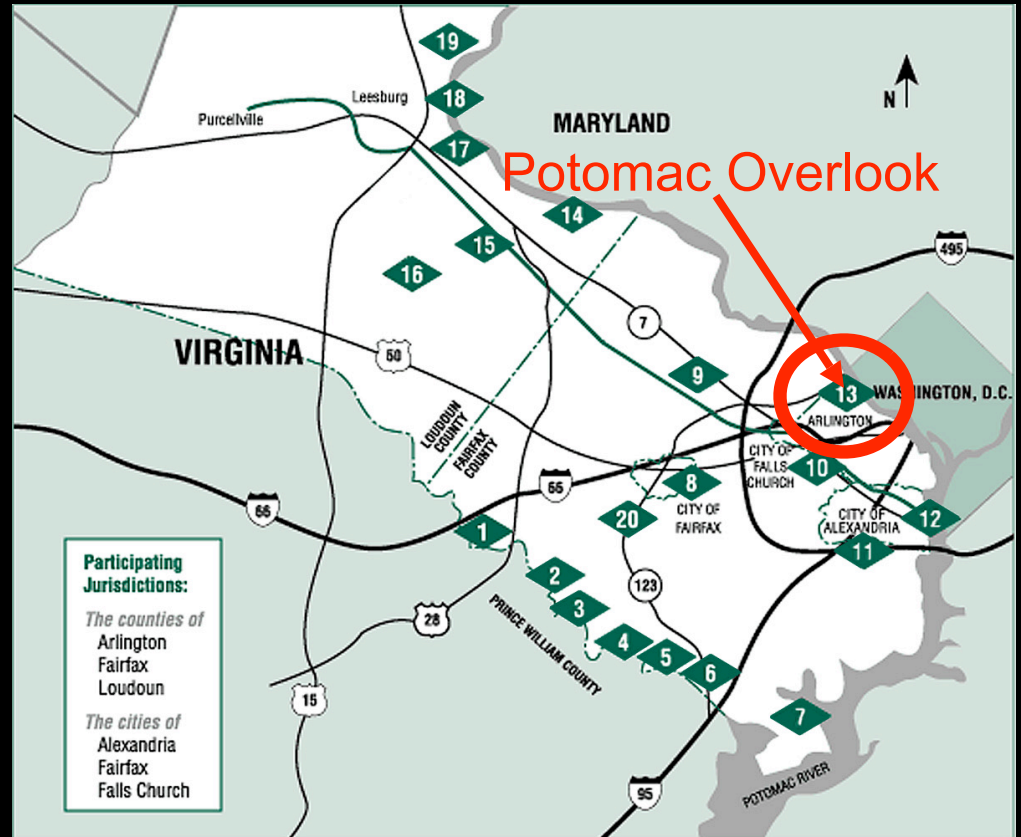




Northern Virginia Regional Park Authority

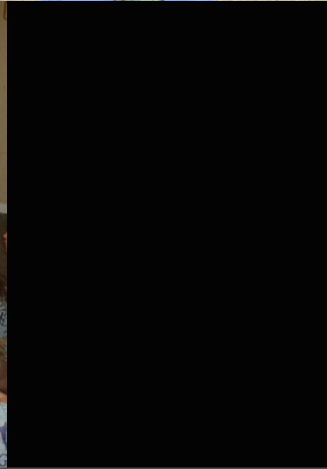
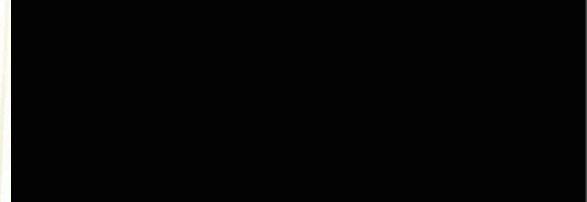


- | | |
|----------------------------------|---|
| 1 Bull Run Regional Park | 12 Carlyle House Historic Park |
| 2 Hemlock Overlook Regional Park | 13 Potomac Overlook Regional Park |
| 3 Bull Run Marina | 14 Algonkian Regional Park |
| 4 Fountainhead Regional Park | 15 Washington & Old Dominion Railroad Regional Park |
| 5 Sandy Run Regional Park | 16 Brambleton Regional Park |
| 6 Occoquan Regional Park | 17 Red Rock Wilderness Overlook Regional Park |
| 7 Pohick Bay Regional Park | 18 Ball's Bluff Regional Park |
| 8 Gateway Regional Park | 19 Temple Hall Farm Regional Park |
| 9 Meadowlark Botanical Gardens | 20 Northern Virginia Regional Park Authority Headquarters |
| 10 Upton Hill Regional Park | |
| 11 Cameron Run Regional Park | |

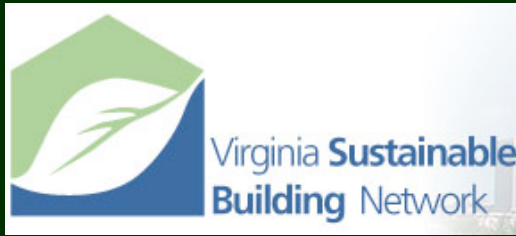


NVRPA Mission Statement

The Northern Virginia Regional Park Authority enhances the communities of Northern Virginia and enriches the lives of their citizens through the conservation of regional natural and cultural resources. It provides diverse regional recreational and educational opportunities, and fosters an understanding of the relationships between people and their environment.



