JLH Google page rank citations June 2 2015

JLH content from 28 Google ranked pages for the following search string, skipping profile links and things "Jessie Henshaw" OR "Jessie Lydia Henshaw" OR "PF Henshaw" systems OR design OR science OR pattern"

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1. Jessie Lydia Henshaw commented on a video on YouTube. Shared publicly - Apr 21, 2015

Banned TED Talk: The Science Delusion - Rupert Sheldrake at TEDx Whitechapel

Hmm... sounds like a list of dogmas..., to describe the faulty worldviews of science as composed of dogmas... They're cultures, much more complex than dogmas, and yes, all cultures like all people tend to see themselves at the center of the universe, a matter of the natural bias toward conscious beings believing their information.

2. RNS - Object Oriented Science, An Emerging Method?

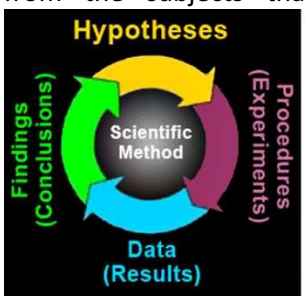
traditional scientific method doesn't fit our new information world very well, with the rapid emergence of so many new forms of knowledge communities, computational science and commerce, seeming to take over. They are also being built on a foundation of science with major problems unsolved, like an understanding of how complex systems emerge and become unstable. The Edge asked What Scientific Idea Is Ready For Retirement?, and got 174 responses, one of which was Melanie Swan's answer: "The Scientific Method". She points persuasively to the differences between the emerging computational approaches to knowledge and the traditional practices of science, and hopes a "multiplicity of future science methods can pull us into a new era of enlightenment just as surely as the traditional scientific method pulled us into modernity."

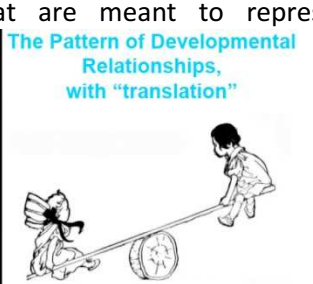
There's a flaw in that, though I generally agree with the hope. Science is still unable to study nature except in abstraction, representing nature as a theory of deterministic calculations. It's been unable to use them to study 1) our own or nature's great creativity, or 2) any individual thing or event, in its own natural form. It matters because our old habits of multiplying new forms until they caused trouble is now the foundation on which we're adding an uncontrolled "Cambrian explosion" of new forms of computational (and often disruptive) knowledge. We also appear to be trusting the future of civilization to them, even as the radiation of old forms further depletes and disrupts the natural world. It's seems we're "missing something".

So, my counter proposal is to open the eyes of science to the study individual natural systems as subjects, not just as abstractions, but to learn directly from them, to create an "object oriented science". My years of work on that, creating a form of physics for studying individual natural systems, works by raising particularly good questions. For example, all natural systems that develop from a common origin as individuals are found to face a common pattern of life challenges, in part:

"getting started", "building internal relationships", "establishing external relationships", "fitting in"

There are reasons to worry when the foundation for a radiation of new sciences is an "old science" for radiating new forms that make us quite unable to "fit in" on the earth. It makes it likely that the new forms of knowledge instead of correcting that, actually contain the same flaw as the old one. I think a very big part of that comes from science relying on representing nature with equations, that have radically different properties from the subjects that are meant to represent.





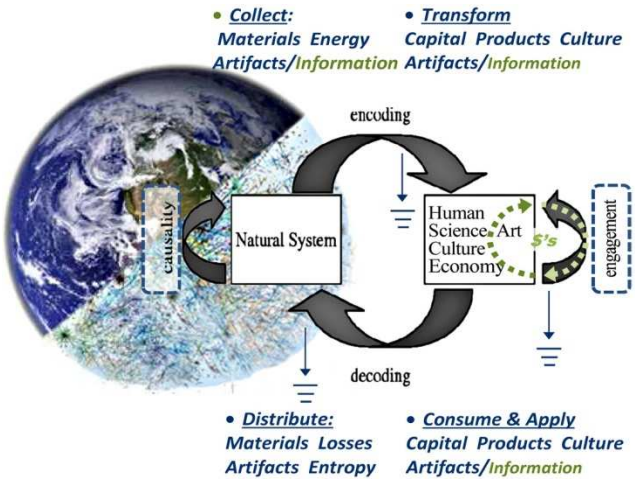
The Scientific Method can be expanded to include a General Study of Patterns of Natural Design. Imagine learning cycles like these with energy added to each step ever faster, by %'s. Cont....

