

2016 Virtual Dialogue on Harmony with Nature – Theme Earth Jurisprudence

By Joshua Farley – Ecological-Economics

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?

From the perspective of earth jurisprudence, humans are one of millions of tightly interdependent species in a highly complex, wildly unpredictable and continuously evolving global ecosystem. Human impacts on global ecosystems are always uncertain, with the potential for long time lags, positive feedback loops, and sudden, rapid and irreversible change. All economic activity requires energy to transform raw materials provided by nature into economic products, which eventually wear out, break down or fall apart, and return to the ecosystem as waste. Many of the raw materials provided by nature alternative serve as the structural building blocks of ecosystems. When we remove these building blocks and return waste, we diminish ecological resilience, threatening individual species and human civilization.

As ecologists remind us “[t]he last word in ignorance is the man who says of an animal or plant, “What good is it?” If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.” (Leopold 1993) Rather than seeking to internalize nature into the economy, an earth jurisprudence economics (EJE) must seek to “internalize” the economy into a resilient ecosystem.

EJE must prioritize socioecological resilience, which in turn requires a just distribution of resources. Economic institutions designed to achieve these goals must be compatible with human behavior and the physical characteristics of available resources. An EJE closely matches the original goals and paradigms of ecological economics, but the field is in serious danger of being captured by neoclassical economics (NCE).

NCE views nature through a utilitarian and anthropocentric lens. From this perspective, nature should be converted to economic production if the typically short run benefits of doing so outweigh typically longer-run but discounted costs. Market forces maximize the monetary value of economic production, which is used as a proxy for utility or welfare. Furthermore, free markets always move toward equilibrium and provide incentives to develop substitutes for resources as they become scarce, which essentially guarantees socio-ecological resilience. Humans are insatiable, so never- ending exponential growth is a central goal. Humans are rational and self-interested, so economic institutions cannot rely on cooperation.

We cannot objectively compare utility between individuals, and there is no meaningful distinction between wants and needs. Furthermore, markets award factors of production according to their marginal contribution to economic production, and growth will end poverty. Issues of just distribution therefore receive little attention. From the EJE perspective, these assumptions are both scientifically unsound and morally appalling.

NCE does recognize that when resources are open access, with no rules governing use, market economies lead to over-exploitation by allowing individual actors to externalize the costs of their economic activities on others. The NCE response is to create private property rights when

possible, or else estimate the monetary value of these impacts (based on individuals' willingness to pay) and internalize them into market prices. NCE theory also recognizes that markets fail to efficiently allocate non-rival resources that are not depleted through use, such as information (which actually improves through use), and whose value is maximized at a price of zero (think of the blueprints for a cheap, safe, and clean alternative to fossil fuels). Faith in markets however is more powerful than theory, so NCE generally favors property rights even when they create artificial scarcity.

In reality, neither ecological nor technological change is predictable. NCEs are essentially betting the future that technology will provide solutions to ecological problems, but this is a gamble with inherently unknowable odds that appear to be rapidly worsening. Adopting an EJE would dramatically reduce the odds of ecological collapse and the demise of civilization.

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

Achieving an EJE requires a radical and rapid change in our economic system. The most important change is indeed a change in world-views. As long as economists view the human system as separate from global ecosystems, we will be unable to correctly diagnose the problems we face, much less find solutions. Economists must also discard their outdated view of humans as rational, self-regarding individuals, and recognize instead that we are among the most social, cooperative species ever to evolve (Wilson 2007, Wilson and Wilson 2007, Wilson 2012). Mainstream economics is currently based on methodological individualism.

An EJE must instead acknowledge that humans function only as persons-in-community, whose preferences, behavior and well-being is profoundly affect by society as a whole. The human community is an integral part of the community of life. Mainstream economics must also change its goals to focus on the well-being of humans and other species into the indefinite future, rather than wealth maximization and economic growth. These changes are prerequisites to the following suggestions.

Most of the serious ecological problems we face are prisoner's dilemmas, which can only be solved through cooperation (Nowak 2006, Nowak and Highfield 2011, Axelrod 1984). Different economic institutions can make humans behave cooperatively or selfishly (Henrich et al. 2001, Henrich and Henrich 2007, Bowles and Gintis 1995, Boyd et al. 2003, Bowles and Gintis 2004, Bowles 2008). Markets, money, and the study of free market economics make people more self-interested (Marwell and Ames 1981, Frank and Schulze 2000, Kirchgässner 2005, Cipriani, Lubian, and Zago 2009, Bauman and Rose 2011, Vohs, Mead, and Goode 2006, 2008, Caruso et al. 2013), and hence less capable of solving prisoner's dilemmas. We must instead develop economic institutions that actively promote cooperation.