Energy Fair
at Potomac Overlook Regional Park

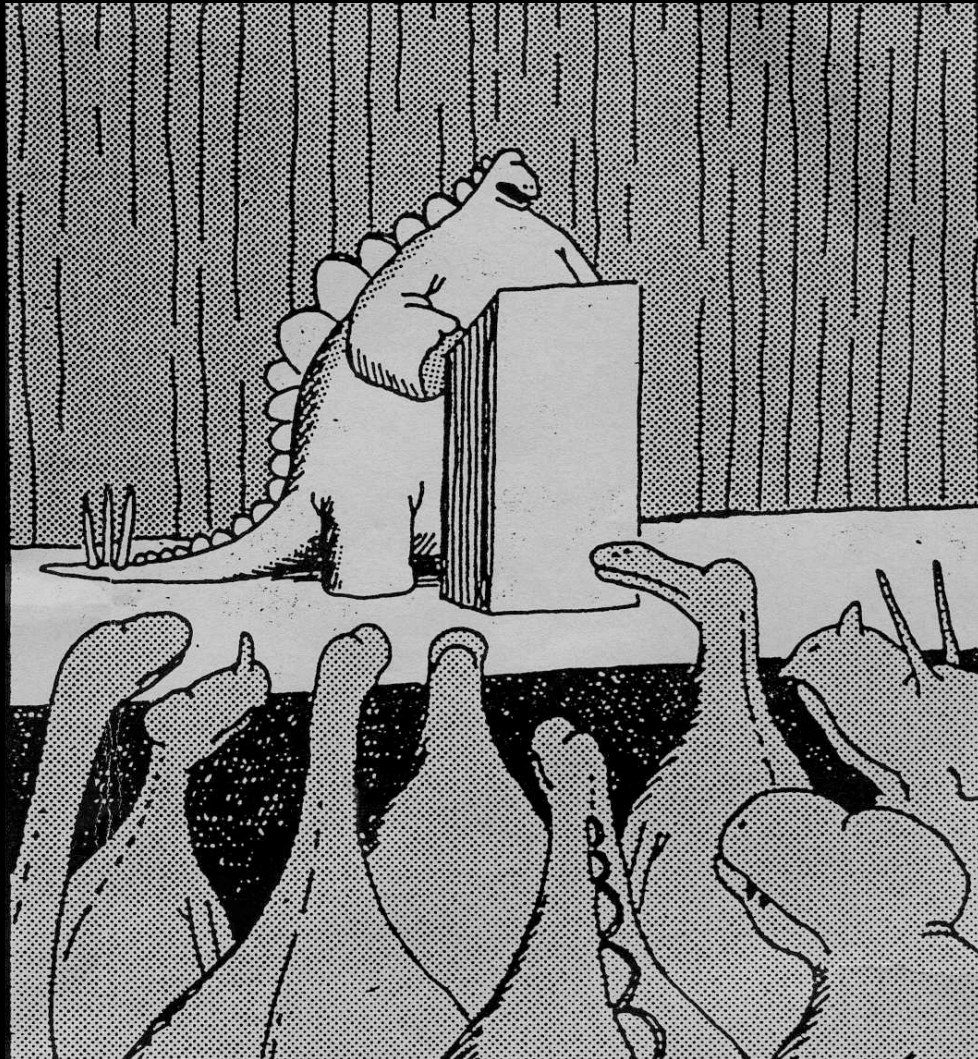


**2007 – Potomac Overlook named
Best Green Organization in Virginia**

**by the Virginia Sustainable
Building Network.**

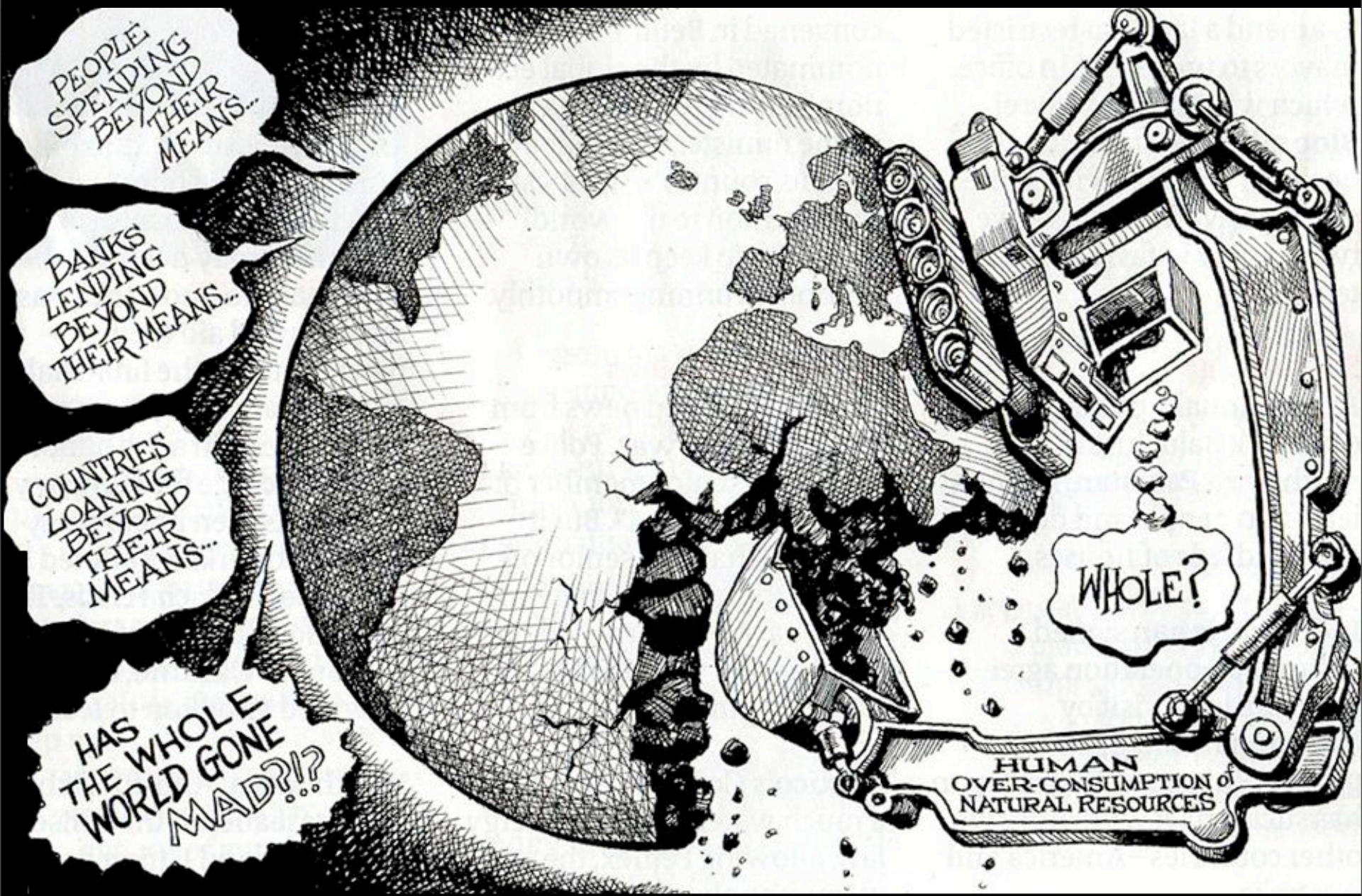


**Northern Virginia Regional
Park Authority is the first park
authority in the nation to sign
on to the **Cool Counties Initiative.****



“The picture’s pretty bleak, gentlemen. . . The world’s climates are changing, the mammals are taking over, and we all have a brain about the size of a walnut” [Farside cartoon, Gary Larson, 1985]

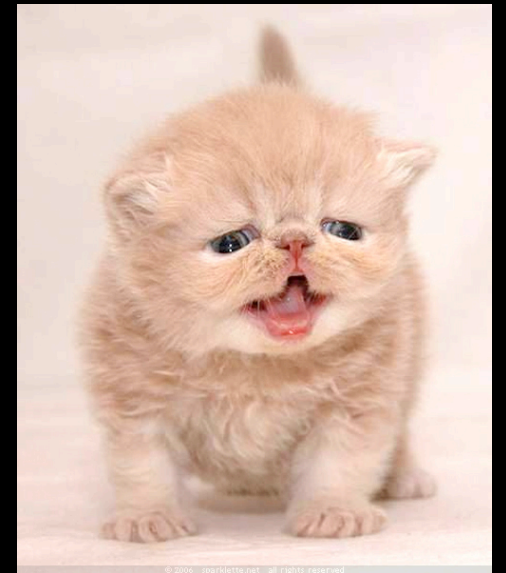
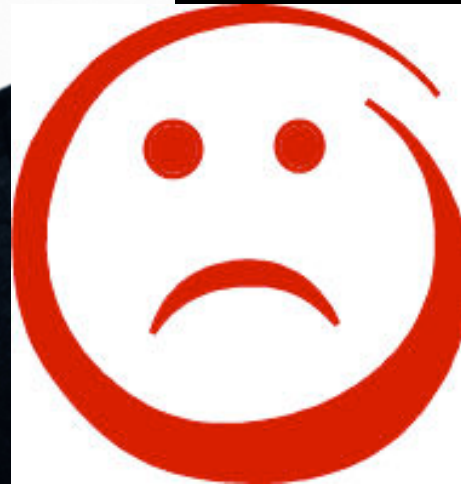
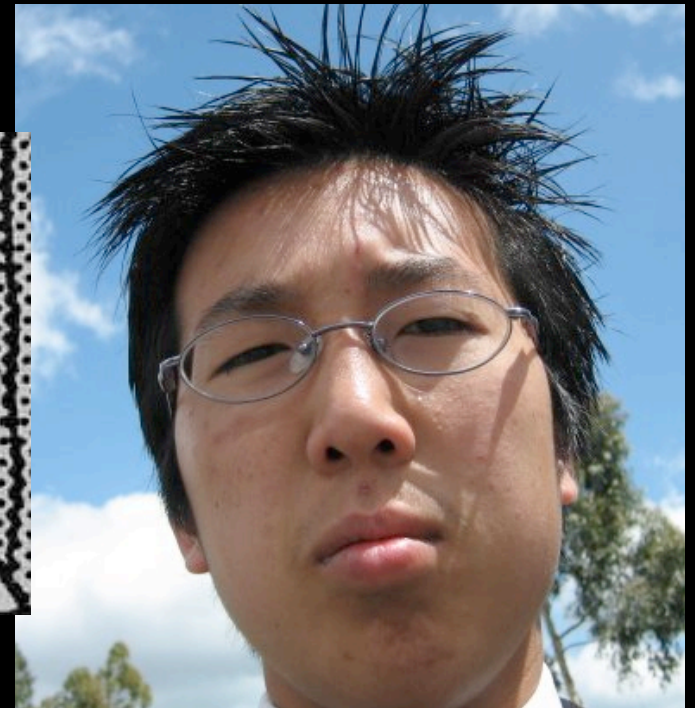




From *The Economist* – November 1-7, 2008



Martin





But . . .

**Do not despair ...
There IS hope!**



Cracking Walnut Brain Syndrome;



The Quest for Green Living

*Sustainable Loudoun
Green Living Forum
November 13, 2009*

Tena O'Rear – consumer choices and changes

Najib Salehi - Loudoun County Energy Manager
Loudoun Energy programs
benefitting consumers, past and future

Dale Hoffmeyer - Home Improvements
for Energy Conservation

Linna Ferguson - Loudoun Locavores;
backyard gardening

**Hmmm . . .Thinking
outside the shell
on Sustainability . . .**

- **Earth as a living system**
- **Learning from Nature**
- **State of mind**



Earth as a living system



Premise: We should understand the system we are dealing with.



For realizing a sustainable (“green”) economy, that system is Earth



**“Aloft, floating free beneath the moist,
gleaming membrane of bright blue sky,
is the rising Earth . . .**

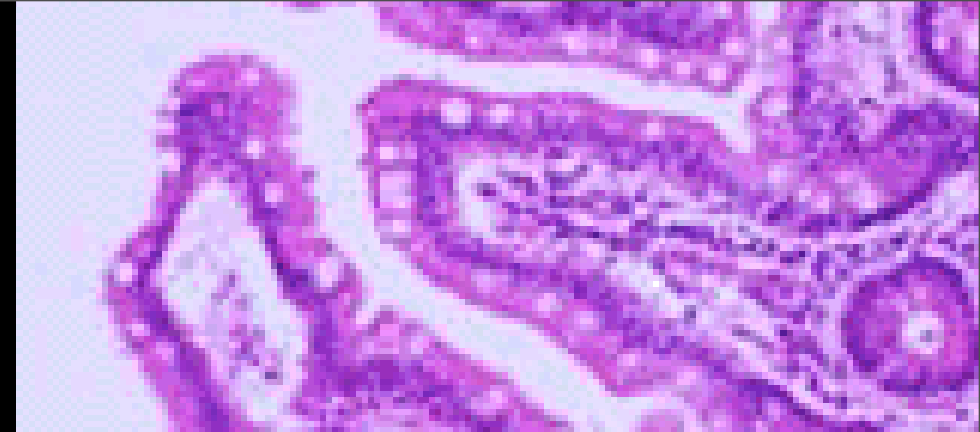
**. . . It has the organized, self-contained
look of a live creature, full of
information, marvelously
skilled at handling the sun.”**

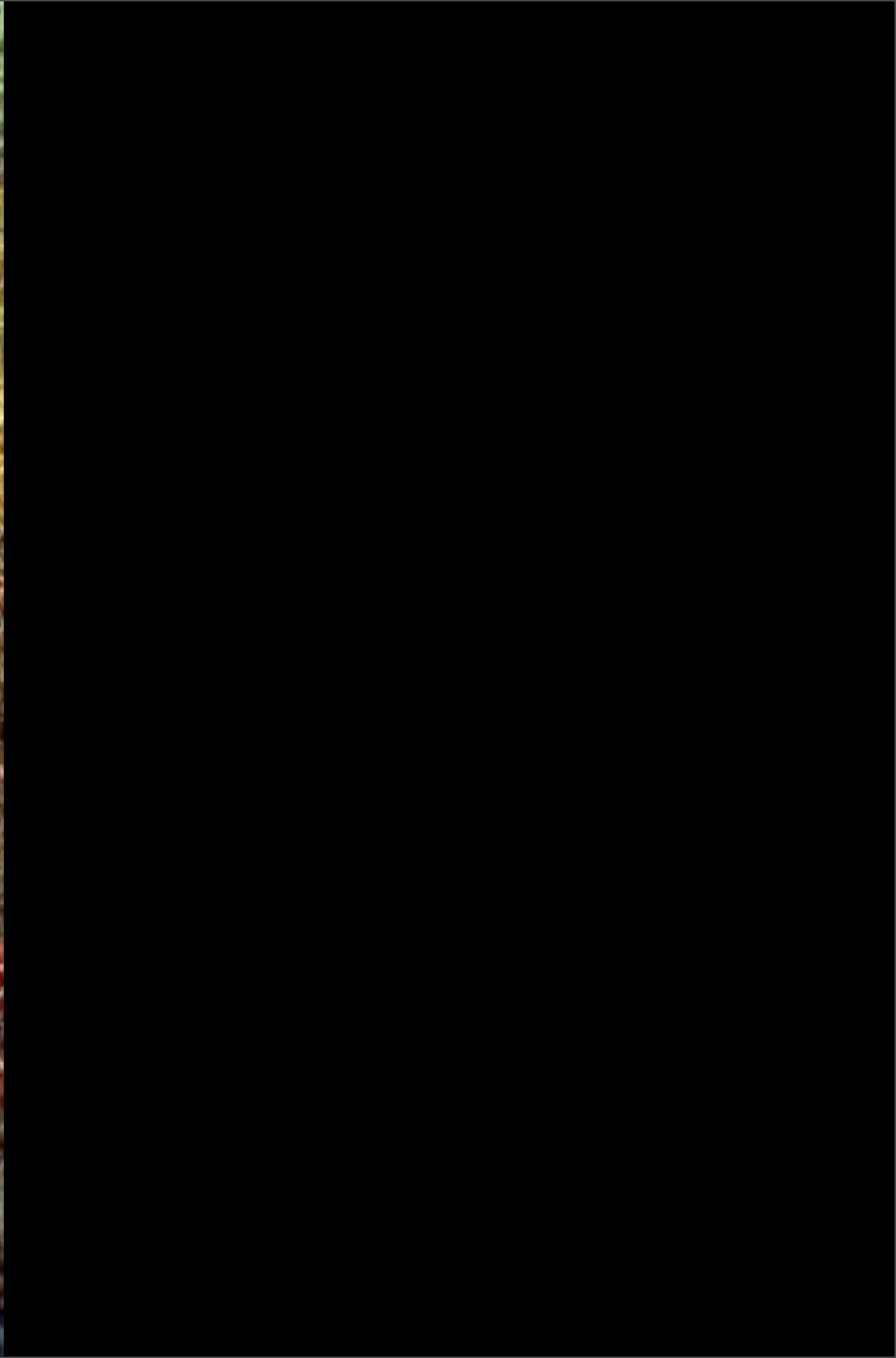
**- From “The Lives of a Cell”
by Lewis Thomas (1974)**

