System archetypes & anarchitypes…

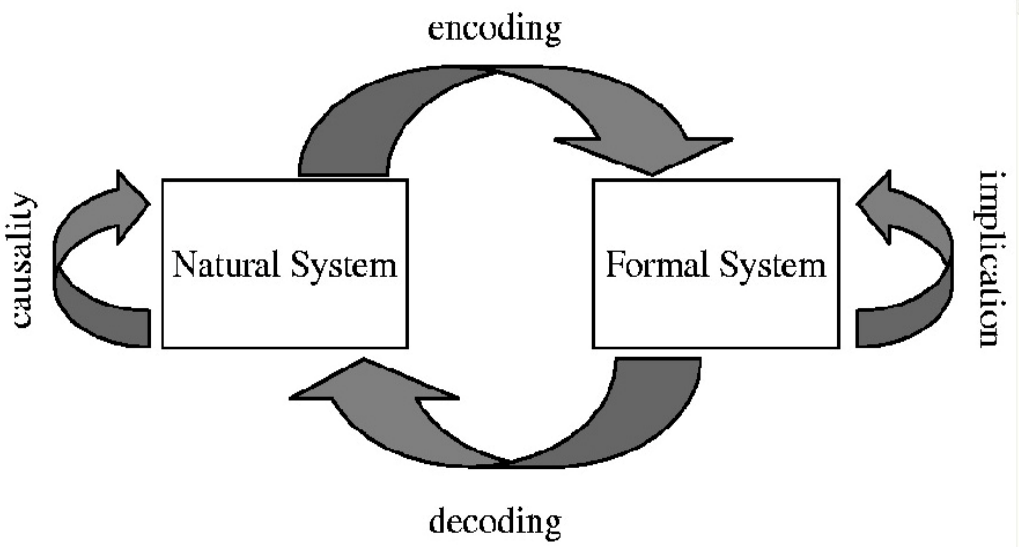
Getting what you pay for is the ideal in economics, having the world fig your image
It's the greatest threat to science, where you want your image to be truly faithful to the world

With "anarchitypes" as a scientific paradigm we seek to have gaps in the theory occur just where you need to look for a new reality to fill in.

People might question studying system archetypes for why they'll be temporary. Partly it's that knowing where to look for trouble saves time when scanning an environment for important information missing from your model. That in turn leaves you more time for adapting or finding another path of evolution to replace one not worth preserving.

1) What's the archetype of uniqueness in nature, the defining character of individuality?
   a) Happenings without an archetype to follow? We also call it "eventfulness" or "animation" like a flame that invents every single flicker as it occurs, Or "learning & discovery" "emergence" "evolution" as systems emerge
2) Taking increasing control of their local environments to see where that leads
   a) Graduate to new environments and new relationships on other scales that change them.
3) So we define it more by what it is not, but then also providing a locus
   a) for where to discover natural "happenings" and how they are defining themselves; Pointing to the organizationally "impossible" leaps they must somehow find a continuity for achieving; & study the remarkably smooth ways everyday happening behaviors exhibit that as they begin and end
4) We study the common system archetypes, http://en.wikipedia.org/wiki/System_archetype#Examples_of_system_archetypes
   a) Like positive or negative feedback, divergence and correction, limiting conditions, etc.; Or other describable behavioral states identified as cybernetic "body parts".; http://www.synapse9.com/PICS.htm
5) But not as stable system designs, no, but as temporarily system designs; Studied for how they produce irreversible changes in their own conditions
   a) That will lead to allowing their own transformation into other things
6) Human beliefs are not like that. They can remain unchallengeable
   a) Despite any kind of change in the environment they came from, if that's what you want.
7) Unavoidably temporary processes make up individually animated systems and how they progress
   a) Studied as temporary regularities the system will soon not be doing, ; Leading to conditions in which others behaviors will emerge, like life.
8) Not all individually animated systems are "living" in the usual sense, but
   a) every living system is individually animated ; and there seem to be many and diverse varieties of other unstudied kinds; often given common names for their external appearance rather than their internal successions of change.

