

## 2016 Virtual Dialogue on Harmony with Nature – Theme Earth Jurisprudence

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### **1. What would the practice of Ecological Economics look like from an Earth Jurisprudence perspective? How is that different from the way that Ecological Economics are generally practiced now? And, what are the benefits of practicing Ecological Economics from an Earth Jurisprudence perspective?**

The core goal is a mutually enhancing human/Earth relationship which enables a flourishing of the commonwealth of life and the continuation of the evolution of diverse biological and cultural systems indefinitely into the future. Human well-being is understood to be interdependent with the Earth's biogeochemical systems in which we are embedded. It might be called the "*economics of life's commonwealth. (ELC)*"

Within this overall framing the goals of ELC are those of Ecological Economics as articulated, with substantial modification, by Herman Daly and others: Scale, Distribution and Efficiency.

"*Scale*" has both a planetary and local meaning. From a planetary point of view the economy must be fitted to the Earth's biogeochemical systems such that it does not push them outside the range of variability needed to maintain life's commonwealth. For example, we now have an economic system that is changing the chemical composition of the atmosphere and oceans such that there is a decline in the numbers of individuals within species; and also in the number of species. At the local or regional level "scale" can be exceeded by taking too much of something or by producing wastes that overwhelm the ability of natural systems to assimilate them. Overwhelming has two versions: quantitative –where too much of something is produced (for example, more phosphorous than can be taken up by plants and washes into rivers and lakes; and qualitative where the substance is poisonous even in small quantities; e.g. for most organisms: arsenic.

"*Distribution*" is typically taken to mean a fair sharing of the products of the economy such as jobs, income, health care, education, and professional opportunities and the like among persons. However, in the framework of *ELC* all of life is to be treated with respect and the means for its flourishing are proper and mandatory objectives for economic policy and public policy generally. Though it is customary and analytically easier to think of the economy as a separate system, this is an illusion. It is an integral part of Earth's biogeochemical processes and it is the ability of these processes to support life that is the good that underlies and enables all other goods. Looked at from this perspective that the current El Nino induced severe drought in south Sahara Africa is a theft of life support capacity brought on to a large degree by the "advanced" carbon intensive economies of the North.

"*Efficiency*" is typically meant to refer to, and to accept the idea from neo-classical economics that exogenously produced (consumer) preferences should be satisfied at the lowest possible cost—broadly conceived. *ELC* explicitly rejects the idea that all preferences count; and count equally. Its vision of the human/Earth relationship is essentially and deeply ethical. Beliefs and actions that move us toward a mutually enhancing human/Earth relationship are seeds to be cultivated, grown to maturity, and recognized as the moral material of Earth Citizenship—itself an expression of "right relationship" with the sources of our being. A re-grounded human/Earth relationship is essential if we are to confront, even survive, the vast challenges and almost certain carnage of the Anthropocene.

Ecological economics itself should be thought of as one step in a four step process in the development of economics in the second half of the 20<sup>th</sup> century. The *neoclassical paradigm* matured in the 1950s and 60s with the development of the theory of market failures. In the 1960's Keynesian counter cyclical policies developed (but mostly not used) in the 1930's were changed into programs to insure perpetual growth—to be constrained only to avoid excessive inflation. In the 1970's in response to rising concerns about the air and water pollution, *environmental economics* was developed which principally worked by extending the idea of externalities to the economy-environment interface.

In environmental economics the principle signal between the economic system and the “environment” is changes in prices and the chief remedy is the internalization of costs which would otherwise go unrecognized; and hence result in inefficiencies. In the 1980s *ecological economics* emerged proclaiming as its essential message that the economics system is embedded in the Earth's biogeochemical systems. It subsumed the idea of externalities into a broader framework based on Earth systems science; and extended the policy framework to ideas of biogeochemical “boundaries and thresholds.” From this point of view prices are one means among many to “fit” the economy to the biosphere. In the second decade of the 21<sup>st</sup> century the next logical step is being taken to envision and construct what is being called *Earth Economics* which sees the Earth's biogeochemical processes as one system.

Efforts are now underway to construct integrated macro-economic-bio-geochemical models which will be capable of analyzing the relationship between variables like the size of the human population and its consumption patterns, economic policy, greenhouse gases emissions, snow and ice cover, afforestation and deforestation, agricultural land use and the like. People working in this field aspire to also integrate the financial system in these models so that the levels of debt, interest rates, and the nature of financial systems itself can be understood holistically as part of *the* Earth system. Understanding the financial system and its role in the Earth's biogeochemical systems is a principal goal of work we have underway in the Economics for the Anthropocene project under the title Ecological Finance—likely should be called something like Earth/Finance. We have to find a way of thinking about these as one system from neurons that fire creating “demand” to the ocean awash in plastic.