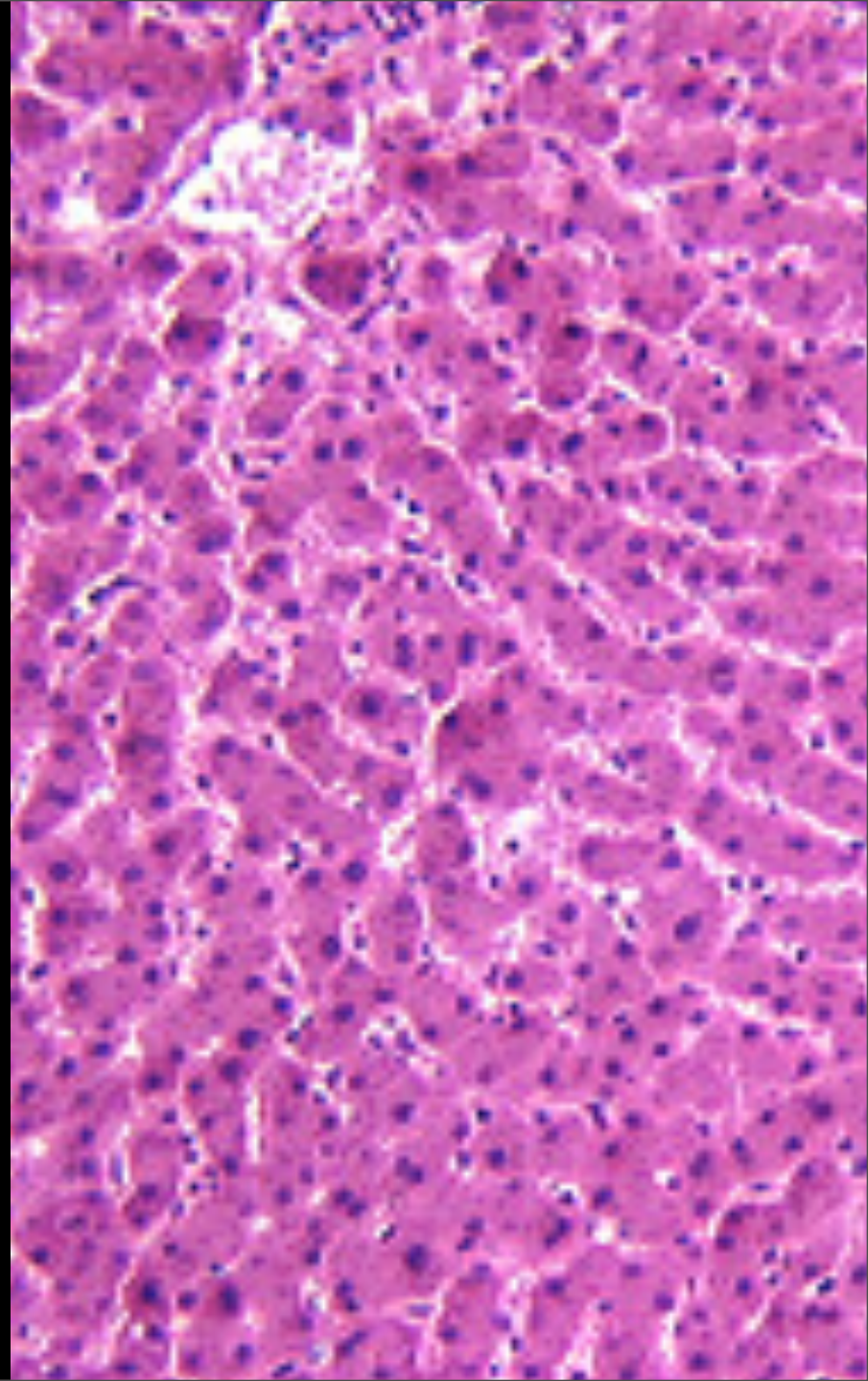


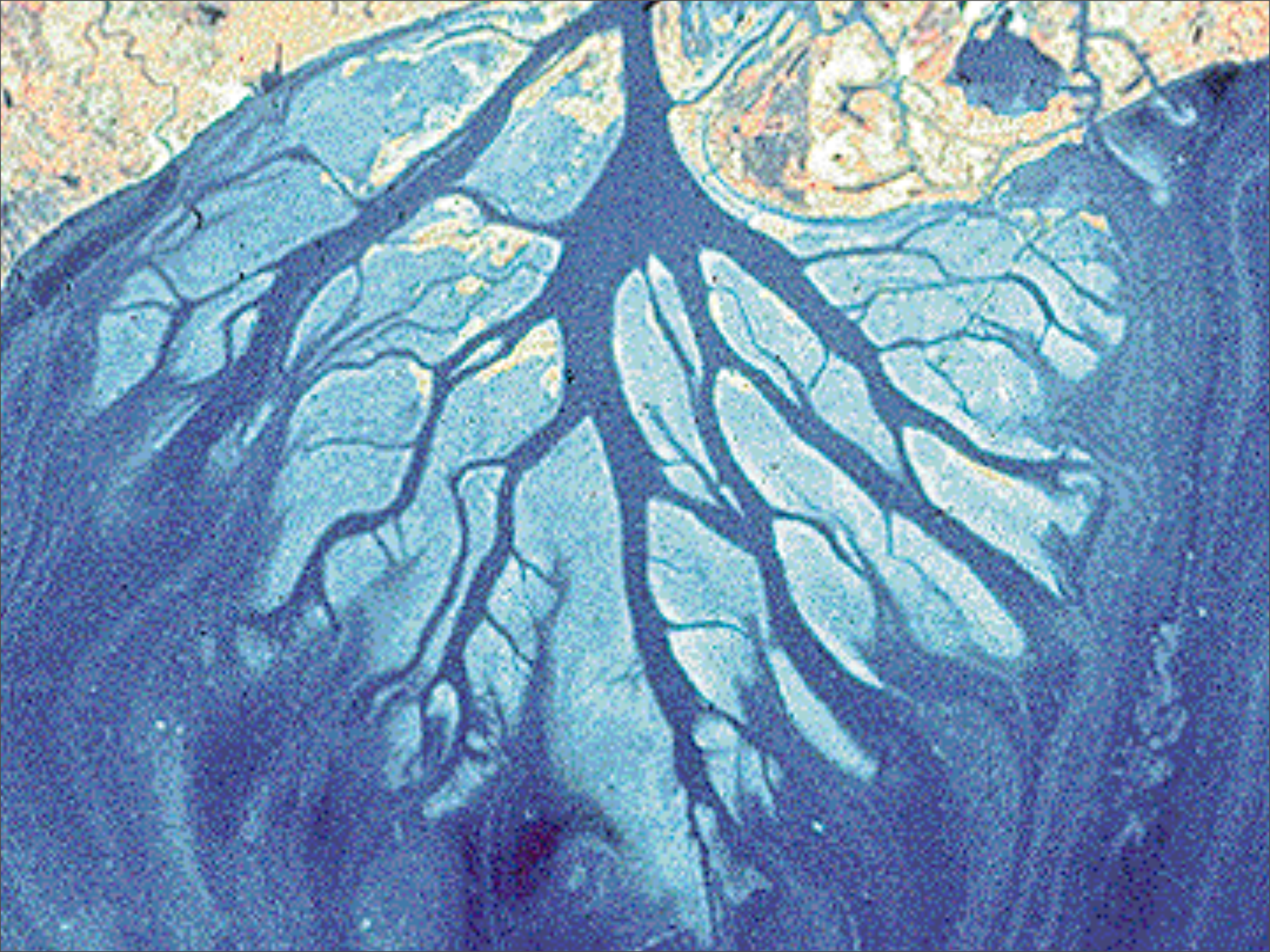


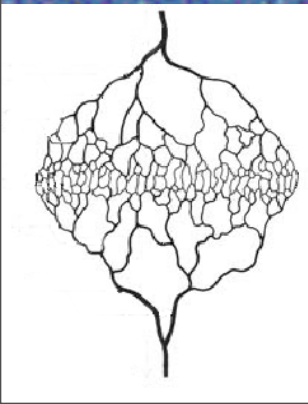