The natural process of science is arranged as if there are two realities



1

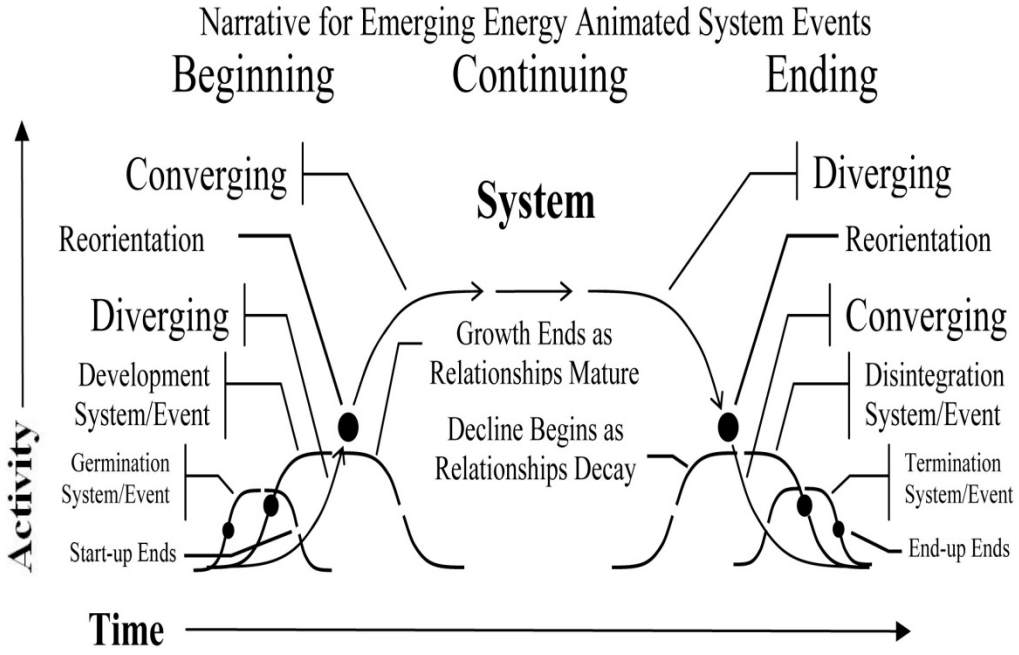
The information world of cognitive maps

is joined to a quite separate physical world

of complex energy processes

by active fitting of cognitive maps to it

Diagram from Robert Rosen



2

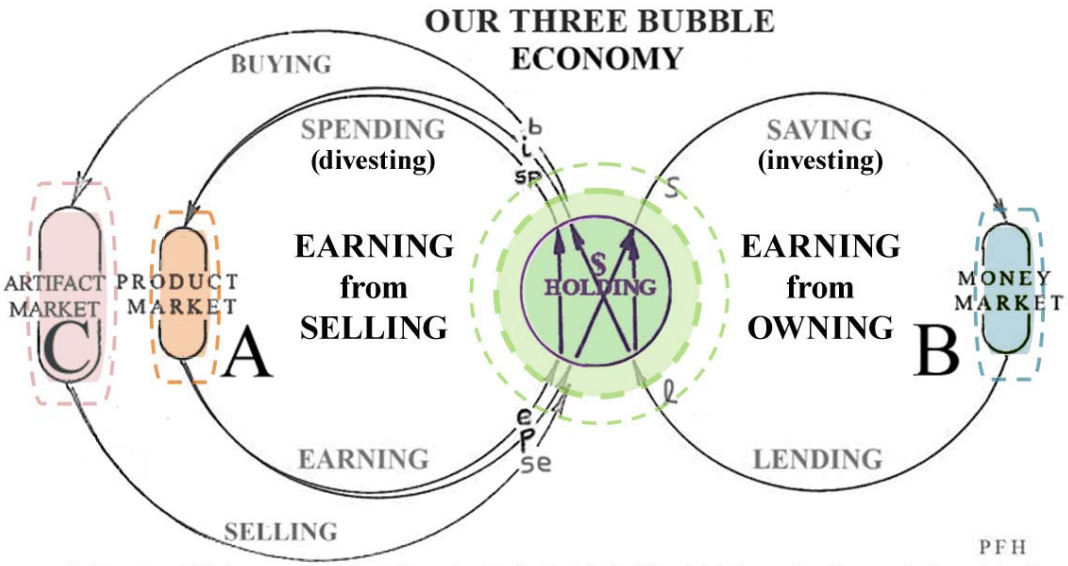
Energy processes display local animation of events arising from their internal organization.

Adding fine details on nature's way of working within what were thought to be universal deterministic laws

A series of developmental processes provides continuity for changing scales

The multiple scales of instrumental dynamics too complex to model are readily evident as occurring individually for most kinds of events

Any system grows by having a "seeding" mechanism for growth, to turn into a "steering" mechanism later



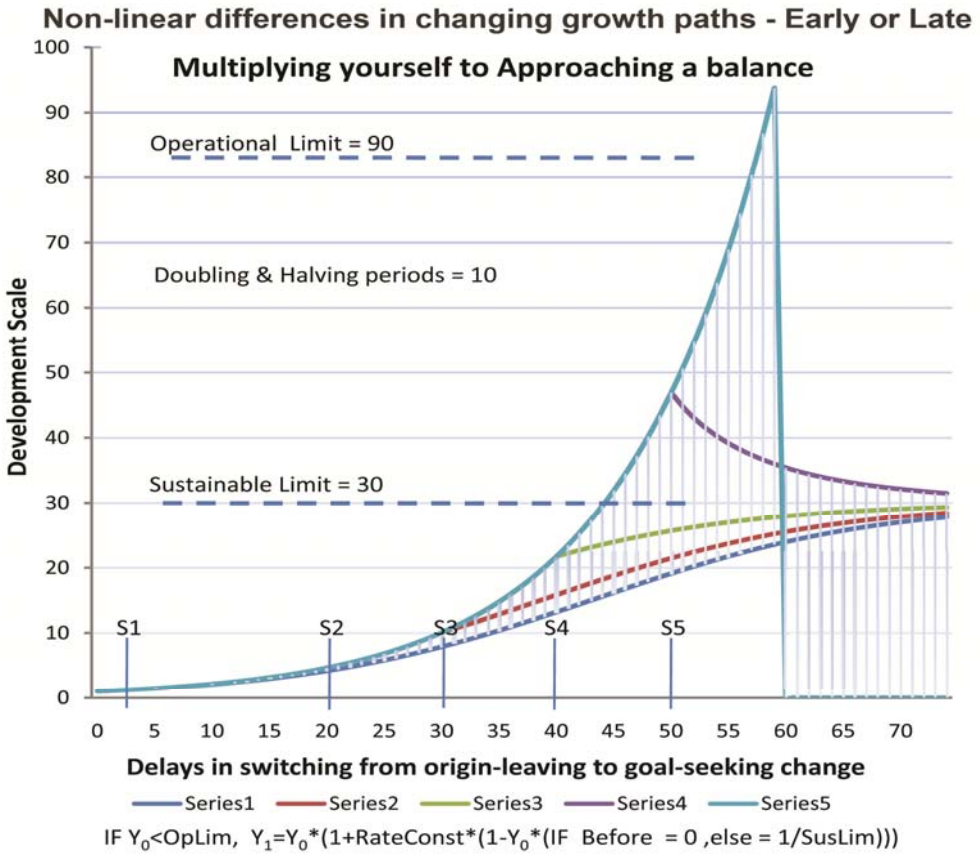
a) Product Values grow to Physical Limit, b) Artifact Values to Speculative Limit,
c) Money grows till a) & b) have no returns or Investors Spend their Returns