3. RSN - What's here....

I've changed direction a bit, another chapter, a new major engagement. As my early 2015 posts discuss I've found what seems like a wonderful new opening for my work, translating it to fit the working methods for

communicating complex design problems and solutions developed by Christopher Alexander. His 'pattern language' serves as a deep method for applying the ancient principles of holistic architectural design to any other field of human design, first showing its full power in how it is being used by the programming community.

For programming it results in what is called "object oriented design", using PL to define programming "objects", both an inclusive intent and inclusive definition of relationships. For me it leads to "object oriented science", as a framework for discussing the scientifically observed patterns of design in nature that work as wholes. The introduction to my earlier focus on a physics based learning method for identifying individually organized natural systems still applies. At the very end of my first major paper on pattern language, for the PURPLSOC meeting in Krems this July (3pg abstract), I included the following figure, a kind of bridge between the two approaches, "natural design patterns" and "natural systems".

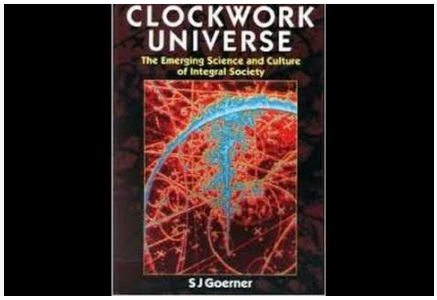


4. Google Scholar citations link

5. Jessie Lydia Henshaw commented on a video on YouTube

Sally Goerner A Clockwork Universe Nov 22, 2014

"Modeling systems" theoretically, and "Observing systems" empirically, are two ways to identify order in nature. *If*... we can connect them ((our **conceptual orders** and nature's **organizational units**)) you have something to really work with , and they're both many degrees more useful than before. Identifying the system roles that produce growth, for example, gives you a clear map for "what to do" and a way of connecting to "what's doing"..



6. Complex Systems - Encyclopedia of Earth entry

Brief history - As Science has begun to ask where the enduring features of nature come from and how they work, the answer seems to be "complex systems". Every kind of thing and event seems to require them. As the science has advanced, and as the modern problems of economies and environmental conflicts emerge, a new kind of science is emerging that requires being very openly exploratory, using all the tools and combining all the related perspectives of others, to develop complex knowledge systems matching the variety of the complex system problems they respond to.

Systems are storms or "like storms" in many respects, complex distributed phenomena that may be either unexpectedly eventful or highly predictable. There's still a rather wide range of opinion within science as to what complex systems are, even whether they are made of information or something physical that is beyond information, and how best to explain or investigate them. One reason for the range of opinion is that different branches of science developed systems thinking taking different paths, developing what seem to be three main and several minor branches. Like different "wise men" describing different parts of the same elephant they all tend to use conflicting 'paradigms' of explanation. Cont...

7. JLH - Commons Abundance Network

fyi – I added some helpful notes to Helene's posting of my very old "Unhidden Pattern of Events" paper, that does still seem to hold up well for drawing attention to a strangely neglected but obvious set of patterns of natural change. Natural systems with distributed internal organization can be identified and studied by how they develop and...[Read more]

8. JLH recorded at the UN

Published on Dec 10, 2013 Jessie Henshaw from Natural Systems Design Science at the 5th session of the Open Working Group on Sustainable Development Goals.
Cont…

9. JLH YouTube Channel

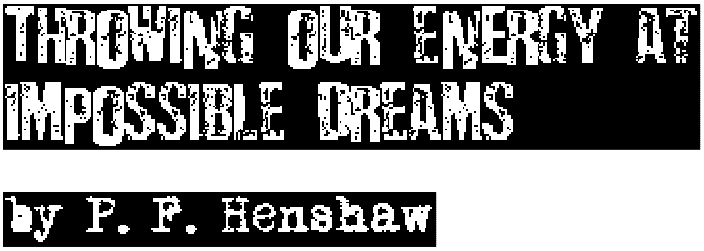
The science of observing how systems behave on their own, can be eye opening

Jessie Lydia Henshaw comment on CAN

OK, but the "pattern" of creative construction in nature is finding new ways to build on the "matching of opposites", i.e. joining things that "fit together". You see it in "hind sight" looking at any collaborative design, like how "cup" and "water" are complementary opposites, male and female, wall and door, wheel and axel, etc. etc. Things that 'fit' together they have symmetrically opposite shapes (or cycles or behaviors… etc). The generative "pattern" is the two part "search for complementary connections" + "then finding that productivity recreating the conditions in which it was discovered". That sketches out the basic reproduction cycle for building a new form of organization, with both the innovation and environmental response sides of it taking place *without* rules for where it's going, or what to look for until it has already systematized.

