Economies That Can Become Part of Nature

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Perhaps you'd consider looking further for concepts of how human economies might become a healthy part of nature. Nature displays a huge variety of examples, and we might learn to mimic some of features we clearly need and are clearly missing from our economic. Nature "has no brains at all" but is a far better organizer of complex systems than we are, and it's not all done with trial and error.

The WorldWatch article by David Schweickart on "New Capitalism" in the Sept/Oct issue compared some of the more popular models for alternate economic systems, using transformative technology or transformative social orders to maximize economic growth to a limit of the environment. None of them mentioned maturing the design of the economy short of that, or for the economy becoming part of nature, as natural system economies do. Nor do they address how our present practice of using the surpluses of businesses to multiply businesses would end, except by ultimately making expansion unprofitable, perhaps.

Natural systems are nearly all market economies of one sort or another, actually. Our bodies operate as collectively run market organizations of cells, exchanging complementary services that use the blood stream and nerve system networks as pathways of exchange. Well working economies of independent parts don't need to endlessly multiply is part of the point. Certainly biology represents a long history of accumulative experiments, but does also demonstrate systems of independent parts that develop by growth and ultimately work just fine. Families and businesses are also local economies in their own right, organized around their own internal network for exchanging complementary services that operate as wholes in making use of a larger environment. The adaptive parts combine to form whole adaptive systems, organized around their internal networks of exchanges.

The part of how that works which people have such difficulty understanding is how the parts, and the wholes they combine to form, both seem to engage in active learning about their own environments, and become interactive parts of them. Maybe we should learn more about that ourselves. Organisms, families and businesses, all act as wholes of independent parts that collectively explore their environments. They exhibit learning from their environments in terms of 'foraging' and 'dodging' in response to what they find. Maybe our economic system is good at foraging, but missing something about how to stay out of trouble.

One of the fascinating things about natural system economies is that they invariably begin with runaway exponential growth. All the kinds of natural systems that survive their own growth give it up in exchange for maturing, usually toward a peak of vitality at the beginning of their mature lives. A tree seedling gives up its initial exponential growth spurt and begins seasonal growth when it has it's first two little leaves, when there is still much more to accomplish. Growth systems that never do give up growth, like cancer or eruptions of various kinds, reach their peak of activity at a point of exhaustion. some boom and bust systems also survive to reproduce, but there are fewer examples.

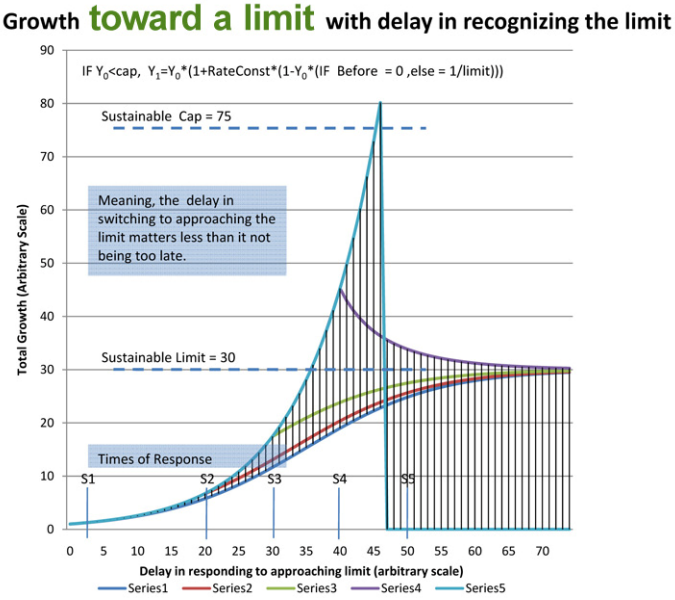
What this shows is that how to create a sustainable economy may not need to be invented, but copied. The successful economies of nature evidently first develop by using a surplus of their one making to multiply their own development, by what is called auto-catalytic exponential growth. Somehow they then switch to completing and maturing their designs instead. In sustainable natural economies, the

maturation of individuals results in their becoming integrated in their environments too. Scientists may often say "there are no systems, just pressures", though it also seems ecologies rarely have dominant unresponsive parts, like cancers, that make them unstable as a whole. Perhaps how nature's networks operate is just invisible to us, the same way when we look inside an organism we don't see what makes it alive.