3

To get things going you have to start with one system pumping another system up

And then change from pumping it up to steering it around

from:
Linking Economics & Natural System Physics...
http://www.synapse9.com/issues/concept$.htm



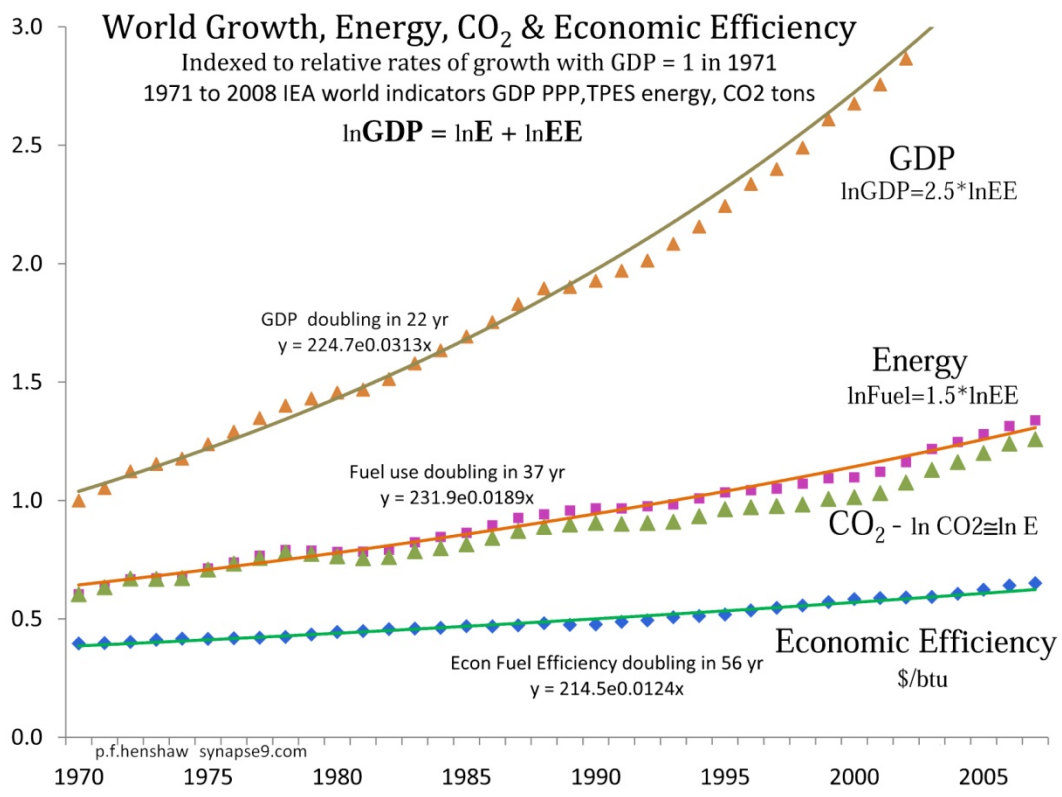
4

To Improve Human Welfare

multiply the use of your environment then
(at the same rate of development),
stay within the profitable limit.

The equation for the chart: IFY0<cap,Y1=Y0*(1+RateConst*(1Y0*(IF Before=0,else=1/limit))) similar to the "**Growth Switch**" demonstration http://www.synapse9.com/issues/GrowthSwitch.pdf showing the removal of the "seeding term" from the system description: http://www.synapse9.com/issues/GrowthSwitch.xls

From: **Models Learning Change** http://www.cosmosandhistory.org/index.php/journal/article/view/176/295
"The telling mental gap at "Gapminder.org" http://synapse9.com/blog/2011/05/30/the-telling-mental-gap-at-gapminderorg/



