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THE ECO-UNIVERSITY IN THE GREEN AGE

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ABSTRACT. This essay begins by tracing the conceptual ancestry of the term "eco" as the same root for both "ecology" and "economics:" where ecology concerns the *logos* of *oikos*; economics concerns the *nomos* of *oikos*. This set of observations on "eco" is used to introduce Heidegger's musing on "dwelling" as a source for conceptions of "deep ecology." The essay then, inquires of the coming of the ecological university and frames an ethic of responsibility. Finally, the essay provides an interpretation of what accepting this ethic might mean for the university.

Keywords: ecology; economics; university; ethic of responsibility; Heidegger; Derrida

The force that through the green fuse drives the flower
Drives my green age
--Dylan Thomas[1]

"Eco" Introduction: The Twin Cognates of "Ecology" and "Economy"

In a chapter for *The International Handbook of Environmental Research* (Stevenson et al., 2012) entitled "Greening the Knowledge Economy: Ecosophy, Ecology and Economy" (Peters, 2012), I attempted to provide a methodology in environmental education research by employing an approach from green philosophy (ecosophy) and green political economics to examine some wider conceptual issues concerning learning processes within the "knowledge economy."[2] This essay might thus be seen as a contribution to better understanding the conceptual background necessary to grasp the concept of the ecological university. In the first endnote I make a quick attempt to reflect on the common root-stock onto which various words have been

grafted – ecosophy, ecology, economics – words that some critics see as diametrically opposed:

> The derivation of the English meaning of the prefix 'eco' is based on the French *eco-*, Latin *-oeco* from the Greek οἶκος *(oikos)* meaning *'house', 'household'* or *'dwelling place.'* Ernst Haeckel used the term 'ecology' (oikos-logos) in the 1870s to describe the relationship of living organisms to their environment. Economy is also derived from the Greek *oikos* together with *nomos* (law; regulate) and *nomia* (stewardship, managing). *A Dictionary of Prefixes, Suffixes, and Combining Forms* based on *Webster's Third New International Dictionary Unabridged,* 2002 (p. 16), gives the following entry: 'ec- *or* **eco-** *also* **oec-** *or* **oeco-** *or* **oiko-** *combining form* earlier also *yco-*, fr. MF? LL@ MF *yco-*, fr. LL *oeco-*, *oiko-*, fr. Gk *oik-*, *oiko-*, fr. *oikos* house, habitation **1a:** household *economy:* **1b:** economic and *eco-cultural:* **2:** habitat or environment esp. as a factor significantly influencing the mode of life or the course of development *ecospecies: ecosystem: ecad:* **3:** *ec-* or eco-: ecological or environmental *ecocatastrophe'*, at http://www.spellingbee.com/pre_suf_comb.pdf. There are good reasons both etymological and conceptual for examining the root prefix constructions of 'ecosophy,' 'ecological' and 'economy.'

This rather bald approach, big on philology, noted some shared concepts but left the philosophy behind them implicit. The Greek *oikos* as household and "dwelling place" demonstrates the conceptual links between "economy" as management of the household and "ecology" as dwelling place or habitat, thereby leading to the notion of *ecosystem*. The two terms are conceptually affiliated: where ecology concerns the *logos* of *oikos* and economy concerns the *nomos* of *oikos*. Building on the work of Carl Linnaeus' systematic biology (the "economy of nature") and Darwin's evolutionary science, Ernst Haeckel (1834–1919) invented the term ecology, although he was arguably less important than a number of other scientists in the nineteenth century, e.g. Alexander von Humboldt (botanical geography), Alfred Russell Wallace and Karl Mobius (biocenosis, leading to ecological community), and Eugenius Warming (plant geography).[3]

Xenophon's *Oikonomikos*, a dialogue between Socrates and Critoboulos about how to manage an Oikos, begins with a discussion of whether the management of the household or estate is a discipline or branch of knowledge.[4] In the modern context it was Francis Hutchenson, who introduced "The Principles of Oeconomics and Politics," in his *Short History to Moral Philosophy* (1742). As Gregory Cameron (2008) indicates "Hutcheson stands at a crossroads between ancient economics and modern economic analysis." By the

end of the eighteenth century "political economy" had severed its ancient links.