What an observer will very commonly notice as evidence of it happening, like when a community is discovering a new way of building on complementary connections, is the evidence of "something taking off", as evidenced by a pattern of increasing scale or activity, following a sequence of regularly accumulating proportional changes (growth pattern ¸¸.·´). So "growth patter" is a pattern you can use to draw your attention to "some innovative design process happening". It's not just a circumstantial "stumbling across" a complementary fit of one thing to another. That would not build. It's the feedback of *also* having the productivity of that complementary fit result in creating the conditions that make the likelihood of it being rediscovered more likely. Then that complementary fit occurs again and again with increasing regularity.

Alexander's patterns of evolving public space rely on the form of the spaces co-evolving with the public culture of the people using them. So accumulative changes in the form of a plaza and the ways the culture uses it, reinforce each other to create new forms of public habitation. Cont…



10. PFH Article Throwing our Energy at Impossible Dreams, Unlikely Stories 2009

Signs of cognition, maybe? In the haystack of contentious arguments on climate change at Copenhagen it seemed only the occasional unofficial commentary pointed to the real solvable source of our monumental collision with the limits of the earth. Somehow in the process of growing ever bigger, mankind got "big", and continuing to grow still bigger is optional. Yes, it sort of "happened naturally", and is also natural for us to be a bit confused about the whole turn of events it precipitates. It is still also definitely our own choice to be doing it too, and our cultures are simply not paying much attention to the looming problems of many kinds it creates.

It may be easy to question the morality of how the Chinese chose to limit their population growth by limiting personal freedoms, but they did notice and face their mortal challenge. You really can't argue with the fact that the western cultures and media are just ignoring that same profound moral dilemma, that multiplying affluence naturally lets people multiply people and impacts on the earth. Instead what we have is a world desperately trying to mitigate climate change with an unqualified commitment to of sustaining the continual growth of affluence forever. Cont…

11. We are now one year away from global riots, complex … comment on Kurzwell

II. September 12, 2012 by Jessie Henshaw

I DO, btw, agree with the title statement, that “We are now one year away from global riots, complex systems theorists say”

It's equally important to realize that. we are now also 33 years from the first valid complex system theory prediction of just such phenomena as the natural limit to economic growth, if driven to its physical limits.

That valid prediction gave me a huge boost in charting a productive path of research into the related misunderstandings, letting us take such a suicidal path, and for finding the real solutions.

http://www.synapse9.com/pub/UnhidPatt-theInfiniteSoc.pdf
http://www.kurzweilai.net/we-are-now-one-year-away-from-global-riots-complex-systems-theorists-say/comment-page-1#comment-32349

I. September 12, 2012 by Jessie Henshaw

The sad thing is that this and other communities aren't reading the signals, of both how this is a natural complex systems phenomenon of growth beyond comfortable limits, and has one and only one systemic solution.

One of my better overviews of the problem starts with the "signal" that world business suddenly decided to hire mobs of "sustainability advisers". It was to help them respond to the growing evidence of looming financial liabilities for creating growth ecological and resource conflicts.
http://www.synapse9.com/pub/ASustInvestMoment-PH.pdf

My first paper on it is a little rough, three decades before, is still "right on the money" that growth creates ever more unmanageable changes and unresponsive efforts to deal with them.
http://www.synapse9.com/pub/UnhidPatt-theInfiniteSoc.pdf

I've written extensively, awaiting others to realize that studying how nature resolves these same dilemmas, on my blog and archived in extensive basic research in open systems physics on my site: http://synapse9.com and http://synapse9.com/signals

What's needed to change the course of events is a conceptually simple whole system transformation, best characterized by how an endowment fund or a small family business manages their money. In the working procedures of finance it's a change in the purpose of finance, from focusing inward on itself (on its own self-inflation) to focusing outward on others (on serving human needs). That's the way to end growth without collapsing the system into fragmented disorder.

The familiar local models of successful financial management would need to be applied globally. That is the models provided by "endowment funds" as well as small businesses that stop growing by using their profits for other things. Endowment funds are designed to serve the true purposes of the investors as individuals, as are the profits of a small business once it has grown to the point it can serve family needs. The wealth is created from using seed money accumulated by an investment strategy of self-inflation. Turning the use of the profits outward, to serve greater purposes and needs, is what both ends growth and heals the environment.

That would become the source of funds needed for re-localization, if it were to be successful, but would need to be spread globally as a shift in consciousness, to actually work. That's how nature does it, which you can confirm by studying any growth system that survives its own growth period.