5

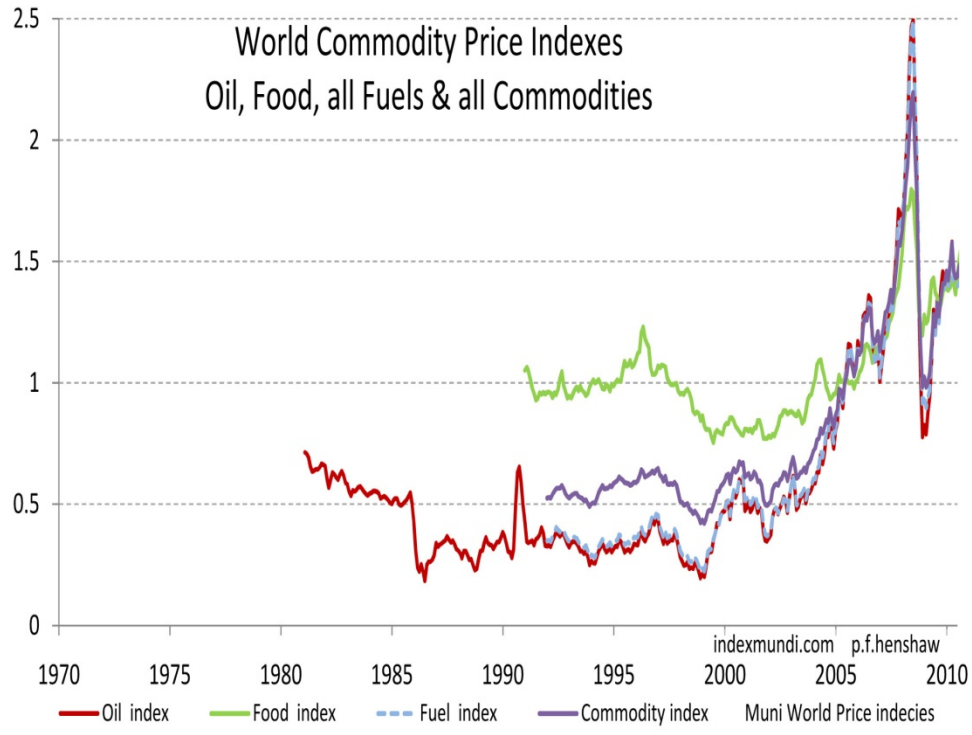
World economy, GDP, Energy, CO2

The effect of "Economic Efficiency" = GDP/Energy

On Rate of energy use and depletion Productivity stimulus effect = 2.5 Conservation effect = 1.0

World policy community relies on the exact opposite.

From: Stimulus for Constraint and: Why efficiency multiplies consumption
http://www.synapse9.com/drafts/Stim&Constraint.pdf
http://www.synapse9.com/pub/EffMultiplies.htm



6

From A decisive moment for Investing in Sustainability in New European Economy 2011. Showing how the world economy is misbehaving as a whole.
http://www.synapse9.com/pub/ASustInvestMoment-PH.pdf

It shows the world resource crunch occurring in all the food and fuel resource markets at once, *as if guided by an invisible hand*, in how the graphs show spontaneous collective market behavior in action.

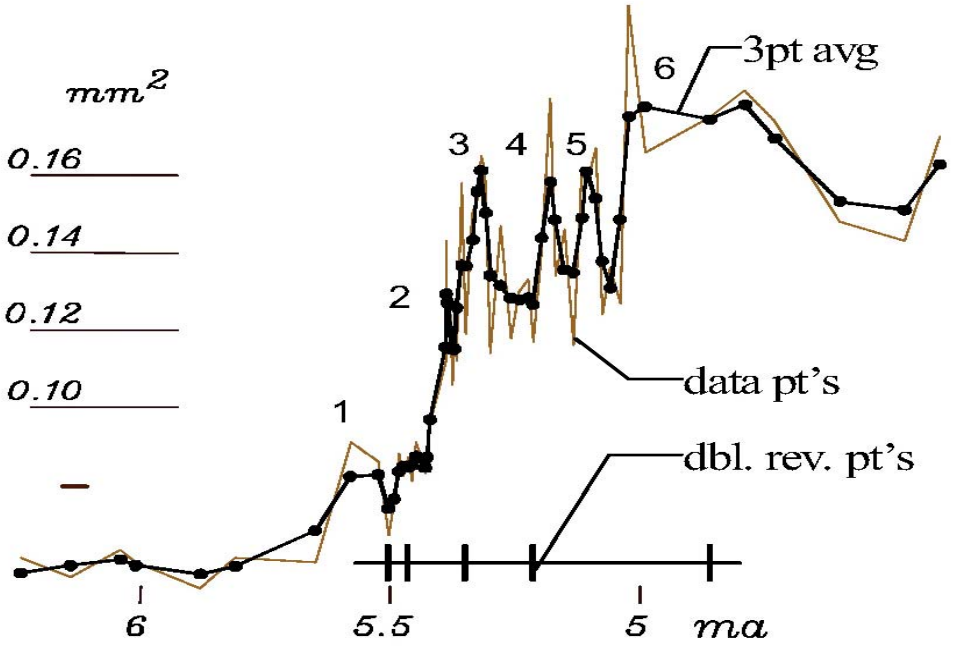
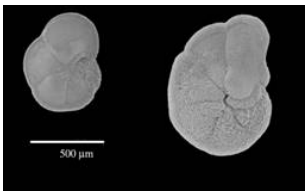


Figure 3. Enlarged view of the G *tumida* transition with a 3 point center weighted moving average. In 58 points the smoothed curve has only 5 consecutive reversals indicating a high degree of slope continuity.

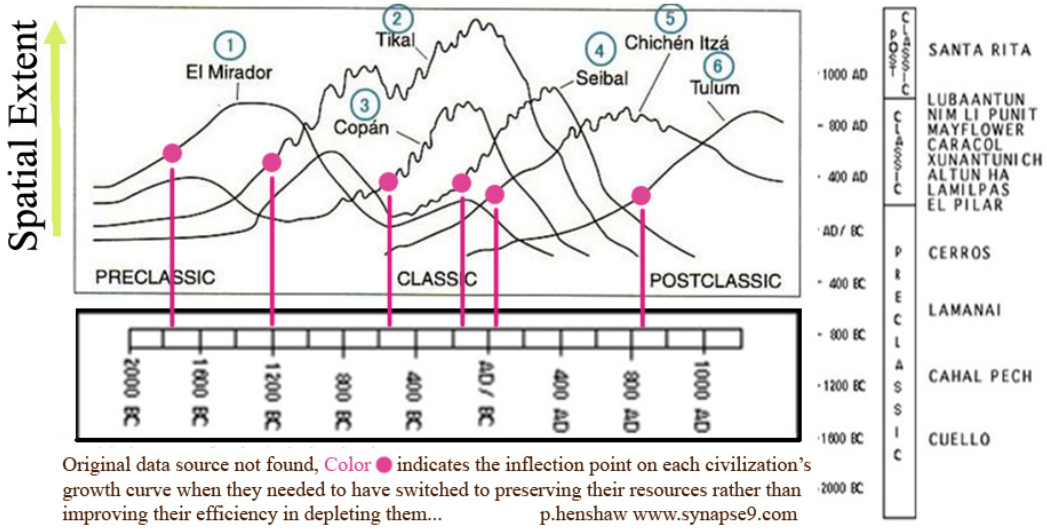
7

Several 50,000 year log spurts and collapses of directional evolution leading to a speciation event for a common freely circulation ocean plankton



'smooth' G.pleisotumida to 'lumpy' G.tumida

Mayan Civilizations: Pulsing, or building and failing?