Heidegger gives the term "dwelling" its proper Greek origin based on *oikos* in two essays. These essays were, in turn, based on lectures he delivered in the early 1950s ("Building Dwelling Thinking," 1950, and "Poetically Man Dwells," 1951). There he maintains that what it means to dwell can only be understood in relation to the manner of our existing, our being in the world.[5] As he puts it, "the basic character of dwelling is to spare, to preserve… dwelling itself is always a staying with things. Dwelling, as preserving, keeps the fourfold in that with which mortals stay: in things" (Heidegger – "Building Dwelling Thinking," pp.150–151). Heidegger embraces a post-metaphysical conception of the preservation of Earth and the fourfold as the ecolocial imperative of a system which might be called the ecosystem:

> In saving the earth, in receiving the sky, in awaiting the divinities, in initiating mortals, dwelling occurs as the fourfold preservation of the fourfold. To spare and preserve means: to take under our care, to look after the fourfold in its presencing. What we take under our care must be kept safe.

In the second essay, the title of which is taken from Hölderlin, Heidegger inquires what does it mean to say that poetically man dwells. In the age of technology with an emphasis on efficiency and growth, poetry has no place. Again Heidegger is at pains to point out that dwelling refers to the character of existence: "poetic creation, which lets us dwell, is a kind of building" (2001: 113). As Peter Critchley (2004) remarks, "For human beings to create a genuine home here on earth means ascending from mortal to divine state by integrating nature and culture."

On the basis of these two essays and his philosophy of being, Heidegger's work has led to ecosophy and "deep ecology" on the one hand and a trenchant critique of Western metaphysics on the other. Michael Zimmerman (2000) clarifies the scene:

> Modern humanity began defining itself in terms of scientific naturalism. Blind to the fact that human existence constitutes the ontological clearing in which entities can manifest themselves, modern humanity views itself rather as an elaborate mechanical entity, or as a 'clever animal.' For Heidegger, then, Western metaphysics led not to human 'progress,' but instead to technological nihilism in which everything – including humankind – stands revealed as raw material for the goal of greater power and security. According to Heidegger, this arrogant anthropocentric humanism (whether capitalist or communist) not only diminishes humankind, but also wreaks havoc on nature. Human efforts to reform existing practices cannot succeed and in fact will make matters worse,

> because widespread cultural, social, and ecological crises are symptoms of modern humanity's obsession with control. Hence, Heidegger concluded, humankind can be saved only if there arises an alternative to modern technology's one-dimensional disclosure of the being of entities (pp. 3–4).

Zimmerman thus concludes (ibid.) that deep ecologists, as one arm of the radical ecology movement, agree with Heidegger that an attempt to "environmentally" reform Western technology modernity is a waste of time and really only extends the paradigm of technological control over nature. The overwhelming question is whether there is a form of economics that takes its existence from the same root meaning as ecology. If yes, can it escape the paradigm of technological control that manifests itself in both mainstream economics, especially neo-liberalism, and also in contemporary capitalism, i.e. factors that can work to integrate nature and culture through the management of the *oikos* (estate), without falling back on Romantic visions of traditional society.

Without further ado let me simply state that it is the imperative of the university in the universal service of the biota – of all living things – to dedicate itself to the preservation of life through the philosophical investigation of the dimensions and pursuits of the eco-university. The eco-university becomes the pivotal institution to signal the way – "the green force that drives the ecosystem" to paraphrase Dylan Thomas. Critical to a kind of economics true to its semantic origins is the question of the post-industrial economy (the so-called knowledge economy and its variants) and the developing interface between "new biology" and the emerging global digital system, i.e. between this new bio-informatic paradigm and nature, in its second and third iterations. In this connection we might inquire is there a Heideggerian economics?

The Coming of the Ecological University

The inspiration for this essay is Ron Barnett's piece (with the title above) in which he raises the question, after Derrida, of the *responsibility* of the university and looks to outline a feasible utopia. Barnett identifies three possibilities for the university's becoming: the liquid university (after Bauman); the therapeutic university; and the authentic university. He asks whether the university, as it unfolds in the twenty-first century, may be both responsible and authentic in the form of the ecological university. As he says: "This is a university that takes seriously both the world's interconnectedness and the university's interconnectedness with the world" (p. 451). Aspects of such a concept are already present in students as global citizens, in the concern for

civic engagement and the production of public goods, and in conceptions of "the networked university." Barnett argues "The ecological university does not merely take its networking seriously, but engages actively with the world in order to bring about a better world" (p. 452). He argues:

> This is a university not whose time is coming but whose time has come. The ecological university cannot be a sufficient condition of the world facing up to its challenges but it is a necessary condition. The huge catalogue of challenges facing the world – of disease, illiteracy and unduly limited education, climate change, dire poverty, lack of capability and basic resource, misunderstandings across communities, excessive use of the earth's resources, energy depletion and so on and so on – requires the coming of the ecological university. This ecological university will be an engaged university, a critical and an enquiring university and a university-for-development, acting to put its resources to good effect in promoting world well-being (p. 453).

