Gaian Economics – Beyond the Fatal Conceit

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> *"There is no ready English or even German word that precisely characterises an extended order, or how its way of functioning contrasts with the rationalists' requirements. The only appropriate word, 'transcendent', has been so misused that I hesitate to use it. In its literal meaning, however, it does concern that which far surpasses the reach of our understanding, wishes and purposes, and our sense perceptions, and that which incorporates and generates knowledge which no individual brain, or single organisation, could possess or invent."*
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> Friedrich von Hayek

Our day-to-day experiences our generally lived within the extended order, a world Friedrich von Hayek described as separate from the natural environment. Choices rarely, if ever, consider their implications within the ecological order—those long-term ramifications are simply outside of the scope of common concerns. Economists have adopted the term "externality" to describe these outside consequences. In an economic decision where some of the consequences are external, there is little hope that any individual will make the socially optimum decision. Instead, the self-interested decision is at odds with the best decision for the community, and the textbook solution is to internalize those external costs. In fact, an accepted ethical framework seeks to solve environmental degradation under the name "free-market environmentalism".

The central problem within free-market environmentalism is the very idea of costs. Long ago, economists largely abandoned the language of costs in favor of prices, and prices were rightly fluid and governed by dynamic shifts in scarcity. Thus the slogan "getting prices right" begs the potentially impossible question of what "right" even means in this context. When governments assign a cost to a particular environmental consequence in order to internalize the externality, they are usually estimating the harm from the perspective of human constituents. But if we are to take seriously the inextricable interconnectedness of the extended phenotype, then this anthropocentric calculus can hardly claim accuracy. In other words, prices are currently a language limited to Homo sapiens. This would be perfectly reasonable if the extended order were truly separate from the ecological order. And so the fatal conceit is literally the systemic silencing of non-human organisms from an economic conversation that depends on the whole of the Gaian community.

William Irwin Thompson authored a rather peculiar essay titled "A Gaian Politics: A Program for the Nineties." In it he describes what a Gaian politics would look like, discussing how the global exchange of information will inevitably dissolve the standard notion of the nation state. As ideas are allowed to diffuse like pollution, with no concern for arbitrary borderlines between inextricably linked cultures, Gaia would take on the same creative processes that spurred the original global network. This dynamic equilibrium would respond to signals sent at the speed of light, paving the way for even tighter feedback loops and an increasingly self-aware biotic community. Thompson pays special attention to the creative components of the global society, referencing the advent of autopoietic economies ready to contribute their own insights into the dynamic equilibrium.

When the biosphere is conceptualized as a natural marketplace, then all of human society can be rightly modeled as an autopoietic economy. Like the British punk culture that Thompson noticed, we human beings are permitted our creative worldmaking only because of the surplus income streaming off of the surrounding natural capital. We live off of the dole afforded by an eminently merciful Gaia, and even in our efforts to engineer artificially controlled environments, we are still subject to her oversight. While a Gaian politics features Darwinian selection over a *globalized* community, a Gaian economics features creative participation between all members of the *biotic* community. Hayek, the guide through most of this chapter, defined his fatal conceit as the belief "that anything produced by evolution could have been done better by the use of human ingenuity." The economist was concerned with the evolution of social norms within the autopoietic economy of human beings, and he never extended the argument to include evolution of the natural world. But his reasoning certainly applies to this grander scheme of things, and a Gaian politics similarly subsumes both human and non-human information. Our task as conscious beings is to foster this transcendent intelligence, to discover all of the unique ways to survive on an always-morphing planet and to employ them in the growth of the biotic community. Whereas shallow economics champions its own version of growth, Gaian economics champions a different growth, growth in the sense that Dewey used.

Human society will always be in and of the natural world. As civilizations grow, each will need to answer the same challenges that any species faces: How can we balance our activities with the carrying capacity of our particular environment? In the long run, or over the geological timescales that fundamentally govern this decision, this question poses a bit of a false

dualism. The distinction between the organism and the environment is misleading, because adaptation to the environment supposes a static equilibrium that simply does not exist. With that said, short-term changes may feature adaptation as a way of putting off or delaying drastic evolution. And because all organisms have a stake in the continuation of their shared habitat, or shared distribution of occupations, evolution has favored adaptability as a way of smoothing out those drastic changes or shocks. Very few familiar organisms behave wholly instinctually, and instead adopt complex patterns of behavior that still pose a mystery for evolutionary biologists.