Non-excludable resources by definition cannot be privately owned, but if unowned, are likely to be over-used. Private ownership of non-rival resources creates artificial scarcity. We need inalienable common property rights for non-excludable resources, non-rival resources, and resources created by nature and society as a whole (Bollier 2002, Raffensperger, Weston, and Bollier 2009, Bollier and Helfrich 2012, Weston and Bollier 2013, Barnes 2001, 2006, Barnes et al. 2008, Barnes and McKibben 2009, Farley, Costanza, et al. 2015). Rights must extend to future generations. If surplus common property—defined as those natural resources that can be converted to economic production without threatening ecological resilience or the rights of other species—is used by individuals, they must compensate the commons sector

for this use. Common property rights also require collective investment in resource production, protection and restoration.

Markets allocate resources based on willingness to pay rather than need. Essential resources with no substitutes, such as food, energy, water and health care, are therefore typically allocated to the rich, who gain the least from marginal consumption (Farley, Schmitt Filho, et al. 2015). These resources must be allocated based on need rather than willingness to pay. We very likely need a two tier economy, with one tier focused on essential resources for which all humans have the same biophysical needs, and another focused on non-essentials where individual tastes and preferences matter. Perhaps the latter could be left to markets. Rationing proved relatively efficient at allocating the former during WWII, though we could undoubtedly develop superior rationing systems.

Finally, we must completely revise our monetary and financial systems. Money is currently created as interest bearing debt that obeys the laws of exponential growth. Physical production cannot possibly keep up. Most money is loaned for the purchase of existing assets, which drives up their prices in a positive feedback loop and enriches their owners, but creates no new wealth. Price bubbles inevitably burst, leading to massive defaults on debt and economic crises with terrible impacts on the poor. This system redistributes wealth to the financial sector, which now captures virtually all economic rent (Hudson 2012, Farley et al. 2013, Robertson 2012, Lietaer et al. 2012). The right to create money must be taken away from private sector banks and restored to the public sector or commons sector. Current efforts to achieve this include the sovereign money initiative and the Chicago Plan (Phillips 1992).

3. What key problems or obstacles do you see as impeding the implementation of an Earth-centered worldview in Ecological-Economics?

One key obstacle is the belief that humans are separate from the rest of nature, and that we will always develop technological solutions to our problems. If we do not recognize there is a problem, we will not seek solutions. Aggravating this situation, those who benefit the most from the current system have the most power, and use that power to protect their status. The massive concentration of wealth has completely corrupted the political system. They also use their power to convince us that problems do not exist (climate change and resource depletion) or have other causes (e.g. immigrants and government).

Another serious problem is the the current degree of overshoot: keeping every cog and wheel in the system, as Leopold recommended, is no longer adequate. We must build a restorative economy capable of rapidly rebuilding lost and damaged components of global ecosystems, reducing the human impact to well below carrying capacity until system resilience is restored. Stakes are high, decisions are urgent, facts are uncertain, values matter, and we often have a sample size of one unique and continually evolving ecosystem or planet, which removes us from the domain of conventional science (Funtowicz and Ravetz 1994). We do not have time to elaborate and carefully test hypotheses, and by the time we have done so, the system may have changed enough that the original hypotheses no longer apply.

The precipitous decline in resource use that is likely necessary to restore socioecological resilience would cause hardships for many if not managed carefully. Markets are currently the dominant form of resource allocation on the planet, and unfortunately fail as much for essential resources as they do for ecosystem functions. When the price of grains doubled during the food crisis of 2007-2008 (FAO 2009), it caused rioting and increased undernourishment in the poorest countries (AAH 2009, Berazneva and Lee 2013), while citizens of rich countries failed to notice the price change (Farley, Schmitt Filho, et al. 2015). Sharing the burden of addressing our current

crises would be essential, and the burden of failing to meet basic needs is the greatest possible burden. Global ecological crises cannot be solved on the backs of the poor. We need a policy of dramatic reduction in resource use by the rich, and greater access to essential resources for the poor: contraction and convergence. The more we overshoot global ecological capacity before taking action, the greater the net contraction that will be required, and the less inequality that could be allowed without causing famine and misery.