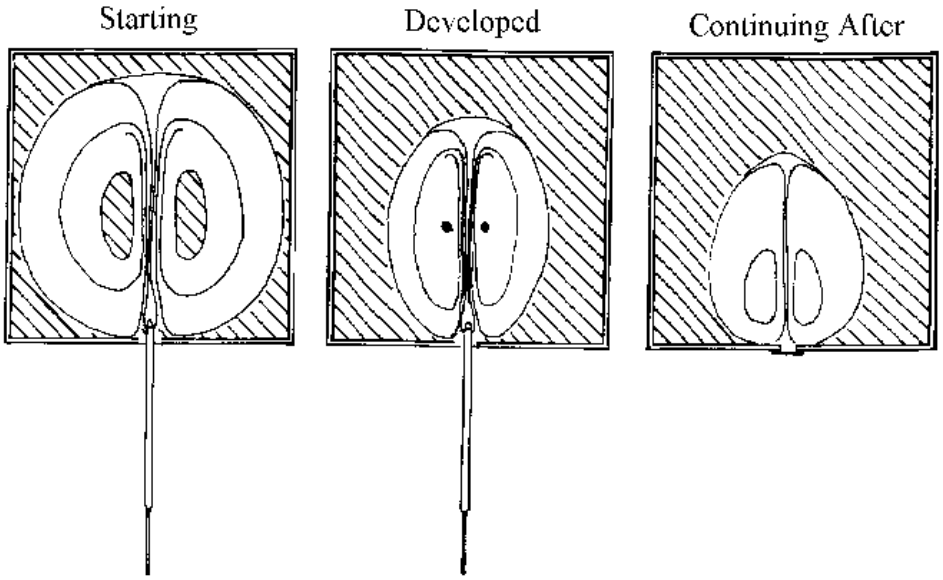


Original data source not found, Color ● indicates the inflection point on each civilization's growth curve when they needed to have switched to preserving their resources rather than improving their efficiency in depleting them... p.henshaw www.synapse9.com

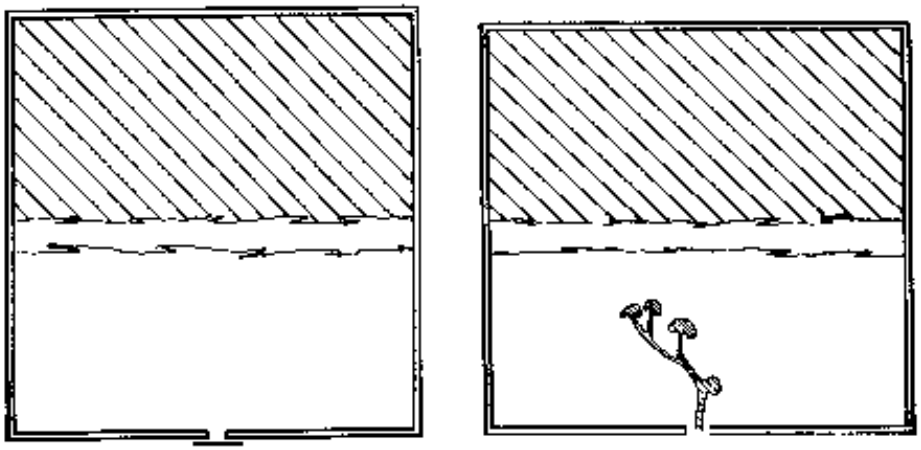
8

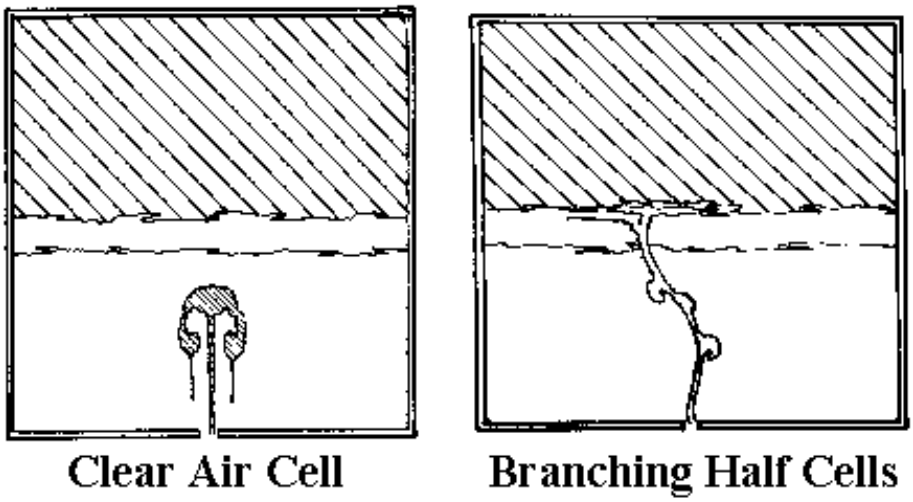
Evolution of complex Mayan societies by boom and bust, over and over