In the debate over nature versus nurture, opponents are forced to settle into one camp or the other. Instead, it is best to reconceptualize this question as between two different sorts of nature, one that is fixed and final and one with a great deal of plasticity. For a Deweyan pragmatist, the only relevant human nature is our immaculate capacity for nurturing. Born with a head so large that we can hardly hold it up, and a brain so large that even our skulls start separated to allow for as much space as possible, human beings enter the world ripe for learning. And learning for all organisms is nothing more than adapting to an environment that may be quite different than the environment of one's ancestors. Daniel Dennett likens the human mind to a meme machine, an organ specifically advanced given its propensity for managing Dawkins' neural replicators. This second realm of selection is what Hayek references when discussing the extended order, a term he picked up from Karl Popper in their frequent conversations. Whereas the natural order was governed by Darwinian selection, something entirely new was operating in this cultural realm, which is what we would expect from the interaction of different replicators.

All human systems feature this dynamic equilibrium between competing ideas, whether they are the definition to a particular word in the realm of language or the price of a particular good or service in the setting of an economy. And out of this competition, certain habits emerge that become increasingly ingrained in the future operations of the system. These habits are merely a result of the always-flowing survival of the stable, and in the extended order of human culture, we call such stable replicators "traditions". Hayek points out that these traditions are importantly *not* the product of rational intellectual thought, but instead transcends the "*reach of our understanding, wishes and purposes, and our sense perceptions,* and that which incorporates and generates knowledge which no individual brain, or single organisation, could possess or invent." They lie "between instinct and reason", and thus our attempts to reconstruct inordinately complex economies through reason alone is destined to forever fall short.

Now, it would be misleading to separate our economist from the historical period that permeated most of his writing. The Cold War with a socialistic world power promised a flurry of pro-capitalism propaganda, and Hayek was certainly a product of those times. Still, his understanding of the market exceeded most of his contemporaries, and in "Competition as a Discovery Procedure", he articulates the basic foundations for a Gaian economics. By gathering decentralized information and weaving it into a coherent intelligence, a Gaian economy benefits from the same resilience and stability implicit in a Darwinian biotic community. Even if the neatly nested interactions manifest as if planned by a brilliant designer, they are really little more than naturally emergent feedback loops. And these feedback loops inadvertently arise whenever interdependent replicators—whether in the biotic community or the economic community—are forced into interaction. When Hayek praises the spontaneous market order[1], it is because "it can use the knowledge of all participants, and the objectives it serves are the particular objectives of all its participants in their diversity and polarity." So in a sense the market is guided, but in the same way that Gaia is guided, using the aggregate of the generally positive-sum relationships that are uncovered through the discovery procedure. It is these positive-sum relationships that set up the transcendent feedback loops.

The market is also guided in another way, in accordance with those traditions that lie between instinct and reason. Without traditions, a whole host of uneconomic behaviors would rapidly invade even a longstanding economy, including acts of contract violation or outright thievery and corruption. Of conspicuous absence from the laundry lists of most contemporary economists is the proper recognition of ecological traditions, but that is a subject for later debate. For now, the important conclusion is that the free market is quite a misnomer—there can never be a market without the sorts of guiding traditions that make beneficial transactions possible. What Hayek points out is that none of these traditions owe their origin to any sort of instinctive moral sentiments. Nor have our societies ever consciously instituted traditions, even if they later solidified them through legislative measures. Instead, the explanation for why we have these social norms is frustratingly simple—because we have them. For whatever reason, these norms

[1] When talking about the spontaneous market order, Hayek prefers to use the word "catallaxy" in place of "economy". Economy, in the common use of the word, describes the allocation of resources according to the values of the consensus. Catallaxy, on the other hand, describes the allocation of resources after the spontaneous jockeying of a free market, and might not reflect the expected values from before all the jockeying.

caught on and then facilitated the growth of their respective society, eventually spreading the tradition or at least representing it more prominently in the global "meme pool". Even if strict evolutionary biology would reject this sort of group selection, the more holistic Gaian account would predict that resilient groups or ecosystems have an advantage in the perilous and precarious struggle for existence. And what is really being selected for is the individual tradition, but within the extended order instead of the natural order.