Collapsing into fragmented disorder is another kind of "re-localization", but rather undesirable, of course.
http://www.synapse9.com/signals/2012/07/07/astoundingly-expensive-arts-and-crafts/
http://www.synapse9.com/signals/2012/06/09/what-sustainability-degrowth-tend-to-skip/
http://www.synapse9.com/signals/2012/06/07/the-news-of-the-commons/

12. JLH on Outsiders by Design: Freakonomics Podcast

SEPTEMBER 23, 2014 AT 8:58 AM

It's a good insight, that throughout history popular societal beliefs have had to be overthrown as if they were like "mad science"… Belief in the inequality of races, genders, faiths, lifestyles… are overthrown again and again that way. So, YES, then quite often "first they ignore you, then they oppose you, then you win" (Ghandi).

There is a great exception to that rule.

When the mad self-deception is in the interests of those concentrating wealth, you lose. The evidence is that whole civilizations have collapsed, led to their doom by the pursuit of multiplying wealth. The best recorded example is Rome, but it appears to apply to all the other complex technological societies that have brought about their own demise too.

Technological societies that "grow like fury" are driven by social forces that are ignorant of the limits of doing that. They're a clear sign of the presence of powerful investors, driven to multiplying their power with multiplying investments. The "public" and the "pundits" in our day clearly just get swept up in the faith that it

creates ever expanding wealth too, just because they are unable to understand how that works. It ends up burying rich and poor in the refuse of the collapse that naturally follows from rampant over-building of things the society ultimately builds beyond their to take care of.

So, when the “mad science” of society is that of ignoring the “good science” of how a society can comfortably accept natural limits,… the opposite rule tends to apply. Then the rule is most often “First they ignore you, then you are silenced forever”. It does seem to have happened historically again and again…. It’s very clearly happening right now, decade after decade with the good science being tossed out instead of foolish limitless greed, again and again, big time.

To keep the earth profitable (job #1 for any energy using system!!) we need an honest way to measure the real costs of expanding development. There’s a quite practical one being actively suppressed today, by the institutional managers of “sustainability accounting” (in turn being managed by big money of course) : A World SDG.
http://synapse9.com/signals/2014/02/03/a-world-sdg/

13. Jessie Lydia Henshaw - Google Scholar Citations

14. Steady state economy - Wikipedia

15. A New Economic Paradigm: The Next Big Challenge

From www.stakeholderforum.org - June 3, 2012 3:00 PM

For sustainable development, the next big private stakeholder challenge is one everyone has seen coming, but we have not yet had the courage to face. At present, sustainable development is maturing as an idea and practice within a world economy that uses its resources to continually escalate its demands on the planet. At present, sustainable development helps sustain this scenario. We need the economy to become self-regulating as a whole, not just to grow some self-regulating parts. A natural model for solution would be for those that care about sustainable development to choose not to do business with those that grow their enterprises like cancers and choose to endlessly use profits to multiply investments as they continue to harm society and the Earth.

16. The Leonard Lopate Show: Design in Nature - WNYC

WNYC Feb 2, 2012

Jessie Henshaw from way uptown

Oh, It's actually not correct that no one has been able to justify Einstein and QM.

I's only counter intuitive how you need to make them consistent, and I worked that out some time ago, just have no one interested in the proof. It also helps make the seeming conflicts with Bejan's Constructal Law work out too, and nothing is damaged but our egos!! ;-)

What unifies the disparate "laws" like relativity, QM and Bejan's flow geometries, that indeed can't be derived from each other, is that they are each man made statistical descriptions of how other (unnamed and undescribed) natural mechanisms. It just makes science "descriptive" and dependent kinds of processes we have no information about, rather than "deterministic". That upsets nothing at all, EXCEPT the assumed completeness of scientific law.

That the underlying mechanisms of nature that work within the statistical bounds of "scientific law", also tells you where to look for them. So, to explore them, as I do, the laws of science can be thought of as boundaries to look **within** for evidence** of instrumental processes as yet unstudied. Because that was a "whole new question" as I began, a lot of things turned out to be easy to find.

17. IntenseDebate - Jessie Henshaw

intensedebate.com/people/synapse9 JLH comment stream ...

That's still part of the**pattern** of people with violent rages acting them out in public more often, with ...

18. The Central Contradiction of Capitalism that Piketty Overlooked

… Sally Goerner writes beautifully about how systems need to find new ways to grow through ... using self-organization theory and classic names in energy network science like .... Proportional increases in quantitative scale, kept affordable by

decreases in qualitative design, would be the other way

John, I think you're right that Piketty misses a great opportunity to tie the "r > g" idea to the "limits to growth". With a careful look at history what I find is that there are several quite important choice points along the path from the initial hope it won't work out that way... to the inevitable distressing end he and you and everyone else describes, and sees, and regrets. It's what seduces us into so foolishly believing we can maintain "g > r", despite the very clear and hard evidence of that failing all the time... that sometimes it doesn't.

