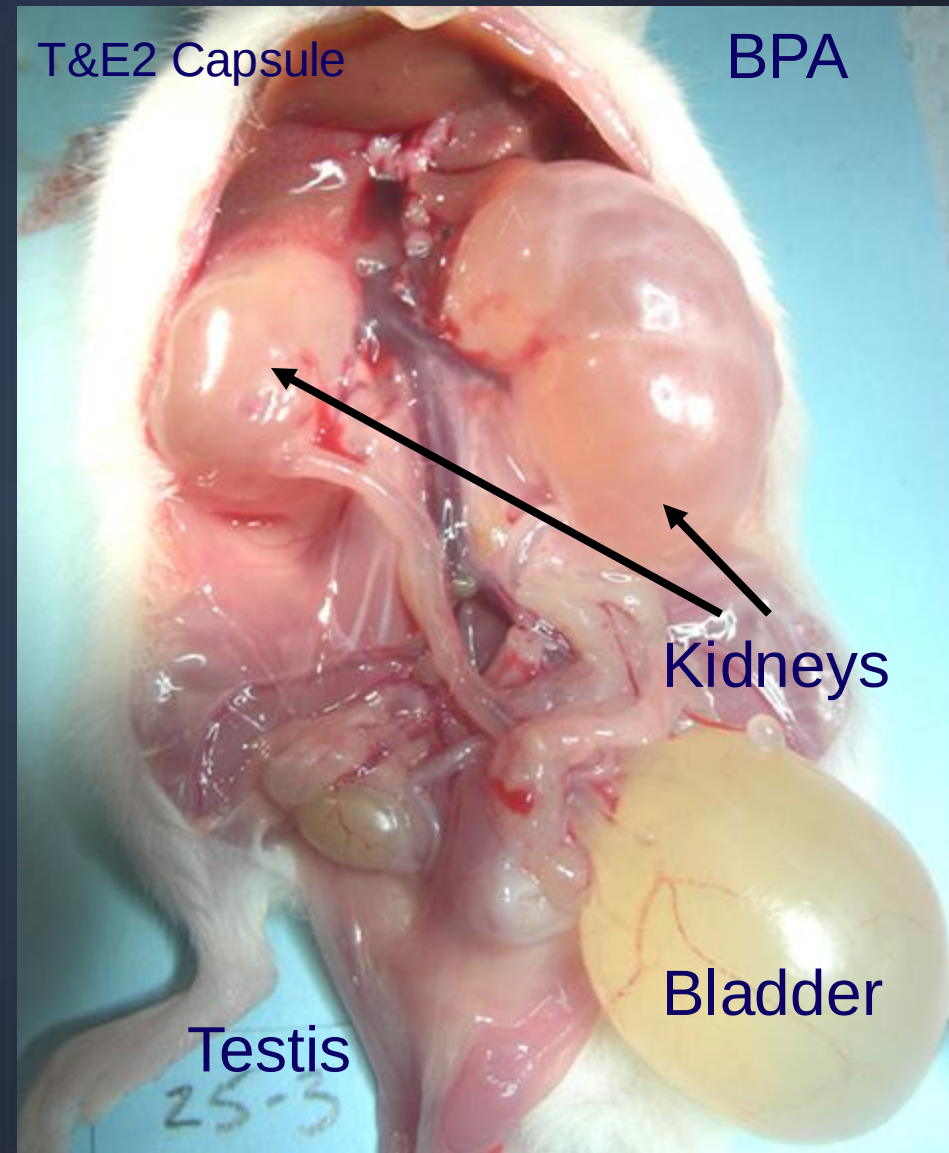
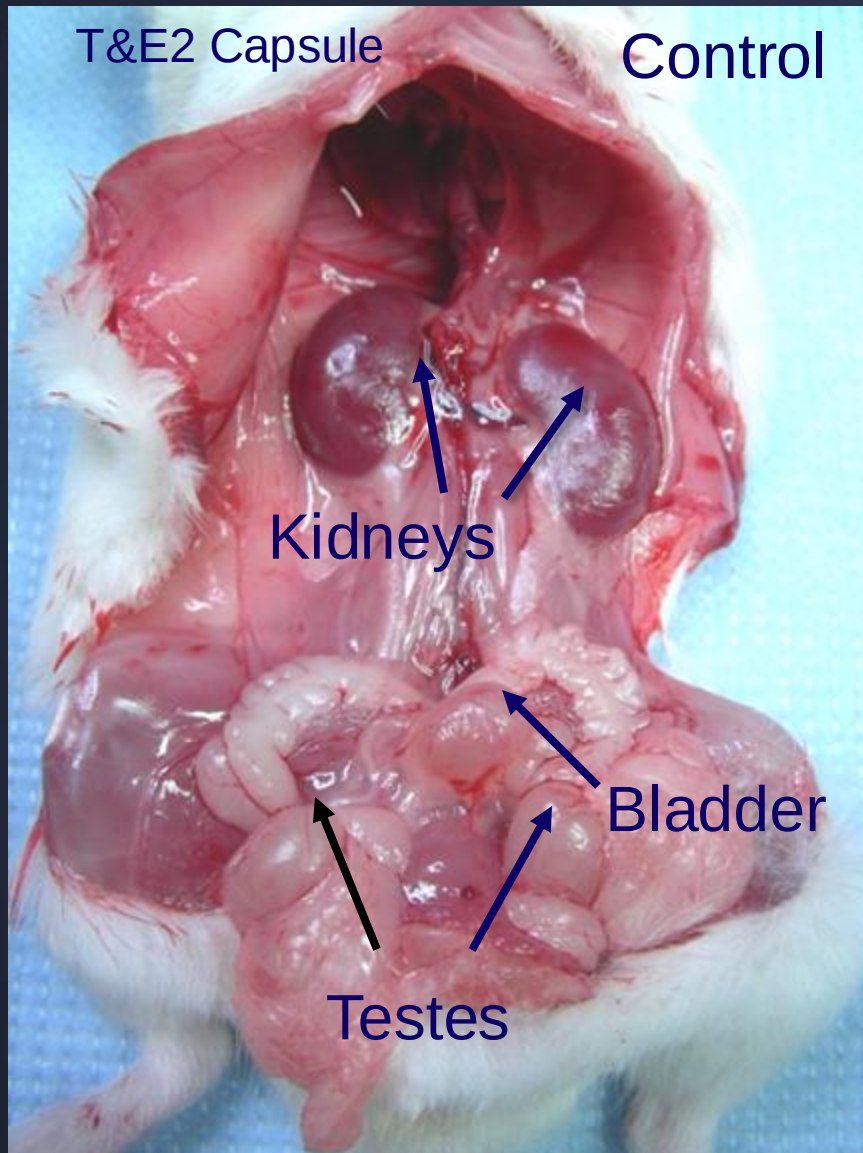
By altering the balance of these so-called greenhouse gases, humans have embarked on what two scientists has called a "large-scale geophysical experiment." Carbon dioxide, methane, and chlorofluorocarbons are virtually transparent to incoming solar radiation, yet they are very efficient at trapping the heat that is created after the radiation strikes the earth's surface. This inadvertent warming of the globe caused by changes in the composition of the atmosphere—the Greenhouse Effect—will challenge humanity and the environment in which we live in unprecedented ways.