Physical behaviors that are just not supposed to happen

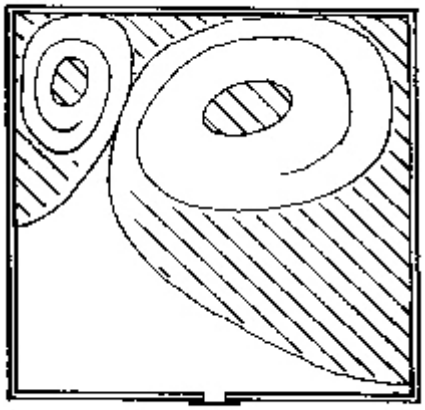


a Incense smoke entering a plexi-glass box first fills the box except the corners, and as the convection cell is energized it gets smaller and denser, and continues to circulate for a long time after being closed in

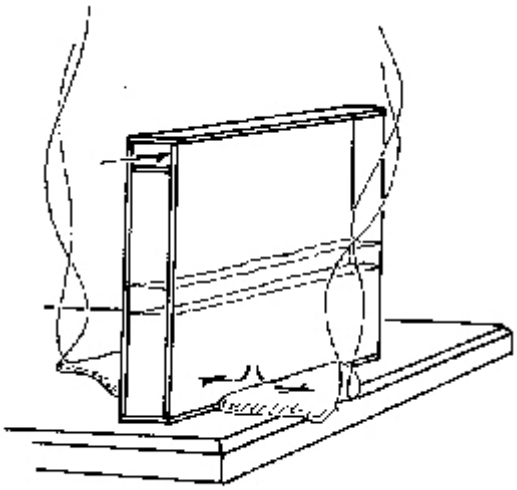




b Warm smoke blown in a plexi-glass box, sits on the bottom, not the top, and cool air allowed in at the bottom forms complex organic chains of convection up through it.



DOWN GOES UP - I



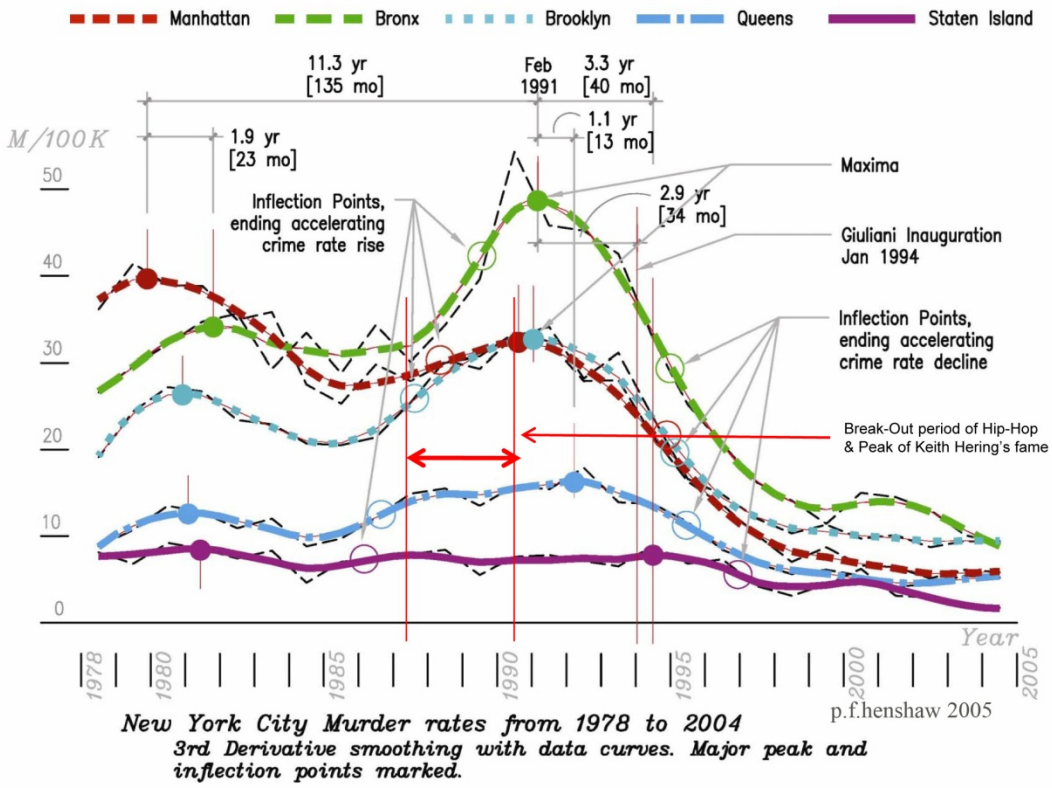
DOWN GOES UP - II

c

1. Warm smoke left alone sitting on the bottom of a closed plexi-glass box piles up on one side and begins to convect within the box.

2. If allowed to drain out of the box it spreads on a table in a quiet room like syrup, and may emanate spiraling wisps if convection unexpectedly.