Competition in an economics of scarcity is unavoidable. As long as individuals are offering different strategies toward their own similar agendas, then some of these strategies are going to garner the majority of the support once the dust settles. But because competition is an amoral setting, it has been decidedly wrong to conflate market values with competitiveness. If the primary justification for market economics is the information it introduces into the public sphere, then it is decidedly a social function and should never be cast as antisocial. The current construction of the capitalism unfortunately assumes as axioms a range of behaviors that are not only questionable but also problematic within a Gaian economy. When our culture sanctifies the profit motive, or insists that privatization is the only way to ensure adequate competition, it is ignoring that information is only tangentially related to these bastions of competitiveness. The individual could conceive him or herself as a self-interested singularity or as a selfless citizen, and as long as he or she is debating the best strategy among many, order will emerge. It is the uniqueness of experience that promises a spontaneous intelligence, and who these experiences serve is governed by wholly reconstructable traditions.

Ecologists commit a similar mistake when discussing the survival of the fittest. Of course, the fittest organisms are more likely to survive and reproduce, just as the "fittest" ideas are more likely to be imitated and spread. But none of this entails that "battling tooth and claw" imagery, which had for some time remained in favor. In the hopelessly interwoven fabric of the natural world, fitness has much more to do with relationships with other organisms, and relationships that benefit both organisms tend to profit in an extended phenotype. Hence the very prevalence of hyperindividualism in capitalistic societies is misguided, for it neither flows from the initial axioms nor delivers promising consequences. When we are "always already" in a position of interdependence, then individualism silences a history of interaction from which causal relationships cannot be teased. Trying to work backward from a particular instance in time

in order to rationalize society's traditions, or to attribute them to a particular human nature, will not answer the basic question: Where do we go from here?

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John Dewey criticized his fellow philosophers for mistaking most things as fixed and final when they are really part of a continuous flux, or a dynamic equilibrium. Among the most dangerous assumptions is a belief in a fixed human nature. Even if it seems that every individual in every culture subscribes to a particular belief (which almost never is the case anyway), it is still likely that those values or beliefs are nothing more than conditioned habits built from competing and often contradictory impulses. Neoclassical economics has done a good job recognizing the diversity of values within a society and allowing those values to operate in their heterogeneity. The very premise of decentralized economic activity assumes that the uniqueness of participants will transcend the foresight of the individual. It significantly rejects that "anything produced by evolution could have been done better by the use of human ingenuity." But it unfortunately accepts these subjective preferences as internally fixed and final, so even though the values across a society are mired in contradiction, the values within an individual are rational and straightforward. This goes beyond the oft-criticized belief in a perfectly rational Homo economicus. Not only are human beings subject to supposedly "irrational" whims and impulses, but these whims and impulses are themselves subject to predictable changes.

A fundamental assumption in current economics is the conviction of what is known as Pareto Optimality. Pareto Optimality is a simple idea, for is describes an allocation of resources that provides the greatest good for the greatest number. In any voluntary transaction, both participants expect to receive more personal value than they are giving up. This involves no slight of hand or trickery, or at least it does not necessarily involve such deceit, because the values of the two participants may differ and allow for such a positive-sum transaction. But at the Pareto Optimum, no additional deals could improve any member of the society without making another worse off. On net, these additional deals would diminish total utility, and society would have moved away from its utopian arrangement.

Growth, in the neoclassical sense, is growth toward this Pareto Optimum. It is a growth in total utility according to the predominant values assigned to particular resources. Hayek remarks:

> "The fact that catallaxy serves no uniform system of objectives gives rise to all the familiar difficulties that disturb not only socialists, but all economists endeavoring to

> evaluate the performance of the market order...What do we mean then when we claim that the market order in some sense produces a maximum or an optimum?