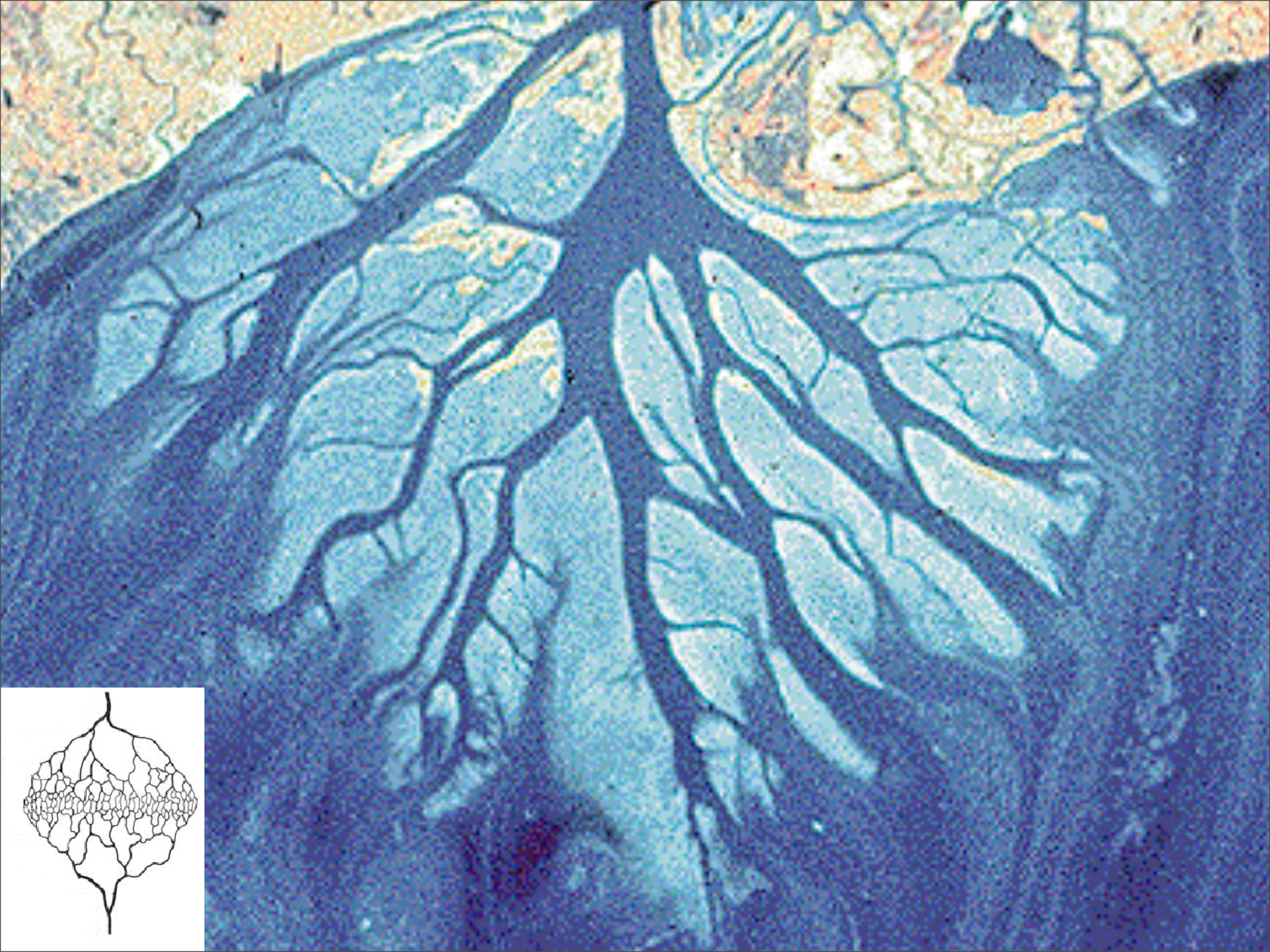


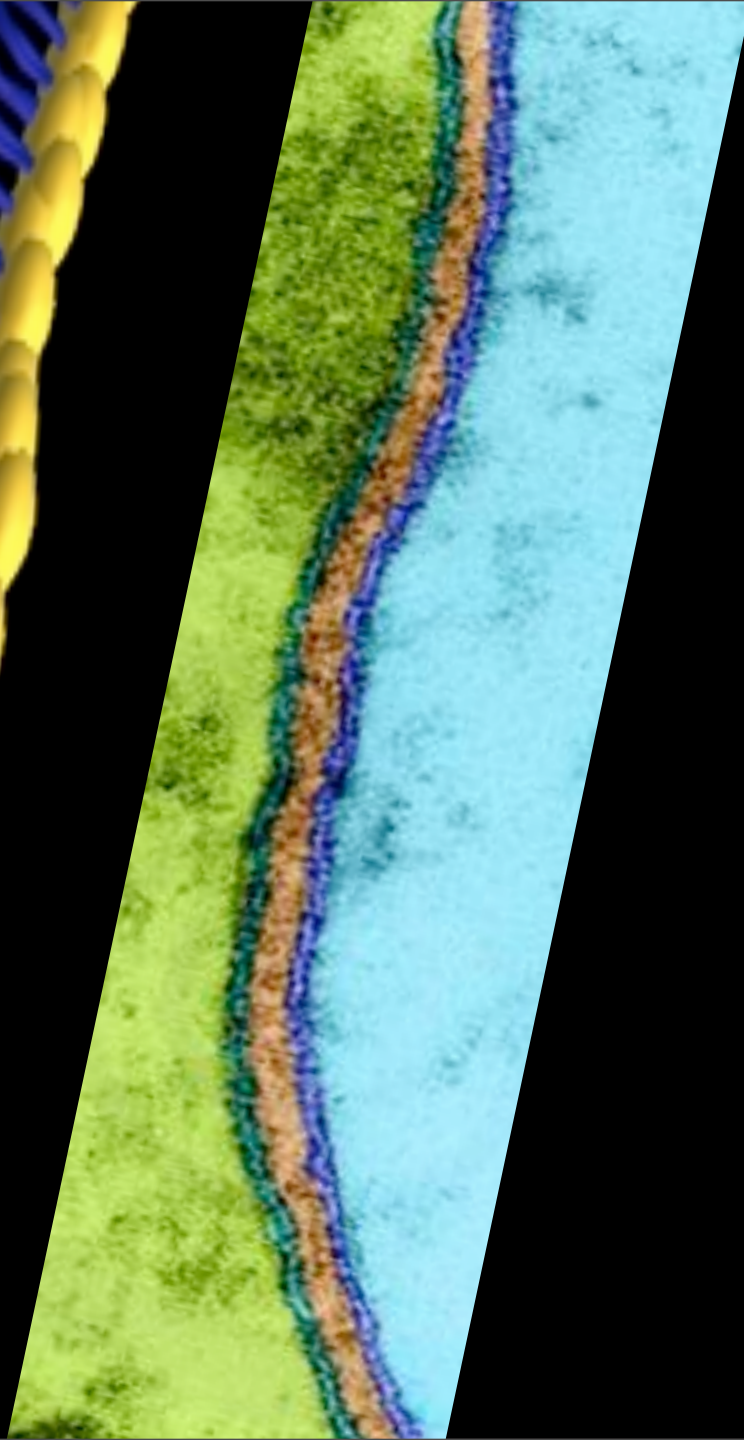
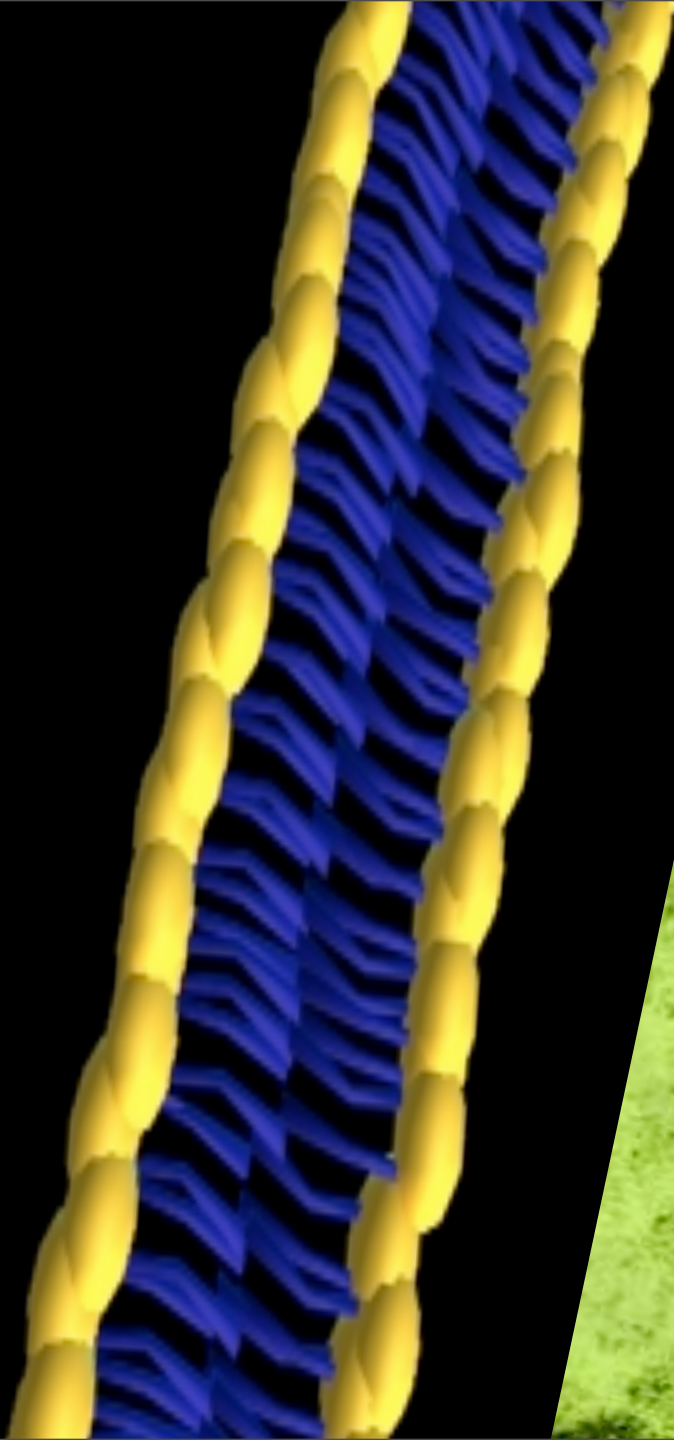