The real "central contradiction of capitalism" then, is that it promises "g > r", and then we inevitably find it is only **temporary**. When you carefully study the steps of that "SNAFU", you find other interesting questions. There's no doubt whatsoever that there ARE simply wonderful growth opportunities. It is also absolute fact that everything we like actually begins with one. Growth is actually nature's universal start-up process, used to initially build every life, including the lives of every business, and the lives of every society. Nature begins building things with growth. She's then also happy to destroy them with more of the same, those lives that began with healthy growth that make the fateful choice of continuing to devote their resources to driving their internal and external strains to the breaking point, trying to make G > R perpetual. It can't be. So it's not important to try. It's stupid to try.

So the secret to the puzzle seems to be: **Once you've taken growth from "G > R" to spoiling its promise in its "R > G" you've missed the real opportunity it presented**

19. In SCIENCE – On Gray's theory of the origin of the Indo-European Languages

Jessie Henshaw Submitted on Thu, 09/25/2014 - 20:38

I think it's wonderful to have clearly differing independent perspectives, as it seems Gray's evolutionary view and the current best Archeological view offer on the origin of Indo-European languages. I think if you assume both are parts of a puzzle it helps suggest missing pieces and ways of testing them. They seem to have different "resolution" for different scales, for example, sort of offering top down and bottom up views. Gray's evolutionary view is of the commonalities of the language communities as wholes. The archeological view traces histories of innovations and adoptions. It happens I informally proposed an idea for solving the puzzle to Collin Renfrew recently, that seems to somewhat fit with both views. That's that the many connections between the Indio-European languages might have developed just as language connections develop today, i.e. along with economic and cultural innovation and growth. Economic innovations are often discovered one place to then become part of waves of economic and cultural development elsewhere. So the Indo-European languages might be tied together by cultures sometimes adopting another's innovations, enabling them to prosper, while bringing new culture and language too. Archeology finds evidence that the wheel was invented by the northern steppe peoples. They had long winters when their horses could pull heavy loads with low friction, perhaps prompting them to imagine a low friction way to pull loads in the summer too. The big economic impact of the wheel clearly first came with the great economic and societal development of societies of the middle east, so statistically their words for using the wheel would be greater than its inventor's. The south was where the communities of great builders of the time already were, with economies ready to take off with a new transportation technology like the wheel. As today, new technologies would have producing new wealth and prompted social, cultural and language development too. A network of loosely connected indigenous societies might have found their own times and ways of building on the examples of others, moving up their ladder as well as stumbling too, with the Anatolian and Minoan-Mycenaean cultures seeming to be the earliest fully formed examples of productive societies.

20. JLH on RealClimate: Climate science from climate scientists…

Jessie Henshaw: April 10th, 2015 at 9:05 PM

http://www.realclimate.org/index.php/archives/2015/04/unforced-variations-april-2015/comment-page-2/

The problem with people not accepting scientific information on climate change isn't necessarily "denial". It **could be** assuming that societies and their economies make decisions using the same information as scientific equations use.

I published a paper basically proving the point four years ago, "Systems Energy Assessment", showing that our usual method of reporting climate impacts tells

businesses nothing at all about the profitability to society of their business and investment decisions. The fact that in four years I've also been unable to get scientists to take an interest in that can be discounted lots of ways, but it's a fact still, that I can't find scientists interested in giving economic decision maker the kind of information they'd need to make decisions in our common self-interests.

Of course there's natural institutional resistance to changing habits of thinking, but it certainly proves that scientists actually don't quite understand what make economies tick, and what kind of signaling the economy responds to for changing directions. It's absolutely critical that we give the public, investors, business, government, and scientists themselves too of course, some high quality profit and loss information on which to base the decisions we have to make.

The link isn't to that paper, but to the proposal based on the same science, that I made to the UN's Open Working Group on sustainable development goals last year. It proposes a simple way to aggregate all the best available information on measurable costs to our future, liabilities of future societies for what business is doing today, and attribute the most likely individual shares of the totals that individual businesses are responsible for. Those shares of global impacts could be presented as business ESG balance sheets, side by side with business financial balance sheets, to put the whole picture in front of decision makers for everyone to see.

Decision making wouldn't turn over night. If actually done with the best current scientific and economic assessments, as an understanding of our rapidly mounting global profit and loss problem, decision making and markets would at least have the information on what is in our best interests, and their fiduciary duties would make them obligated to use it. Once you have that honest and complete profit and loss information then people at least would see what they need to make decisions about.

Granted, that information may not match what scientists need in their equations, but it's what economies need to steer a course toward optimal profitability in the future.

21. UN WWW Growth and employment under globalization: Involving the ...

https://www.worldwewant2015.org/node/338227

Apr 14, 2013 - ... involving the private sector into policy design and implementation, one of the key ... Jessie Lydia Henshaw Systems scientist, studying the "physics of ... That agrees with the physical science that resources are finite and says ...