Again there is a parallel with Gaian economics, because the spontaneous market order is similarly nonteleological. The notion of growth toward an optimum, then, neglects the inescapable truth that our values are in constant flux. Even if total value was maximized according to an initial valuational calculus, there would be no guarantee that the particular calculus was any more fixed and final than any given alternative. So it is the discovery process that is worthy of value, independent of the value it assigns only fleetingly to the information uncovered:

> "As we have seen, the results of a discovery procedure are necessarily unpredictable, and all can expect by employing an appropriate discovery procedure is that it will inrease the prospects of unspecified persons, but not the prospects of any particular outcome for any particular persons. The only common objective we can pursue in choosing this technique for the ordering of social reality is the abstract structure or order that will be created in consequence."

It is here that Hayek reveals his underlying Pragmatism. Once our values and our knowledge are recognized as local, then the only sort of growth is growth in the Deweyan sense. Human society cannot approach any sort of fixed and final end, but we can build resilient systems that withstand the perilous and precarious struggle for existence. But the autopoietic economy of our culture must find a root in the unabbreviated biotic community. It must transcend the fatal conceit of anthropocentrism and engage in a participatory Gaian economics.

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At the core of any economics is exchange—whether it is an exchange of goods or an exchange of energy. Ultimately though it is an exchange of information, and that information is implicit to the economy. The whole ordeal should be modeled as a conversation, in which each participant discovers the most efficient use of his or her tacit knowledge and specializes in that occupation. In the cultural economy, the language of this conversation is price signaling. Price signaling neatly accords to the standards for information discussed at the onset of this book—it is replicable, and it is *about* a relationship between two components in the environment. But in the Gaian economy, a sufficient language for exchange still eludes us. Geophysiologists like

Lovelock or Thompson have come to appreciate the "abstract structure or order" of Gaia, but our full participation in her economy is still premature.

At its core, science is intended as a tool for this dialogue. Different forms of science entail different styles of conversation, and many ecological philosophers attribute the current state of environmental degradation to a particularly forceful brand of discourse. Ecofeminism, of course, argues that society silences nature, holding out for the possibility of a more active and respectful conversation. Among the alternatives, Wolfgang von Goethe proposed his delicate empiricism as a way of appreciating nature as it voluntarily unfolds.

If Gaian economics is really something that the human autopoietic economy can realize, then it depends on a renewed dialogue with the non-human economy. Craig Holdrege, a contemporary Goethean scientist, likens delicate empiricism to a conversation:

> "I have found the metaphor of conversation increasingly helpful in illuminating the nature of a Goethean approach to science. The metaphor brings to consciousness that doing science is a back-and-forth between partners in an ongoing process. It accentuates a kind of inner attitude that lies at the heart of doing Goethean science, one very different from the frame of mind one normally associates with science…"

If Goethean scientists can speak to and listen to the environment, it is conceivable that they can speak *for* the environment as stewards, participating in the market to preserve the interests of other organisms and contribute the tacit knowledge of the natural world. This is in stark contrast with the less delicate notion of "speaking *about"*, which ecofeminism would still categorize as silencing. Holdrege is one of many Goethean scientists that already participate in the Gaian economy. Eva-Maria Simms explains the view of the Goethean scientist—"Ideas are not in the subjective mind, nor do they hover in a platonic realm above, but they disclose themselves to human experience through the discipline of a participatory imagination." Similarly, Daniel Wahl characterizes Goethean observation as "the fundamental unity of the observer and the observed—the fact that ultimately subject and object are not two, but participate in a wider process that unites them in mutual dependency." While these experiences defy our usual scientific expectations, they embrace different forms of information in an effort to improve system intelligence.

By participating in the Gaian economy, the delicate empiricist is recognizing their role as part of a larger system. By systemically limiting our economy to only human rationality, society

is committing a fatal conceit. In our silencing of the unknowable periphery of natural experience, we have time after time constructed an unstable extended order. But the hope for creative dialogue with all of the participants in the dynamic equilibrium promises a better flow of information—without knowing the traditions that have emerged in the natural world, we will continue to construct unsustainable traditions of our own. Plain members and citizens of the biotic community are in constant conversation within the Gaian economy only as long as they acknowledge the traditions of the natural world.