Autonomous social and economic system behaviors

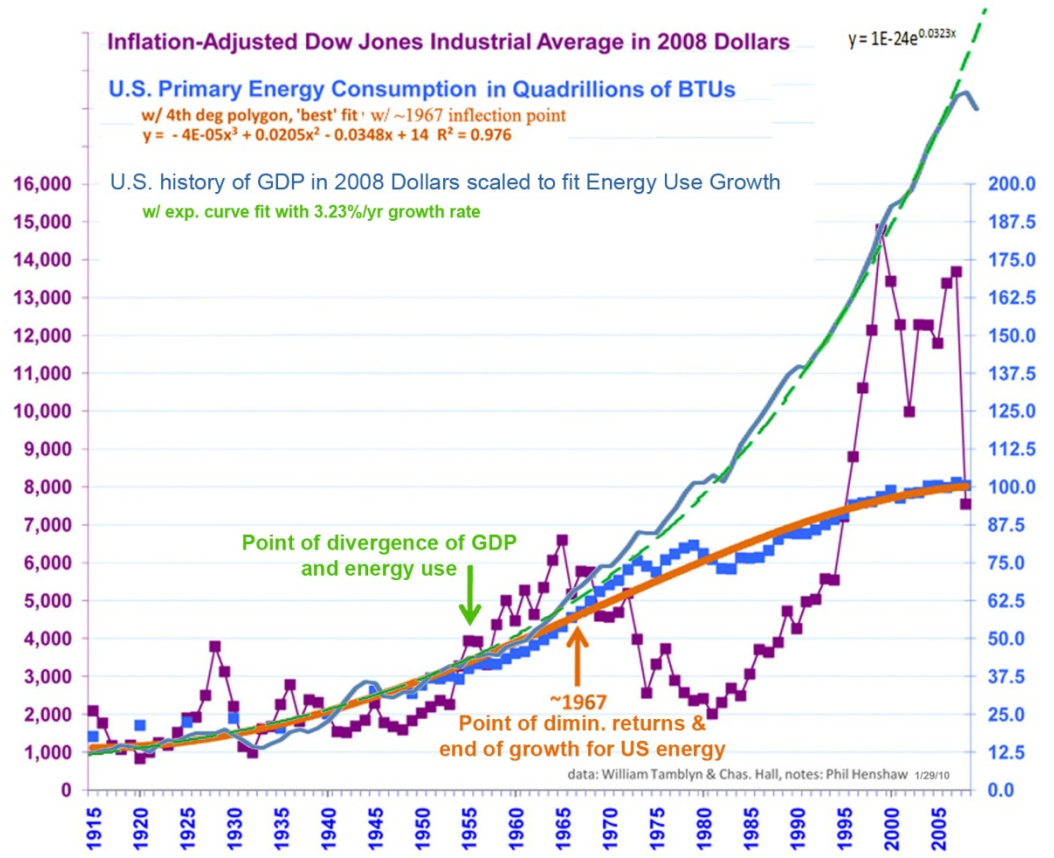


New York City Murder rates from 1978 to 2004
3rd Derivative smoothing with data curves. Major peak and inflection points marked.

d

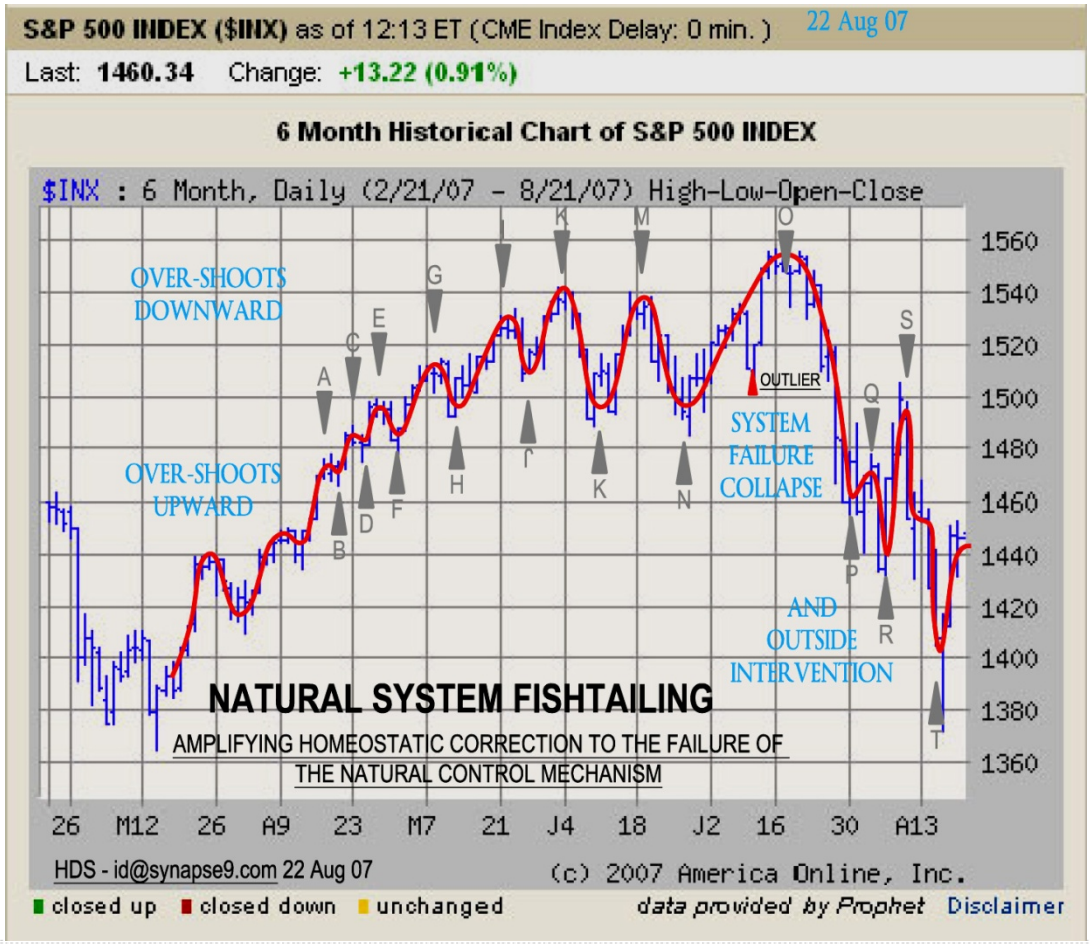
1990 collapse of the 40 year NYC crime wave, 3 years before the mayor that took credit for it was elected, still "unsolved"