It's unfortunate that economists have not yet agreed on a good general way to represent how money is physically connected to the impacts that making and using money clearly causes. I found a curiously simple direct way to do it, though, by tracing where the money goes when we use money to request others do physical things to deliver us goods and services. It boils down to a remarkably simple rule, that because of how every business uses lots of people, who consume stuff from all over, every dollar effectively uses the entire world economy, and in probably near equal proportion. So in assessing impacts of any individual money choice, you have to first assume that each dollar would have an average impact on the earth through its instrumental uses. http://synapse9.com/SEA

Skipping several steps, to a fairly evident conclusion, it means we can use money as a measure of the economy as a physical system, and the parallel global trends of escalating resource prices as direct symptoms of the economy's growing demands for resources. That growing demands now result in growing prices, unlike before, breaks the rule that better resources are found when old ones run out. That agrees with the physical science that resources are finite and says the "raising all boats" feature of growth that relied on expanding resource use is broken too.

The causes of those unprecedented globally rising resource costs are the increasing resource demands about equally shared per dollar for increases in end user spending. How the "different boats now raise differently" is also by simple supply and demand. The direct result is swelling inequity, as the growing demands at higher prices of the rich and new technology sectors displace the necessarily shrinking demands of the poor and the old technology sectors...

So, "growth" really isn't the solution but the problem, there, and that the economy also doesn't work financially without growth now that it doesn't work physically with it...

One can strip away more and more layers of confusion surrounding the visions of why money should allow us endless growth, caused by neglecting that every dollar really uses the whole economy. It does take time and a genuine interest in going through it. The simple need to do so for our survival is too abstract to be a sustainable motivation... ;-)

22. On: Lynn Margulis, 1938-2011 | Azimuth

Nov 24, 2011 - Physics may be defined as 'the study of natural systems that can be accurately modeled by beautiful mathematics'. .... The only way behavior changes in science is that certain people die and differently .... P.F. Henshaw says:

27 November, 2011 at 8:08 pm

Maybe what Lovelock might have said to give more meaning to his concept is that each living system emerges as an individual whole, and develops within it local "laws of nature" for its parts that change as the whole system evolves over time. That applies to the earth ecology, considered as "Gaia", an organism of the whole of life, and also applies to each nested whole system that grows as an individual within it.

Living systems are not the measurements of observers nor the relations between measures that observers find useful for them selves. Instead they are identified by observers as self-defining, by recognizing them as self-contained units of organization that interact with their environment, such as the living unit of organization observed as a storm, a population, a spark, a culture, etc.

23. PFH on Salk on World Population and Human Values « Unurthed

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December 17th, 2011 at 7:49 am

There's a general case for growth development systems in nature I've given careful study to, and would be helpful to think of. Growth systems in nature are all economies of one sort or another, opportunistic processes of building on environmental interaction, generally with distributed exchanges between active parts.

The general pattern of successful ones is divergence followed by convergence, an "S" curve. They start with a seed of organization using a "fossil" energy source, and a period of compound growth. That is followed by a response to organizational limits triggering stabilization, to realign internal and external relationships.

http://synapse9.com/issues/NatDevl6.jpg
http://synapse9.com/signals
http://en.wikipedia.org/wiki/Self-organization#History_of_the_idea

The key factor in the transition from growth to stability (which human complex societies have often failed to make it seems) is to only start by using its profits to multiply the scale of the system. Lasting economic systems achieve that by completing their designs to integrate with their environments. To nature that's the most obvious choice, but to people it's still almost completely unthinkable.

24.: Context-Based Sustainability (metrics for the commons ?)

blog.p2pfoundation.net/p2p-trendfest-8-context-based...for.../01

Aug 1, 2014 - Call for Papers on Citizen Science · [Re]Build: A Call for Contributors ...diversity and localism of resources, people and social systems, and therefore ... Jessie Henshaw Says: ... Powered by WordPress | Design by Lifesized.

deeper engagement with the corporate community,

August 2nd, 2014 at 1:41 am

Mike, I solidly agree with the desire for "real value" "commons metrics" metrics that people can understand. I've been working on that for years. It comes down to pushing the mind up a little "learning curve". What people actually understand is money, and that's what business decisions are based on too, we just don't understand what money really does in the world around us.

It turns out to be unexpectedly easy to measure, if done the right way. The problem has been the aversion people have to learning how to use money as a unit of measure for their share of the economy's ESG impacts. That's what I've shown how to do with the "World SDG" metrics, that I presented for consideration to the UN's

OWG and NGO groups working on Post 2015 development goals.