Obstructed bladder
Now 33 years after Wingspread
Prostate hyperplasia
Cardiovascular disease
Interference with chemotherapy
Hormone-related cancers
ADHD
Pre-term birth
Learning disabilities
Endometriosis
Allergies
Infertility
Premature puberty
Autoimmunity
Degenerative diseases
Diabetes
DEATH
Obesity
Asthma
polycystic ovaries
Interference with IVF
Pre-eclampsia

Sperm Decline in Western Countries



LEVINE ET AL 2017, GRAPH: GRANTHAM FOUNDATION



Male autism spectrum disorder is linked to brain aromatase disruption by prenatal BPA in multimodal investigations and 10HDA ameliorates the related mouse phenotype

Christos Symeonides ^{# 1 2 3}, Kristina Vacy ^{# 4 5}, Sarah Thomson ⁴, Sam Tanner ⁴, et al.



Boys born to mothers with high urinary BPA levels were 3.5 times more likely to have autism symptoms by age 2 and 6 times more likely to be diagnosed by age 11.

Why endocrine disruption?

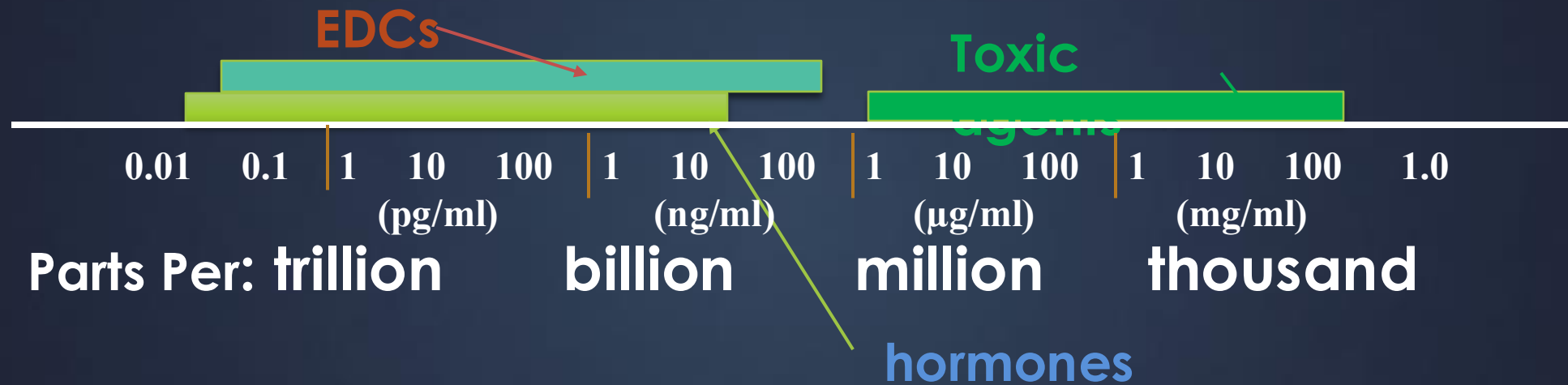
It's not poisoning. It's hijacking!