Economic behaviors that are not supposed to be able to happen



e

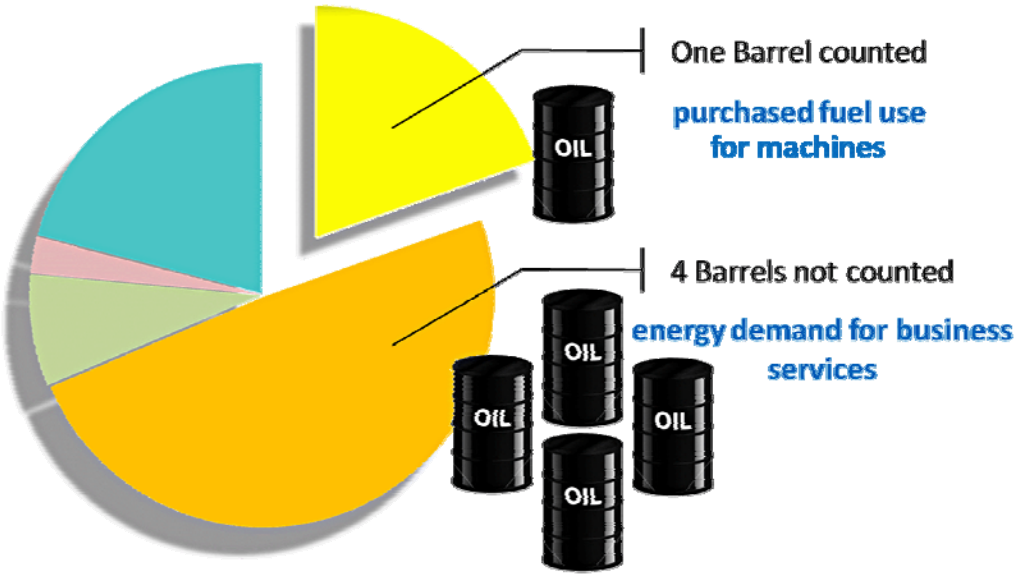
Wild historic variation in US stock market neither leading nor following either US GDP or US energy use.



f

Systemic fishtailing (over-steering and over-correction) in the stabilizing mechanisms of the stock market (Mar-Aug 2007) foreshadowing the 2008 collapse

Information NOT supposed to be hidden from "The Experts"



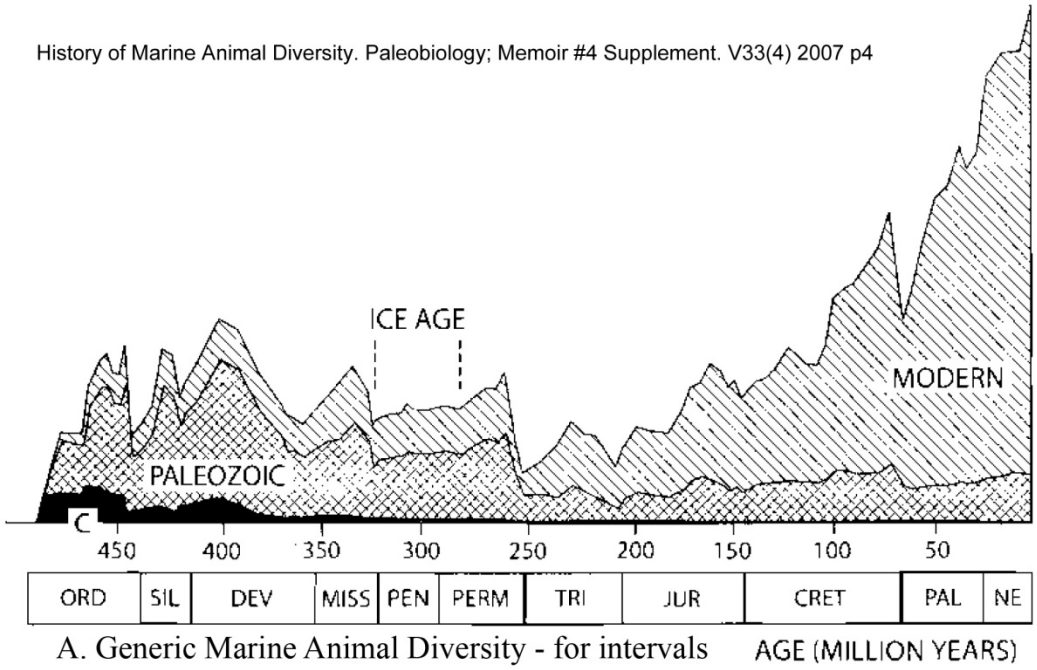
g

Evidence of large scales of hidden energy uses required to support business operations not being counted as an environmental cost and risk exposure for business

From: Systems Energy Assessment (SEA) for special issue in Sustainability (MDPI)
archive arXiv:1104.3570v1http://www.synapse9.com/SEA/

How businesses work by pairing inanimate technology with support and operating services from animate humans, causes the world energy accounting community to overlook ~80% of the energy a business uses as a whole environmental system, and misleading the sustainability community on the business exposure to resource depletion risks.

Biological evolution showing systemic behavior with internal driven dynamics



h

The development of ocean bio-diversity