The experience of nature

- Virtual reality
- Holocene
- Beautiful and Dangerous
- Capricious

Words:
- Technique
- Nature speak
- Tradeoffs
Mountaintop Removal: 1.5 Million acres . . .
Slurry

Coal loading

Elementary school
Keeling Curve + effects

CLIMATE SHOCK

reduce the resiliency of the global community. With every notion of dealing with local emergencies, it would be more difficult to mobilize resources to aid victims in other areas, and there would be fewer resources to mobilize.

Municipalities around the world would struggle under the burden of greatly increased demands on funds to maintain and repair basic infrastructure. Forget about safety nets—FEMA and its ilk would be bankrupts. In the world’s tightly coupled markets, financial tsunamis would surge through the system, leaving banks and corporations insolvent. Financial panic, largely absent for more than 30 years, would return with a vengeance.

Here at home, a fickle climate would impose an enormous tax on every individual and business. Property values in most places would plummet as buyers disappeared and costs of insurance and maintenance soared. The upper-middle-class American family, today so well protected against external shocks, would find its layers of insulation gradually stripped away as fast, food, jobs, and social order became less certain. Katrina’s aftermath exposed how quickly extreme weather can reduce an orderly society to dysfunction.

Some of the calamities that may happen—droughts that last more than a century, an advance of arctic zones southward, incessant and epic storms—simply overwhelm the imagination when we try to envision them in a world of six billion people depending on an ex-

MOUNTING CALAMITIES

Since the 1980s, the Earth’s temperature has risen at an increasing rate (bottom left), probably in response to rising concentrations of CO₂, the atmosphere’s main greenhouse gas. Signs of climate change are obvious in data assembled by Belgium’s Center for Research on the Epidemiology of Disasters. Calamities have become more frequent. (In part because the center only started in 1974, earlier data may not be as complete.)
Climate Modelers See Scorching Future as a Real Possibility

Researchers tapping the computer power of nonlinear interactions between parameters...
Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment

P. J. Webster,¹ G. J. Holland,² J. A. Curry,¹ H.-R. Chang¹

LETTERS

Increasing destructiveness of tropical cyclones over the past 30 years

Kerry Emanuel¹
USA: Louisiana

+ 6 meters
Climate anomalies: 2005
Increased likelihood of nonlinear changes

– There is *established but incomplete* evidence that changes being made in ecosystems are increasing the likelihood of nonlinear changes in ecosystems (including *accelerating, abrupt, and potentially irreversible* changes), with important consequences for human well-being

*Millennium Ecosystem Assessment Report*
*2005*
Global Destabilization . . .

Rising Sea levels

Storms and storm severity

Disease & famine

Drought and heat waves

Changing ecosystems

Coral Bleaching/marine ecosystems

Political/economic disorder

Death toll . . . Now at 150,000/yr (WHO)

Pieter Brueghel, The Triumph of Death, 1562
The climate challenge

<table>
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<th>2006</th>
<th>2050</th>
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<td>C:</td>
<td>8.5 BT</td>
<td>~3.0</td>
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<td>P:</td>
<td>6.4</td>
<td>8-10</td>
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It is the leaders who decide the policy and it is always a simple matter to drag the people along . . . All you have to do is tell them they are being attacked, and denounce the peacemakers for their lack of patriotism . . . It works the same in any country.”

Hermann Goering, Reichsmarchall at Nuremburg Trials, 1946
Edward Bernays . . .

Advertising and public manipulation . . . Satisfying inner happiness → docile public → public stability.

Cars = sexual potency

Smoking = freedom
Edward Bernays . . .

The engineering of consent is the very essence of the democratic process . . . the freedoms of speech, press, petition and assembly . . . make the engineering of consent possible.
Bringing you the hottest new musical talent
Infantile self-gratification

basic needs

Self-mastery

Self-esteem

Actualization

Transcendence

Self-preservation

fear

I, mine

we
Fair and Balanced?

Fairness Doctrine (1949) overturned by the FCC in 1987

The Telecommunications Act 1996

Clear Channel Communications:

US Press, 27th Freest Press
1200 Radio Stations
36 Television Stations
In the World!

776,000 Advertising displays

Bottom 90%:

$27,060 \rightarrow $27,035 = -0.1\%

99.9—99.99:

$722,480 \rightarrow $3,049,226 = 322\%

Top 13,400:

$3,641,285 \rightarrow $23,969,767 = 558\%
LEGISLATION ADDING TO DEFICITS: MOSTLY TAX CUTS AND DEFENSE

Cost, 2002-2011, of legislation enacted since January 2001

- **50%** Tax Cuts
- **33%** Defense, Homeland Security and International
- **10%** Entitlements
- **6%** Domestic Discretionary (except Homeland Security)

Source: CBPP calculations based on Congressional Budget Office data. Assumes extension of tax cuts and Alternative Minimum Tax relief.
“Liberal”

Political dialogue

(Middle of the Road)

“Conservative”
Between fear and possibility

I have set before you life and death, blessing and cursing:
therefore choose life, that both thou and thy seed may live.

Deuteronomy 30:19
Sustainable Futures

Left

PRESENT

Right

PRESEN T
A Nation defined by:

The Declaration of Independence
1776

The Constitution & Bill of Rights
1787

The Gettysburg Address
1863

The Second Bill of Rights
1944
“A Land Ethic changes the role of Homo sapiens from conqueror of the land community to plain member and citizen of it.”

Aldo Leopold
The right to life:

No society has the right to alter Earth’s natural cycles or impair the stability, integrity, and beauty of nature—the consequences of which would be a form of intergenerational tyranny.
A human being is part of a whole, called by us the universe, a part limited in time and space. He experiences himself, his thoughts and feelings, as something separated from the rest—a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest us. Our task must be to free ourselves from this prison by widening our circles of compassion to embrace all living creatures and the whole of nature in its beauty.

Albert Einstein
The edge of awareness...
Communication scales:

- **Interest**
- **Hope**

- **Centuries**
- **Decades**
- **Years**

- **Political change**
- **Values/trends**
- **Spirit**