Curiously these questions for money systems were addressed quite a while ago by JM Keynes, Kenneth Boulding, and perhaps added to a little by myself. Most people who speak authoritatively on the fate of economies appear to have not read chapter 16 in Keynes' General Theory or Boulding's last chapter in Reinventing Economics, or my various papers on the subject. Perhaps the people who read them were just embarrassed to not quite understand and not inclined to ask others to explain the "dumb questions" raised by it. What they present is a rather simple steering problem, that when you assume that climax will happen you then ask what would need to change for the economy to work.

Growth is very instrumental to the design of the present economies, using money to coordinate the delivery of multiplying physical goods and services. If that ends money would have to stop multiplying too, is the first obvious problem, but that also demonstrates how easy it is to get to the heart for the problem when you ask the right question. Only paraphrasing their descriptions a very little, the economic difficulty is that money can stop growing only two ways. Either, and this is the key, a) money stops growing because conditions are so bad that returns on investments don't materialize, or because b) the healthy returns investments earn are recycled as spending, instead of being used to accumulate more investments until (a) occurs.

I hope that's a simpler way to say it, since clearly no one listened to Keynes and Boulding. Perhaps my contribution is broadening the context of discussion to the wider subject of natural systems, and adding the steering problem of not responding to approaching certainties soon enough.



When presented with an approaching certainty, the main question becomes how to respond in a smooth timely way. Steering problems are like that. If you see a necessity for a change in plans coming you do two things. One is to start thinking about what would need to change and the other is to start looking for when to do it. I like to use the analogy of paddling a canoe, skiing down a mountain, or driving a race car. When you see a turn coming you first mentally prepare a move to make and then

wait for the earliest opportunity to do it smoothly. That both makes it fun and upstage nature's alternate solution for responding to the turn too late, having you capsize, tumble or crash.

The fact that one can sometimes get up again from a whole system crash, doesn't mean some crashes won't be unrecoverable. Not every natural system economy matures gracefully toward the peak of its vitality either. The ones that do give evidence that their learning parts were highly responsive to the approach of limits, though, allowing the whole system to stabilize with an assured freedom from constraint. Organisms that are more like capitalism are ones like Kudzu and just overwhelm consume everything in their path. It could be dangerous. Even trying to push the "safe limits" and exerting the "maximum safe pressure" on nature is probably dangerous. It would also push economies to grow to their point of maximum constraint from nature, and leave all their parts with strictly minimized freedom to change. This is the problem with applying the maximum energy principle to your own life support system. To maintain the freedom of the parts and be part of a living world, the system as a whole needs have "comfortable limits" that leave room for lots of other things we don't presume to control.

One of the most obvious things humans are not in control of is the diminishing quality, and so increasing cost, of our own depleting resources. It would certainly come as we continue doing that, but we may already have slipped into the trap of not having sufficient cheap non-renewable resources left on earth to keep us going while we learn to use more expensive sustainable resources. We need to also take that as a 'steering problem', that threatens disaster if begun too late or incompetently. That makes the initial choice easy, start looking for how and when to do it, not whether. Presently the world consensus is to do it without any pause in growth, or any climax to development in the future ever.

If you take finding how to do it seriously though, you quickly notice that we've become economically dependent on using petroleum to produce food, using food resources to supply fuel for transportation, have shortages of both already and expect to have increasing demand for both continuing indefinitely. Without an escape that's a dead end trap. Continuing to expand the use of high EROI resources till they run out will create too big a system to convert to low EROI resources, especially absent the high EROI resources it is being built to require to function. It assures our continually increasing dependence on a rapidly depleting resource.

The whole picture then, is that we have engrained habits of using our economic surpluses to multiply the scale of our system, but that is now making all our problems worse. The inevitable seems to have arrived all too suddenly, and to change course we desperately need more time and a whole new source of funds, both of which might be available if we followed the path to becoming part of nature.

All the best,

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"dust to dust with a little playful time between"

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