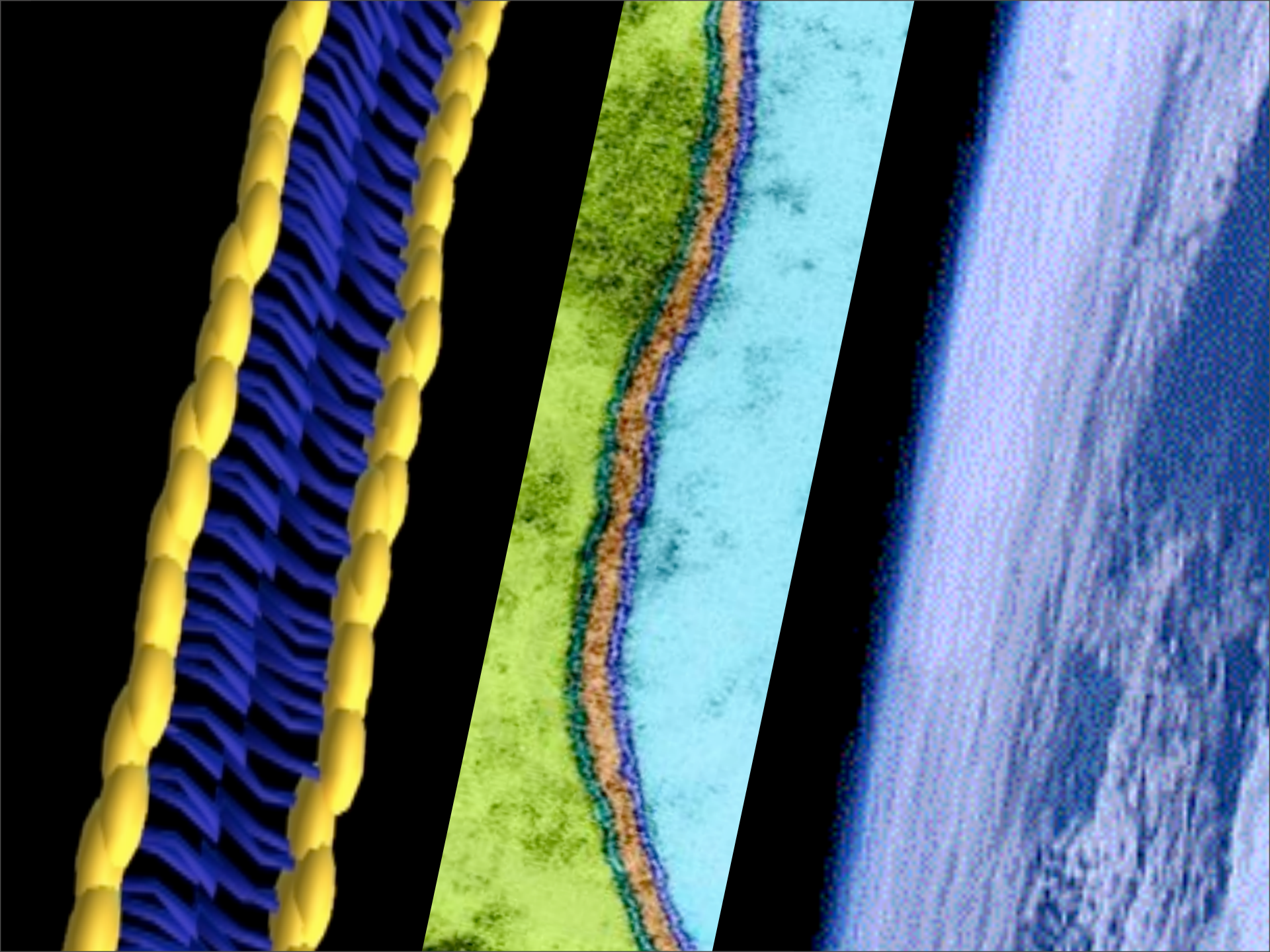








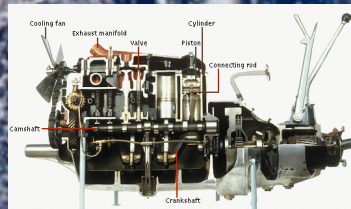
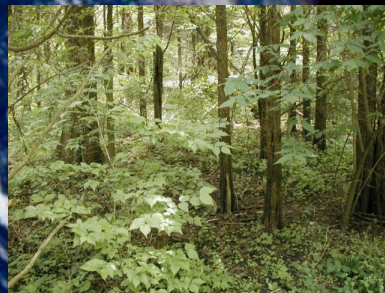
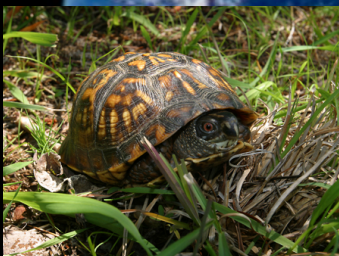


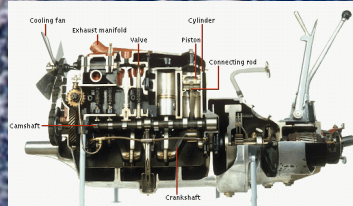
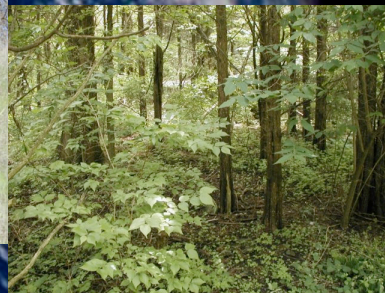
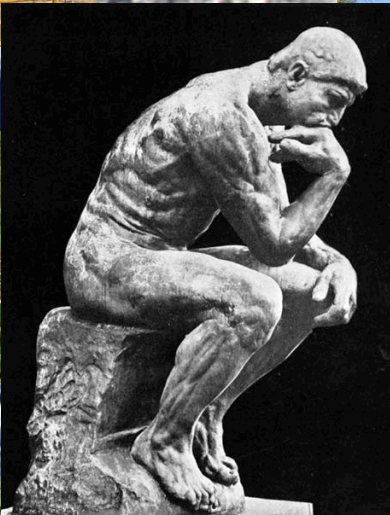
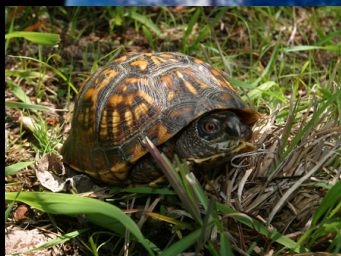




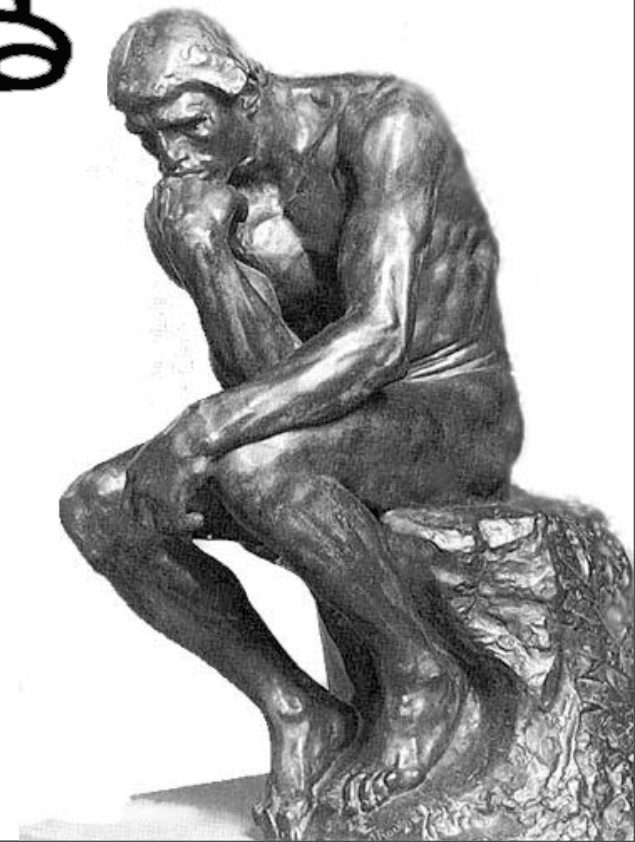
“Aloft, floating free beneath the **moist,
gleaming membrane of bright blue sky,**
is the rising Earth . . .








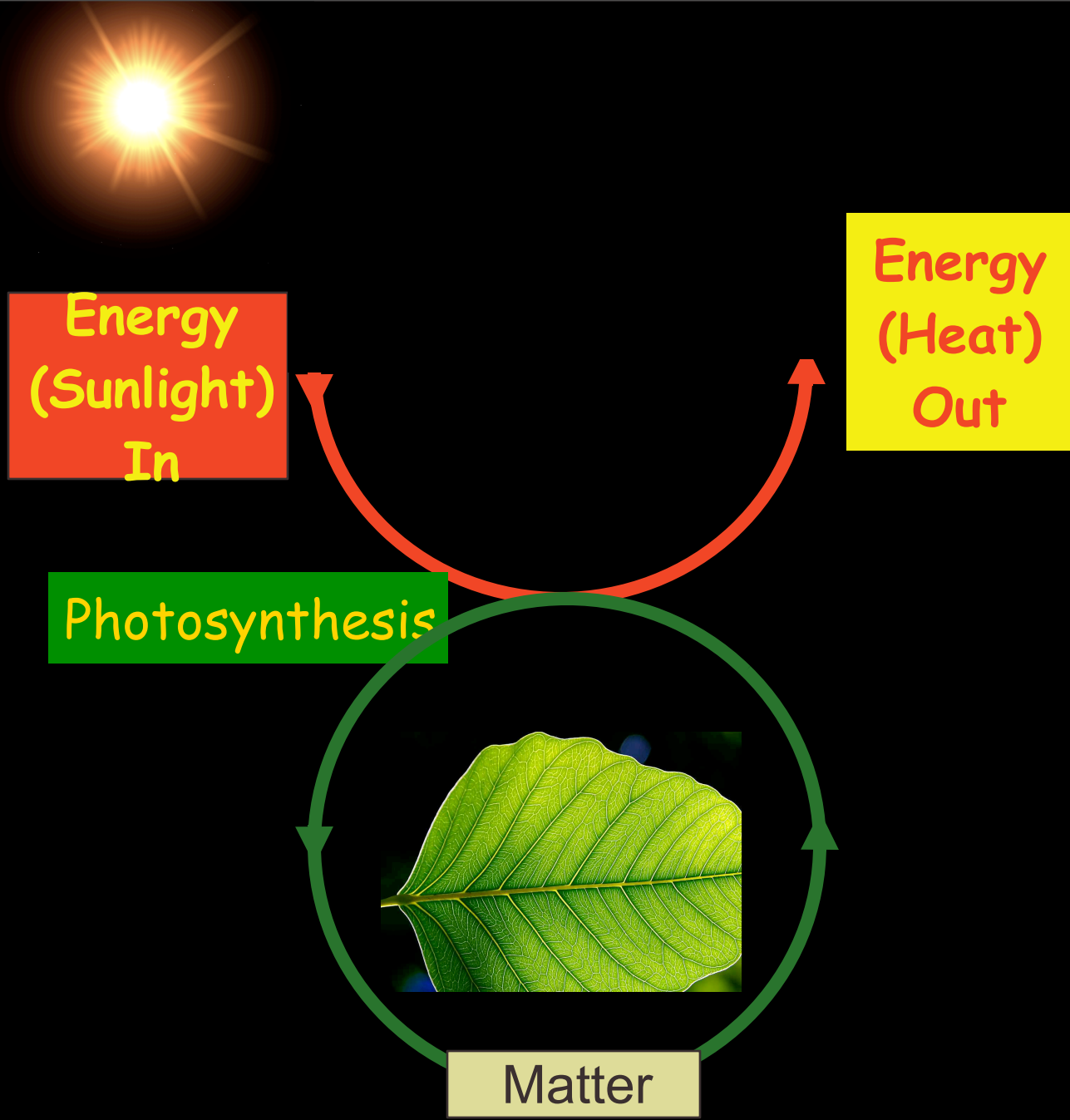
**... Zowie!
The human mind as
part of the biology of our planet!?
I must be thinking
outside the shell ...**