## **2. What promising approaches do you recommend for achieving implementation of an Earth-centered worldview for Ecological Economics?**

BEGIN WITH WHO WE ARE: ELC does not take its cosmological and theological bearings from the Judeo-Christian-Muslim traditions. The western religious narrative(s) are inconsistent with the findings of 500 years of science; particularly the advances since the middle of the 20<sup>th</sup> century. The current evolutionary paradigm found in works such as Eric Chaisson and others is often called “Big History.” This ontology provides the building blocks for ELC.

GONE ARE: 1) A chosen species; 2) a chosen people; 3) a Holy Land; 4) the idea that additional humans are an intrinsic good—independent of the biophysical and social circumstances in which births occur; 5) virgin birth; 6) exogenous rescue—such as in the second coming of Christ; 7) *ex cathedra* moral systems whose authority comes from outside the system such as the 10 commandments; and 8) a moral hierarchy which places God at the top and matter at the bottom such as is found in the idea of the “great chain of being.

FOUND ARE: 1) A place in a Universe about 13.8 billion years old “ever advancing into novelty;” 2) A universe in what David Christian has called “its adolescence”- fresh, muscular, restless; 3) A

stage on which destruction and creation occur simultaneously; 4) processes which can be grasped by the fundamental laws of physics, chemistry and biology; 5) a small planet in the “suburbs” of the Milky Way subject to those laws; 6) living beings on that planet who are “finite players in a (virtually) infinite game—to use James Carse’s expression;” 7) A planet ruled by an expansionist and colonialist vision ignorant of, and fundamentally incompatible with, life’s flourishing—and hence in steep and accelerating decline.

### **3. What key problems or obstacles do you see as impeding the implementation of an Earth-centered worldview in Ecological Economics? Here are the steps to overcome the obstacles.**

*WHERE TO START:* 1) *Discard* the idea that the natural world constitutes the realm of “absolute means”—the idea everything that is not human is a means to be used to serve goals of society; 2) *reconcile* the disciplines from which we take our norms such as economics, law, and ethics with the fundamental findings of the evolutionary paradigm; 3) *cleanse* the instrumental disciplines and professions such as engineering, agriculture, politics, business and finance of their metaphysical conceits and pathologies; 4) *re-conceptualize* wealth as the ability to maintain desirable, far from equilibrium systems.

*WHAT’S NEXT:* 1) *abandon* the idea that “growth” should be the principal goal of fiscal and monetary policy; 2) *re-design* the global economic order to operate so as not to imperil the resilience of Earth’s life support systems; 3) *Develop and deploy* decision making frameworks consistent with the goals of ELC. (Some of these exist and are being developed within the field of ecological economics.); 4) *recognize* that the human project has become too large and too toxic for life to thrive on planet Earth; 5) *begin* a process of “compassionate retreat” in which the human presence and its impact on the Earth’s life support systems is reduced in a manner that respects the most vulnerable humans and the most fragile ecosystems; 6) *utilize* analytical frameworks such as the modified I = PATE to organize our thinking about the options—that is that human impact on the Earth’s life support system must be understood through four lens: E—the ethics of the human/Earth relationship; P aggregate population size; A—affluence or better “consumption; and T technology; 7) *accept* that the goal of “full employment” as currently understood is beyond the reach of Keynesian stimulus techniques which result in more consumption—further overwhelming planetary sinks; 8) *initiate* worldwide programs of guaranteed incomes linked to models of a truly “Earth” economics to calibrate the effect of consumption on the goals of ELC; 9) *create* incentives that bring the human birth rate *below* replacement (as it already is in many places).

Make the Planet not the Person the Analytical Point of Departure. The beginning of the analytical foundation of the economy has to begin with the laws of the Universe and the characteristics of the Earth. Pre-eminent among these are the facts that the Earth is, for all practical purposes, closed to matter—almost nothing ever leaves. At the same time it is open to large amounts of free energy from the sun. This energy enables the emergence of complex living systems on Earth and is a necessary condition for the complexity of modern civilization. These systems are called “far from equilibrium systems” because they generate and maintain entities that are separated from their surroundings by a temperature or other kind of gradient. *Energy is the currency of an Earth economics.*

Understand energy and material issues ranging from the planetary to local scales. We should think of the Earth as having a “complexity” budget—only a certain amount is available from the current solar flow; and the amount stored in fossil fuels is nonrenewable from the perspective of the time frames of human history. As Georgescu-Roegen has pointed out, the ability to support complexity is temporally contingent. Coal burned now cannot be used in the future to make more nitrogen

based fertilizers. Local regions also have energy and material budgets—there is only so much phosphorus that a lake basin can absorb until it becomes susceptible to algae blooms and anoxic conditions that can no longer support other aquatic life. The analysis of energy and material balances should be thought of as logically preceding analysis in terms of dollars.