What's elementally sound environmental economics, and easily understood once you "get it", is that on average (and that is of critical importance to include) the share of world impacts of any use of money is proportional to it's share of GDP. Or say more simply, your share of "the impacts of the system" is equal, *on average*, to your share "of the system". That's elementary school arithmetic that turns our to be remarkably sound science too, in… average… circumstances. Yes it takes a little further study to tell what the exceptions might be, but the simple answer is that… on average… there are *NO* exceptions.

The upshot is that the "average impacts" of how any business uses money to make money tend to be MUCH larger than the "traceable impacts", by a factor of 2 to 10 or more. That's because relying on tracing individual impacts leaves such a large fraction unaccounted for. Whether intended or not, businesses standardized around the accounting methods that count fewer impacts, taking responsibility only for the impacts directly traceable to their operations. Someone would need to WANT to discover how to "follow the money" to understand the true larger scale of outsourced impacts their operations directly request and pay for, obtaining the services they need to operate.

The end result is that measuring shares of the impacts according to shares of the money greatly improves the real accuracy of the measures, the materiality of the data for decision making, and at the same time greatly simplifies the math needed in all but special situations. That's the benefit of learning to understand what "average" means for "where the money goes".

The basic science behind "Systems Energy Assessment"(SEA) and links

– http://synapse9.com/SEA

An business balance sheet internalizing all measurable externalities with their economic costs to the future – http://synapse9.com/signals/2014/02/03/a-world-sdg/

1. Noetic Now Journal | Institute of Noetic Sciences

noetic.org/.../staying-resilient-in-a-wild-card-... Oliver Markley **Institute of Noetic Sciences**

> *In the view of many, it was "junk science," which limited what was a growing ... well-being of social and ecological systems is generally accepted – although it is ...*

Oliver,
As you've been doing, it's critically important to help people understand the "The Bubble Economy" as a dynamic process and threat to the whole commons. I've been drawn to studying its curious features for decades, and inspired by finding in his less publicized work, that JM Keynes also had a very particular interest in it (yes, in fact), and in the "oddly overlooked" necessity he identified that money must also be responsive to natural limits, as much as anything else.

Otherwise, at natural limits the normal circular "earn-spend" (productive) economy is ever more burdened by the spiral "lend-lend" (extractive) economy, traditionally and still managed to drain credit from all productive activity for stimulating more, but as now, facing natural limits and with ratcheting demands pushing the interests of all into conflict... is having the complete opposite effect.

I have my work from that view in the RioDialogues process, and have support for it from Helene Finidori in her "commons based economics" proposal, including the technical means necessary for making investment funds responsive to natural limits and the needs of "the commons", ...converting investment funds into endowments for the earth. see

- http://www.synapse9.com/signals/2012/06/02/the-next-big-challenge-a-biomimicry-for-a-self-regulating-commons/

For a couple days ..till Thursday 6/14.. there's ***an opportunity to vote for it*** ,

So please go to the Topic & Item (below) and vote for "...commons-based economic models" at <http://vote.riodialogues.org/?l=en> (rather than development) as the world's greatest need (and pass it on if you can).

(the website rotates in the topic & item listings)
Topic = Sustainable Development as an Answer to the Economic and Financial Crises
Item = New institutions should be created to steward

and manage the global commons and adopt commons-based economic models.

25. Battling Bad Science - On The Media

www.onthemedia.org/story/304583-battling-bad-science/ Jul. 05 2013 09:00 PM

Jessie Henshaw from Way Uptown

It's great that you're giving us a look into these kinds of systematic blind spots in science. We have them in the knowledge we trust frequently, and our trusteed cultural beliefs. We keep these kinds of deep misunderstandings for long periods sometimes. Evidence of broad cultural misunderstanding couldn't be more clear than in we are still so devoted to an economic model of the earth as *always being infinite*, and our prosperity requiring consumption of it growing ever faster.

One fascinating related evidence of simply "bad science" I've studied concerns how the world standard metrics for environmental impacts are designed. They actually record "impacts" by *where they occur*, rather than by *who uses and pays for them*! That's like a person "watching their diet" and only counting the food they eat at home, and counting the food they eat at restaurants as on the restaurant's diet!!

It might seem amazing, but that error has literally become lodged within the core principles of sustainability,... serving to totally confuse any theory of accountability for our impacts on the earth you might come up with! http://synapse9.com/SEA

26. GrowthBusters: Hooked on Growth» Blog » Exponential ...

www.growthbusters.org/2012/04/exponential-growth/

> *Apr 12, 2012 - Jessie Henshaw says: ... Successful growth systems are not externally controlled, but internally "inspired", is what the empirical evidence quite ...*

There's only one stranger reality, to me, than our world economy being designed by a high paid world network of highly educated professionals, to require consuming ever increasing quantities of natural resources the more we consume, forever.