. . . It has the organized, self-contained look of a live creature, full of information, **marvelously skilled at handling the sun.**”





Energy
(Sunlight)
In

Energy
(Heat)
Out

Photosynthesis



Matter









Energy
(Sunlight) in

Heat out

Photosynthesis
Fossil fuels



Matter



A little
"wobble"





Energy
(Sunlight) in

Heat out

Photosynthesis
Fossil fuels
Solar, Wind, etc.

Nuclear Energy
Geothermal



Matter



Uh, oh . . .
A lotta
"wobble"





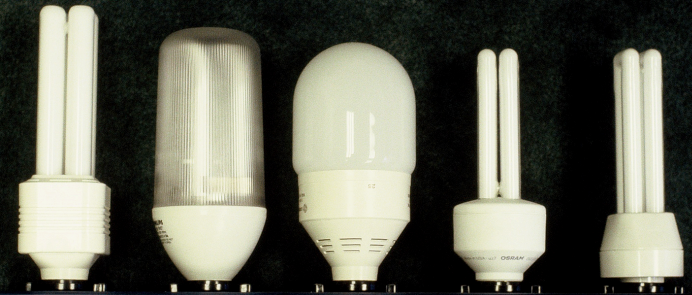
Learning from Nature to understand energy solutions



- Energy efficiency
- Renewable energy
- Reducing & stabilizing energy consumption



- **Energy efficiency**



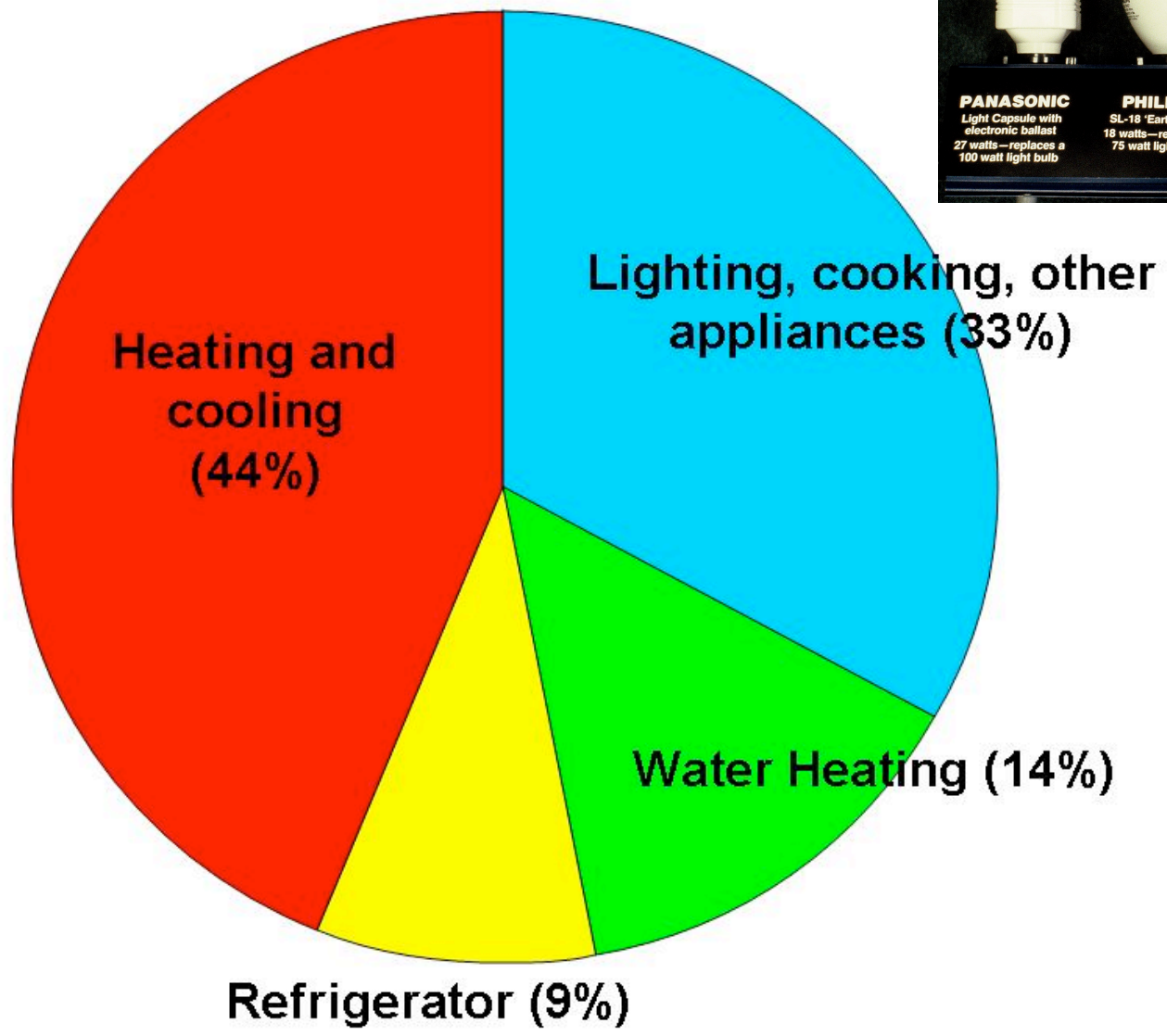
PANASONIC
Light Capsule with electronic ballast
27 watts—replaces a 100 watt light bulb

PHILIPS
SL-18 'Earth Light'
18 watts—replaces a 75 watt light bulb

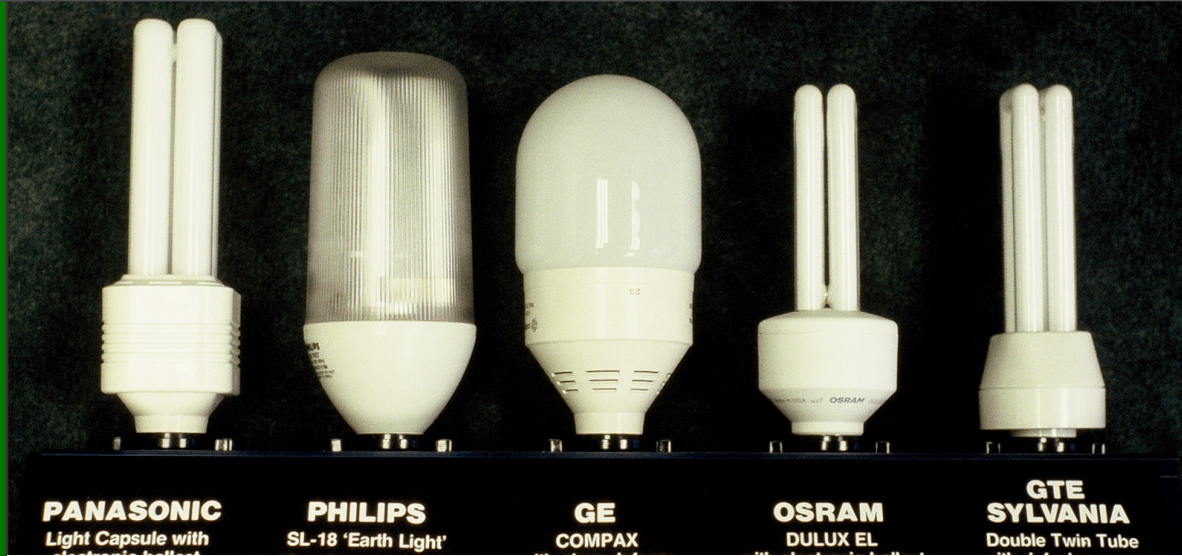
GE
COMPAX with glass defuser
15 watts—replaces a 60 watt light bulb

OSRAM
DULUX EL with electronic ballast
15 watts—replaces a 60 watt light bulb

GTE SYLVANIA
Double Twin Tube with defusing cover
13 watts—replaces a 50 watt light bulb