Of course, there is nothing in this perspective that technically rules out the use and discovery of non-solar based systems of energy powered by tides, geothermal, or nuclear fission. Solar energy harvested indirectly (without photosynthesis) from photovoltaic cells, wind farms, or hydro-electric are all worthy of use and consideration. However, terms like “clean energy,” and “renewable energy” often mask destruction and desecration of monumental proportions. These include: 1) care for lethal radioactive waste for time periods longer than our species has existed; 2) fragmentation of habitat by roads and new infrastructure needed to build and service decentralized energy production; 3) changes in salinity of ocean water adjacent to large hydroelectric dams which ignore the organisms which have evolved to live in a “normal” environment that no longer exists. Ideas of “clean” and “renewable” and others like them must be evaluated by reference to the standard of a mutually enhancing human/Earth relationship, and should not be considered as merely an extension of the infinite growth paradigm of economics. Decreasing aggregate energy needs and use, should be prioritized to scale an economy within the constraints of the ELC.

**4. What are the top recommendations for priority, near-term action to move Ecological Economics toward an Earth Jurisprudence approach? What are the specific, longer-term priorities for action? (Note: give 3 to 10 priorities for action).**

Be Prepared: It is clear that profound changes in Earth’s life support systems are underway. So far concerns about these have been mainly neutered by the drowsy discourse of sustainability; and the fact that those who cause most of the damage are isolated from the effects of their actions. At the same time destabilization cannot be ignored forever. The current refugee crises in the Middle East, North Africa and Europe is just the very small leading edge of likely hundreds of millions of people on the move as massive coastal cities are flooded, fertile farm land lost, etc. The momentum in the biogeochemical systems at this point is vast; and our abilities, at best, modest to slow it and very unlikely to stop it. For example, the west Antarctic ice sheet is thought likely to destabilize with a couple of hundred years or sooner bringing, by itself, substantial sea level rise.

Replace Marginalism with Structuralism. The current order has been created by the marginalist vision. The results are absurd. We have hockey teams in places where it never freezes. The massive climate compromising emissions from building and operating the rink, plus the teams, fans, and reporters flying in is not mentioned. In the Anthropocene we need an international structuralist vision keyed to how the planet works.

Take Back Money. The financial system must be thought of as a public utility under a regulatory regime shaped and legitimated by ELC framework. Money should be created by public bodies to assure the capture of seigniorage. Local currencies could play an important role.

Design With Nature. It is essential to have planning to fit the human project to its biogeochemical circumstances. At the local level the “lawscape,” to use Nicole Graham’s wonderful phrase, has to fit the landscape not the other way around. Understanding and respecting material and energy flows are precursors to effective land use management. An ounce of prevention is worth a pound of cure. At the level of nations and trade regimes the emphasis should be on local production and consumption. The idea is not to have the lowest possible price; but the least amount of entropy per unit of thoughtful use. At the global level we have to build on, and advance, the understanding of

how the global biogeochemical processes work and how to keep the “range of variance” within limits such that “tipping points” are not approached or exceeded.

**Build Institutional Capacity.** We must have a global reserve, analogous to the Federal Reserve, with a “wealth” management capacity that can analyze and prescribe how to perpetuate and allocate the Earth’s life support capacity. This must be one of four global institutions. The other three are: 1) a global parliament; 2) fiduciary bodies to manage and protect the global commons such as the atmosphere and the oceans; and a global court in which participation is mandatory. The principle of subsidiarity—that policy should be set at the most local level possible—should guide us; but the ELC model, *at this point in history*, requires, at the very least, the replacement or fundamental modification of the global institutions such as the WTO which legitimate and facilitate the decline in life’s prospects. See Brown and Garver, *Right Relationship* for more details.

**Rethink Ownership.** The principal human/Earth relationship is not “use” but respect and reciprocity. The conception of property in the Anglo-Saxon countries, particularly in the United States, is highly regrettable from the point of view of ELC. If there is to be private ownership then a fiduciary conception of it must replace the current “highest and best use” model. Public ownership is often not an answer without strong protections because of industry “capture” of the regulatory agents. The very regrettable pricing of nature’s “services” is incompatible with the ELC.

**Rethink Jobs.** Job splitting will be necessary as technical innovation and excessive births beyond replacement flood the labor market. Keynesian tools to create more employment through more consumption are incompatible with the urgency of stabilizing Earth’s biogeochemical system. There should be a minimum guaranteed income since employment will not be the principal way to claim a share of society’s production. Life could be much better and fulfilling with more time for leisure, arts, play and discourse.

**Discard Growth as a Universal Goal.** Planned “degrowth” is urgent in the already rich countries. The spread of the western model of “prosperity” is regrettable. Work like Tim Jackson’s Center for Understanding Sustainable Prosperity (CUSP) at the University of Surrey in the UK is exemplary. Also Peter Victor at York University in Toronto is a leader in the urgently needed rethinking.

**Population reduction.** There should be incentives for keeping population growth *below* replacement—for different reasons this applies to most countries on Earth; but particularly to high income/consumption countries like the United States and Canada; though these countries have significant obligations of assistance and immigration due to their role in bringing on the climate and other crises. Significantly reducing the size of the human population is a key variable for living peacefully and respectfully on Earth. As the second law of thermodynamics tells us no living creature, no matter how virtuous, can live without degrading its environment. Other species are entitled to their place and time in the sun.