That's that the people who notice that as a problem, seem equally stubborn about not looking at how nature usually solves the very same growth problem. Nature creates and solves the exact same problem of starting new systems with an explosion of consumption, for EVERY sustainable system she builds. Culturally, the no-growth community seems as stuck dwelling on things like the prohibitive cost increases for depleting resources such as we're now beginning to see, as the endless growth community is on ignoring them.

I wish I really knew what is up with that. I've studied what nature seems to do to bring her growth explosions to a stable climax in some depth. I approach it as a necessary task to accomplish for producing vitally healthy and stable natural economies, like organisms, storms, currents, cultures and technologies, etc. What begins as explosions of consumption like "little cancers" then produce structures more like "endowment funds". The start-up behavior, that would threaten the growth system's host as well as itself, is turned into a practical method of internally sharing resources. It both serves to limit the growth and assures the maturing new system will climax at a peak of vitality (rather than exhaustion).

I've tried describing it dozens of times, so if you look around my site you'll find several variations. One new that seems good started as a blog comment like this, and turned into a short essay: "Cancers or Endowments" http://www.synapse9.com/signals/2012/04/12/cancers-or-endowments/

Dave Gardner says: April 14, 2012 at 3:20 pm

Jessie, thanks for your thoughts. Sure, nature will take care of it, but that is not always elegant or kind. So forgive me for encouraging humankind to strive for a more compassionate and less destructive path.

Jessie Henshaw says: April 15, 2012 at 6:44 am

Oh, no… I'm not talking about "nature will take care of it". I'm talking about how we can learn to do it ourselves by studying nature's most beautiful ways letting things "take care of it" themselves.

Successful growth systems are not externally controlled, but internally "inspired", is what the empirical evidence quite clearly indicates, from numerous directions. Once you learn how to recognize them as self-organizing wholes, (that start with bursts of internal development in open environments), there are very many good examples people are all familiar enough with to be able to learn from themselves.

27. IPCC, Ethics, and Climate Change: Will IPCC's Latest ...

http://blogs.law.widener.edu/climate/2014/05/02/ipcc-ethics-and-climate-change-will-ipccs-latest-report-transform-how-national-climate-change-policies-are-jusified/

> *May 2, 2014 - ... to those most vulnerable to climate change are not mere inconveniences but are often existential threats to life and the ecological systems on ...*

Don, Your May 2 post is great, pointing to the IPCC conclusions:

> *"These warnings have included that the world is running out of time to prevent dangerous climate change and that rapid and unprecedented cooperation among countries is urgently needed to avoid climate catastrophe. "*

Scientists have also been correctly saying that for 30 years or more, though… What people wishing to respond have NOT been doing is getting to the bottom of why the whole professional world does not respond.

A useful (related) case in point is the philosophy of "decoupling", on which the OECD, UNEP and World Bank, etc, have firmly agreed is to condition the discussion of the UN's goals for "sustainable development". The direct meaning of it is:

what will lower our resource consumption… is to continue ever faster growing consumption…

To reach that conclusion, you need is to confuse "rates of growth" with "amounts of growth"(as my study of it shows). You might expect that from economists, but I think the problem is wider… To clear it up we will still need to use "the words of science". We will then also need to connect them to "the methods". Science depends entirely on **getting your units to match**.

– Decoupling Puzzle – partial answer
http://synapse9.com/signals/2014/04/20/decoupling-puzzle-partial-answer
– History of the idea
http://www.synapse9.com/issues/EffDecouple.htm

28. Joi Ito's Near-Perfect Explanation of the Next 100 Years ...

www.technologyreview.com/.../joi-itos-near-pe...

MIT Technology Review

> *May 13, 2012 - One hundred years from now, the role of science and technology ... and interdependent and that everything we design impacts a larger system. .... All systems in nature begin with disruptive expansion, multiplying furiously in some way. ... @Jessie Henshaw*

Dec 22, 2014

The probability of

"One hundred years from now, the role of science and technology will be about

becoming part of nature rather than trying to control it."

seems far higher than most would think, as the secret of nature for switching from one to the other is what we'll learn to mimic, and it's likely to take the world by storm once we start.

All systems in nature begin with disruptive expansion, multiplying furiously in some way. For those that then yield to the overwhelming costs of continuing that, the change is smooth and quick. It's driven by the transition being the new direction of profitability, a change to maximizing compatibility with their environments rather than disruptive expansion. It's certainly worrisome that people are not thinking that way yet, and that our economies are so very addicted to multiplying our environmental disruptions for profit too. The actual costs of delay are expanding very rapidly, though, and the change is a relatively small conceptual step. People could notice that we're using our profits in a way that's unprofitable.