Yet other serious problems include:

- Population growth, spurred by the general assumption that it is a basic human right to have as many children as we like, and the widespread view that sex education and birth control are somehow immoral;
- The pervasive influence of ideology on economics. Economic institutions should be determined by the desired ends, the physical characteristics of the resources required to attain them, and human behavior (which is malleable). Instead, economists tend to believe a particular institution is best for all ends and all resources, e.g. private ownership and free markets, or social ownership of the means of production.
- Myopia. Economic decision rarely account for the distant future, either because we assume that technology will solve all problems, or the future doesn't matter. The creation of money as interest bearing debt forces people to give less value to future costs and benefits.
- The failure to consider other species: As the economy transitions from overshoot to sustainability, one of the most important economic questions becomes how much of earth's productive capacity to capture for humans, and how much to share with for other species. Given the complete dependence of humanity on a functioning ecosystem, EJ economists must acknowledge that the probability of conserving our species and civilization would be dramatically enhanced by a smaller human population as part of a more generally resilient ecosystem.

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).

We must create economic institutions that incentivize cooperative and altruistic rather than competitive and self-interested behavior. Abundant research shows that reciprocity, indirect reciprocity, group selection, altruistic punishment (i.e. sacrificing individual fitness to punish non-cooperators, which thus incentivizes cooperation and increases group fitness), and altruistic punishment of non-punishers all promote cooperation (Sober and Wilson 1998, Gintis 2000, Bowles and Gintis 2002, Boyd et al. 2003, Gintis et al. 2003).

If technological advance can help solve our problems, we must build an economic system optimized for promoting it: producing the right technologies at the lowest possible cost and maximizing their value once they exist. Markets fail to provide incentives to invest in open access resources (i.e. much of nature), since the benefits it generates can't be owned, or in activities that benefit the poor, who cannot pay. The main input into developing new knowledge and technologies, is existing knowledge. Patents can transform knowledge into private property, but this increases the costs of developing new knowledge by limiting access to existing knowledge, as many studies have found (Heller and Eisenberg 1998, Heller 1998, Farley and Perkins 2013, Kubiszewski, Farley, and Costanza 2010, Farley and Kubiszewski 2015).

Finally, patents ration access to new knowledge, reducing the benefits it provides (especially for green technologies) without reducing the costs of producing it. Value is maximized when information is free, since in an Interconnected world, there are negligible costs to sharing

information. The market economy has been powered by fossil fuels. Private ownership is standard, and use by one person leaves less for others, so competition is inevitable. An EJ economy must be solar powered. No matter how much solar energy one country captures, it leaves no less for others. What is required to capture solar energy more efficiently is improved technology, best achieved by sharing information.

A common asset trust in green technology is therefore a win-win policy that can help stimulate cooperative behavior while dramatically increasing economic efficiency. Knowledge that could contribute to rebuilding global socio-ecological resilience should be free to all, and hence publicly/collectively provided. Since the rich countries account for so much of the global ecological damage that must be repaired, they should invest in the vast amounts of R&D that is likely necessary to address ecological overshoot. The best and the brightest actual and upcoming scientists from around the world must be funded to work on these problems, with all resulting knowledge copy-lefted, meaning it would be free for anyone to use and modify, with all improvements automatically copy-lefted as well. The fact that the richest nations would also benefit from more widespread adoption of green technologies makes unilateral cooperation and generosity a dominant strategy, particularly because it would likely solicit reciprocal behavior in the form of continued contributions to open access knowledge.

Technology alone will not solve our problems, but a common asset trust could initiate a process of reciprocal cooperation. Participants would come to view themselves as members of a larger group, which promotes future cooperation. The green technology common asset trust could therefore seed a number of new common assets, including eventually all resources provided by society as a whole (e.g. knowledge) or by nature.

Other priorities include:

- Capping the harvest of renewable resources to below regeneration rates and waste emissions to below absorption capacity until ecological resilience is restored, with access determined by need, not willingness to pay.
- Massive investments in agroecological production capable of restoring ecosystem functions and supplying food for those who need it most.
- Reduced inequality, best achieved by taxing capital and rent (unearned income), providing free education and health care, and guaranteeing jobs. It is insane to have unemployment when so much work needs to be done to achieve a sustainable economy.

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