**Between 2009
and 2010,
Australia will
phase out
incandescent
light bulbs!**



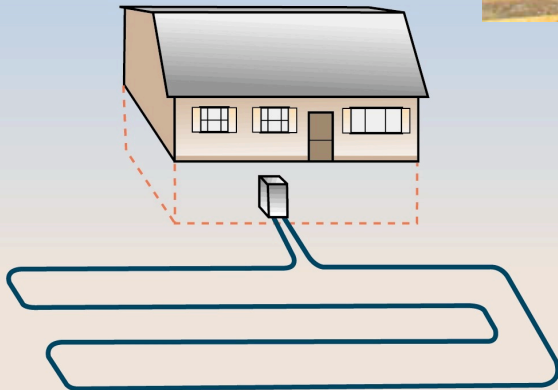


- **Renewable energy**

Wind Energy



Passive & Active Solar Energy

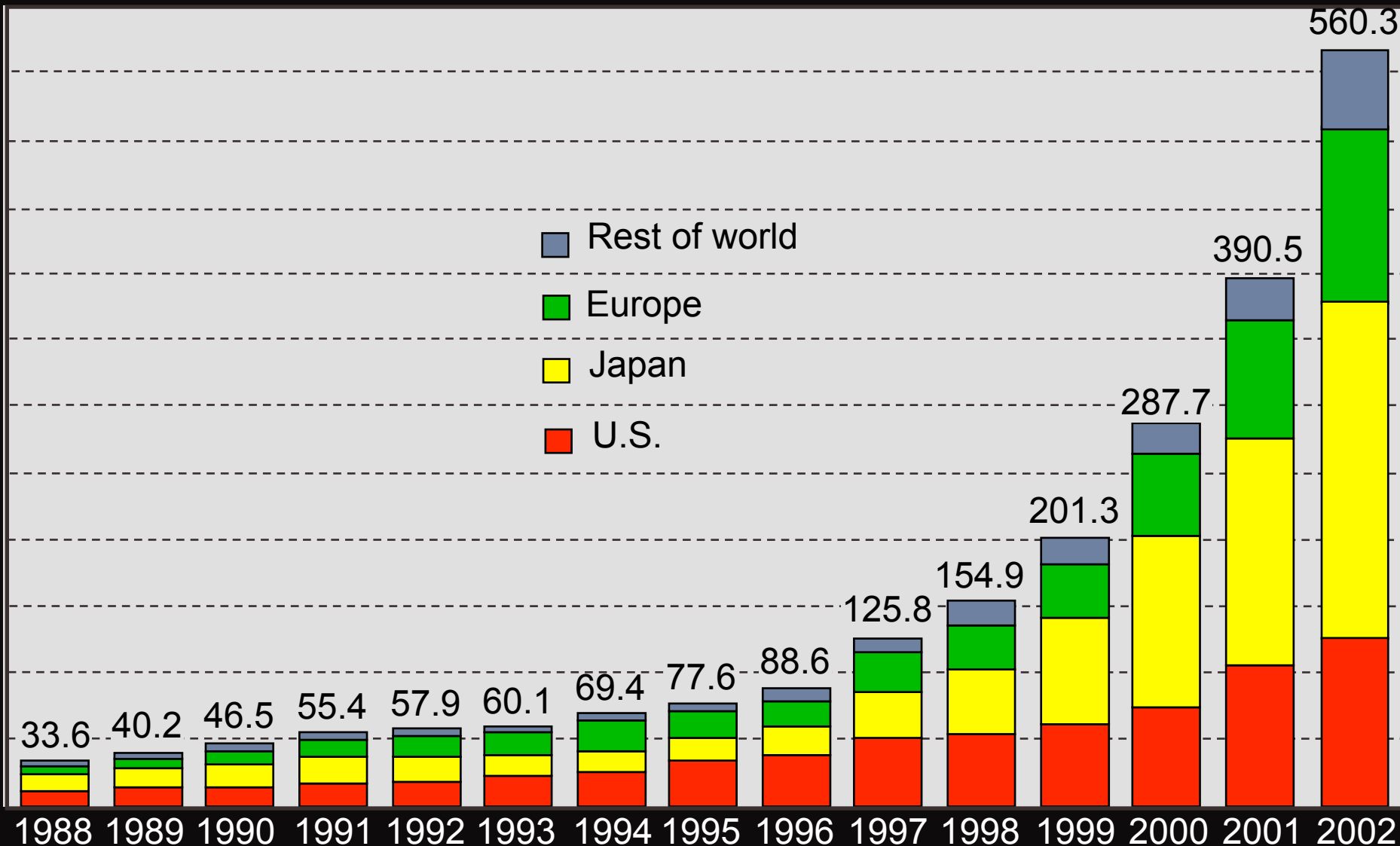


Ground Source (Geothermal) Energy

World PV Cell/Module Production (MW)

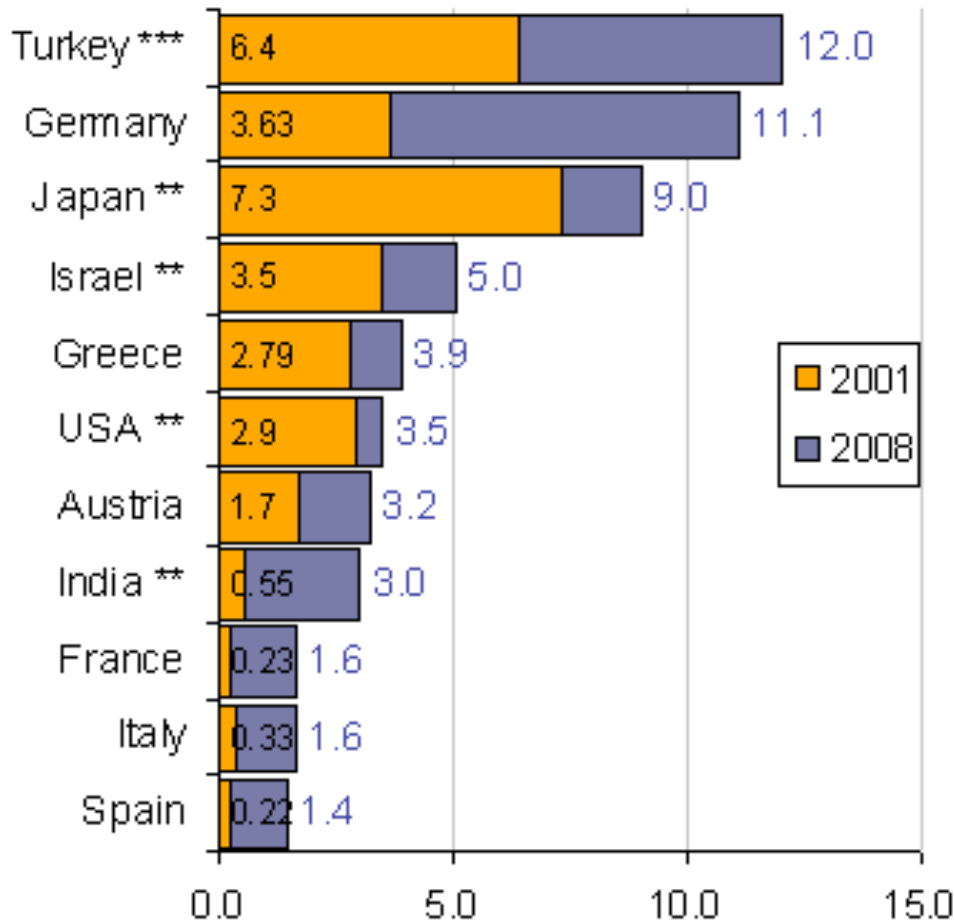


World PV Cell/Module Production (MW)



Source: *PV News*, May 2003

**Installed Collectors (in mil m2)
for Solar Thermal Energy in Selected
Countries (*)**



(*) Main Data Source: ESTIF, IEA(2001 and 2008)

(**) 2008 figures calculated by using growth rate and 2001, 2006 values

(***) According to eie.gov.tr

Installed Solar Thermal Energy



What are the opportunities . . .

But also, what are the limits?

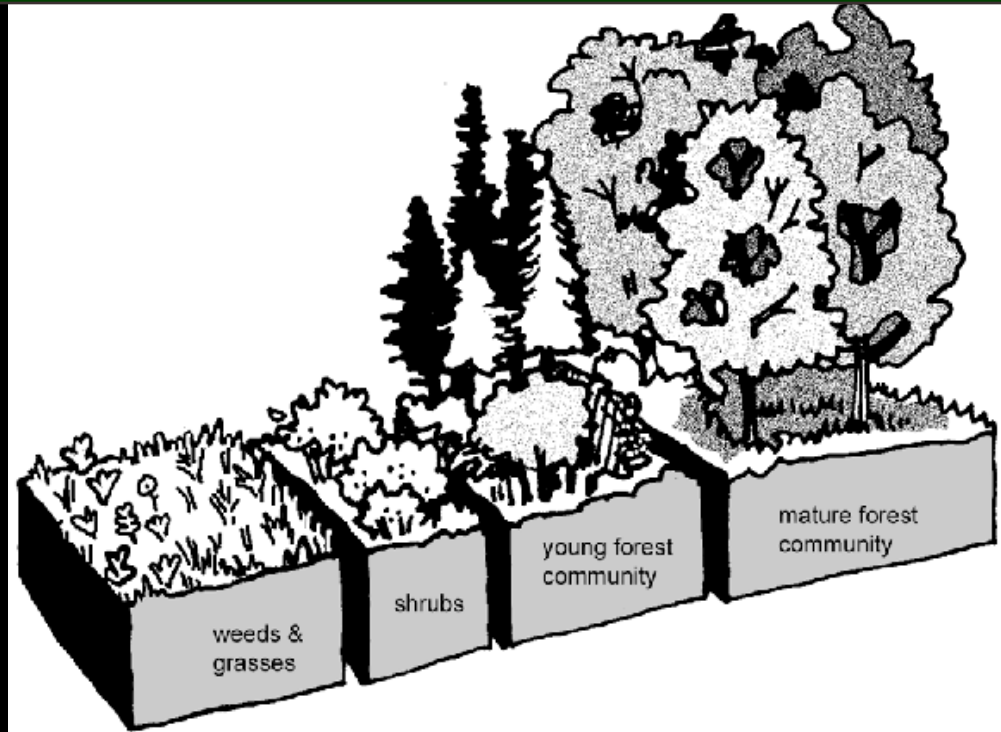






- **Reducing & stabilizing energy consumption**

Production-biomass ratios (P/B)
decrease during succession.



Late successional systems require **less** food / energy to maintain a unit of weight, and **weight stabilizes**.



Energy efficiency
and renewable energy
are necessary for
sustainability, but
not sufficient.

Energy efficiency,
by itself, is **not** a
guarantee of
reduced energy use.