Hormone system is an amplifier

Effects caused by “tiny” exposures!

Traditional high dose toxicology fails

EDCs effective at very low concentrations



Chemical context

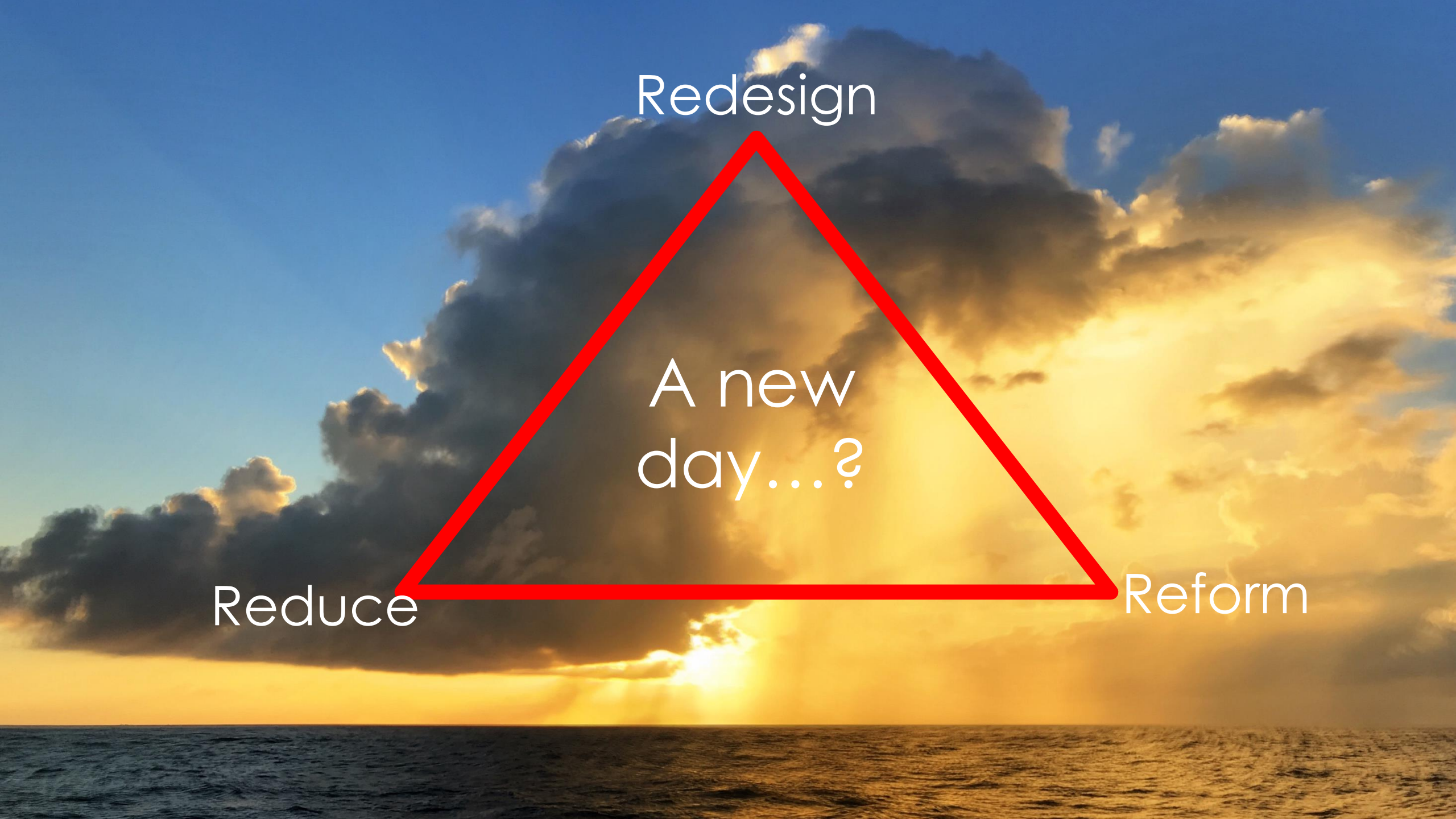
Are low doses really low?

What's a part per billion?

How many molecules?

2.65 trillion





Redesign

A new
day...?

Reduce

Reform