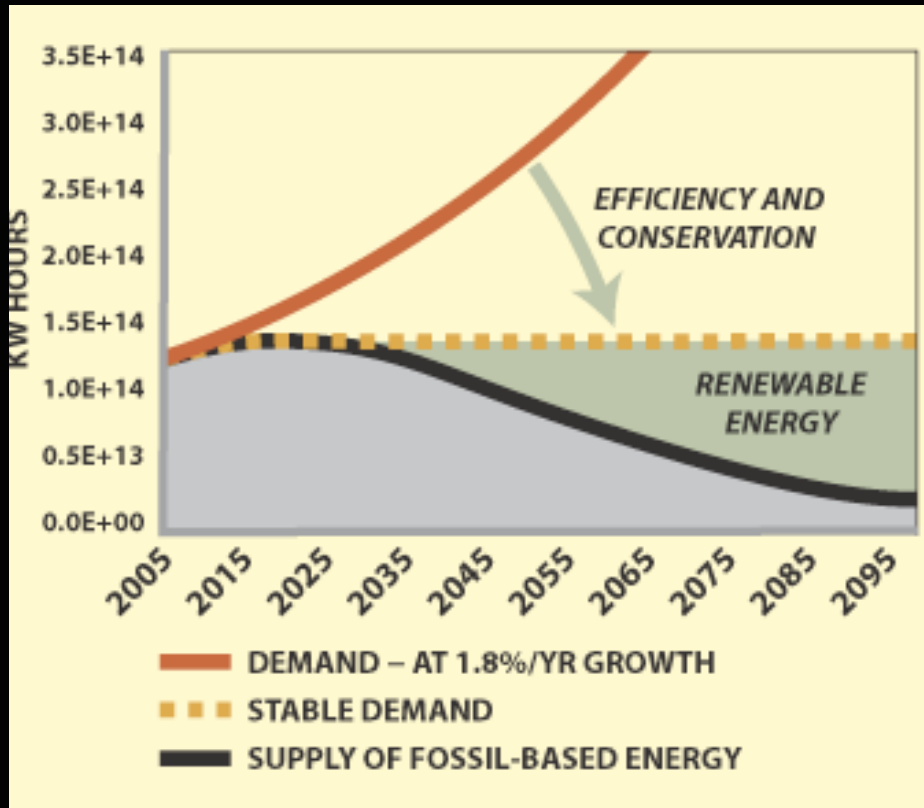
Our ever-more-efficient
economy continues to use
more (per-capita) energy
year after year



Our ever-more-efficient economy continues to use more (per-capita) energy year after year



Conservation:



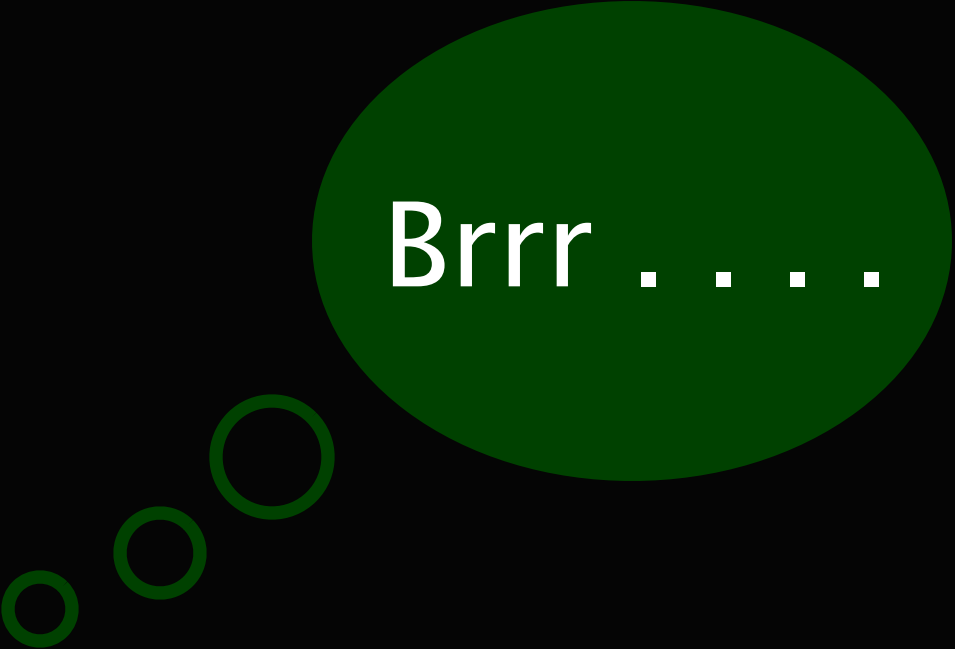
Specifically **reducing** energy (and other) resource use;

Envisioning and creating a society that requires and demands much less energy.



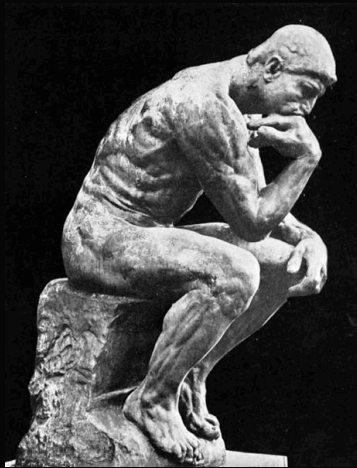
Alas, discussion on conservation until recently . . .





Brrr

. . . I need a
new state
of mind



State of Mind *



* “Cracking Walnut Brain Syndrome”

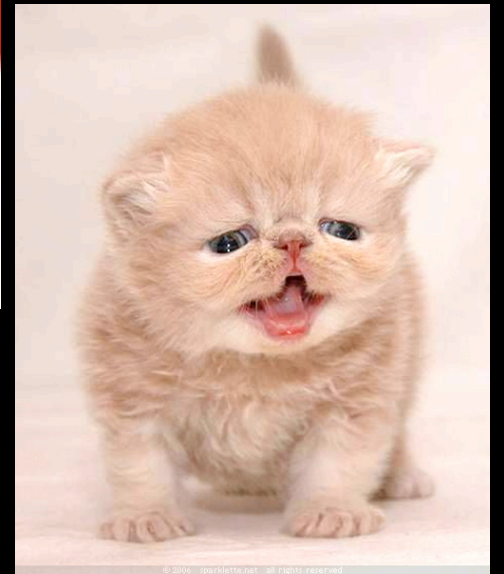
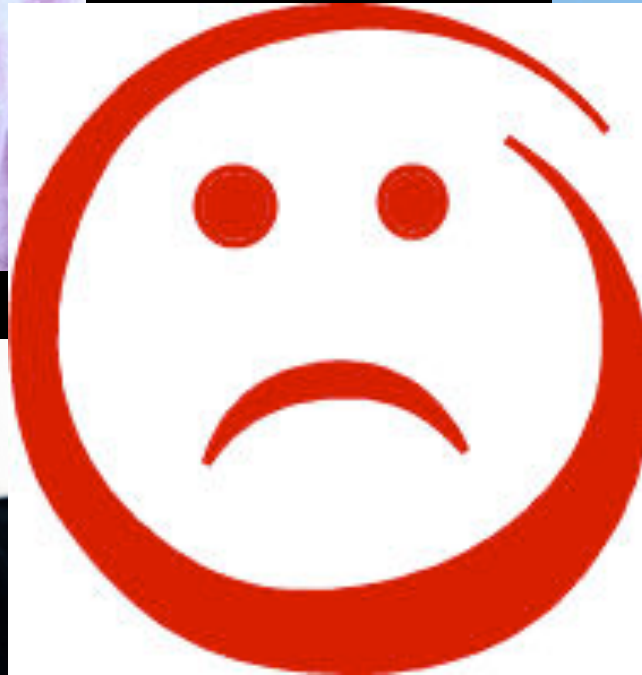
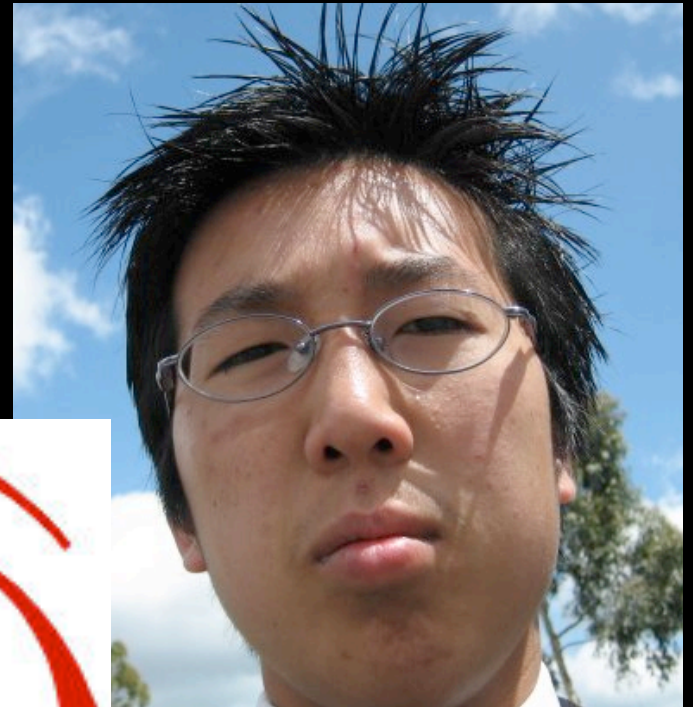




Beaver Cruise



But, alas,
no beaver sightings . . .





Wildlife Cruise





A new state of mind

Community

Local Food

A different sense of “status”

Respect tied to giving and sharing; not acquiring more & more

“Neighborly Economics” (a la Bill McKibben in *Deep Economy*)

Steady state economics

Home gardening

Local vacations (lots to do!)

Sweaters

Moderation

Living closer to work

Home composting

Good policy

Local vacations (lots to do)

Walkable communities (design, support, vote for)

**Time in our lives - To enjoy each other,
the fruits of our labors and the Earth itself.**



Our Challenge:

- **To envision and create a society that is happy, healthy, interesting and strong by knowing how to live well, and well within our means.**
- **To do this in a way that demands much less energy and materials.**





Contact information

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New Book on Gaia Theory

Gaia in Turmoil

Climate Change, Biodepletion,
and Earth Ethics in an Age of Crisis

edited by Eileen Crist and H. Bruce Rinker
foreword by Bill McKibben



Gaia in Turmoil: Climate Change, Biodepletion, and Earth Ethics in an Age of Crisis.

Editors: Eileen Crist and H. Bruce Rinker. MIT Press 2009.

Foreword by Bill McKibben; Opening chapter by James Lovelock