Barnett establishes the argument for taking the new calling of the university very seriously in terms of its *responsibility*, a notion that might also seem to encapsulate a new moral and philosophical reflection, one to be realized through action. If we follow Derrida's turn to responsibility in his later works, then we understand this emphasis on the ethical, the political and the religious, as an admittance of the fact that one can not do philosophy without responsibility (Sadler, 2004). Derrida (1995: 25) addresses the theme of responsibility in the following terms:

> And let us not forget that an inadequate thematization of what responsibility is or *must be* is also an *irresponsible* thematization: not knowing, having neither a sufficient knowledge or consciousness of what being *responsible* means, is of itself a lack of responsibility. In order to be responsible it is necessary to respond or to answer to what being responsible means. For if it is true that the concept of responsibility has, in the most reliable continuity of its history, always implied involvement in action, doing, a *praxis*, a *decision* that exceeds simple conscience or simple theoretical understanding, it is also true that the same concept requires a decision or responsible action to answer for itself *consciously*, that is, with a knowledge of a thematics of what is done, of what action signifies, its causes its ends, etc. In debates concerning responsibility one must always take into account this original and irreducible complexity that links theoretical consciousness (which must also be a thetic or thematic consciousness) to "practical conscience" (ethical, legal, political), if only to avoid the arrogance of so many "clean consciences" (1995: 25).

He also reminds us that responsibility is not just responsibility of myself for myself, but also primarily our responsibility to ourselves, one is derived from the other, following Levinas. In this new context of responsibility of the university we need to extend the notion of responsibility to animals as the other, to the animal kingdom, and to the environment. The statement of responsibility to and for the environment needs to go well beyond current definitions of environmental justice to embrace the responsibility of the earth and life sciences, anchored in the preservation of life in all its forms. It may well be argued that it does not stop at the artificial distinction between the living and the dead, but also responsibility for the inanimate, for the system as a whole, for information.

A Few Initial Prescriptions for the Eco-university

The concept and theory of the eco-university needs to go beyond an "ethics of responsibility," it needs to consider and explore its possible meanings, interpretations and approaches in a global age in order to establish and apply key features of the eco-university – its dynamism, interaction with its environment, its own emergent form and its exploration of the discourses of sustainability. In this concept of the eco-university, each institution must be prepared to consider not only its own practices and alliances, but also its place within the greater global university ecosystem.[6]

A fundamental starting point must be an analysis of the development of the new science of ecosystem ecology as "a comprehensive, science-based approach, one which is based on the wise use and management of natural resources"[7] and on the different theoretical applications of ecology in its different branches: not just evolutionary, physiological, behavioral, population, community ecology and biogeography, conservation biology and sustainability, but also social, human and political ecology. We need to understand the emergence of the new science and the origins of modern environmental thought (Egerton, 2012, Steiguer, 2006), i.e. the work of such theorists as Barry Commoner, Paul Ehrlich, Kenneth Boulding, Garrett Hardin, Herman Daly, and Arne Naess beginning in the early 1960s. And, we need determine whether and how it differs from more mainstream science.[8] This analysis is critical for the repositioning of the earth sciences and the life sciences, including the new biology, biotechnology and its relations with information science and emerging digital systems. In terms of prescriptions I would argue that critical accounts of the beginnings of ecological thought are genuine forerunners of the first sciences to examine the earth as constituting a global interacting and functioning entity. Such critical accounts may also allow us to understand better the influence of ecology on conservation and environmental movements. Such a better understanding can, lead to the analysis of

the relations between ecology and global policy, including the emergence of concepts like "biodiversity" "greenhouse effects" and global climate change which were introduced at the first Earth Summits held in the 1990s.[9] Roman Sewid and his colleagues in "Science with Society in the Anthropocene" argue that a new interdisciplinary and integrative science is essential when addressing sustainability because science increasingly has to deal with normative and value-related issues. This new integration requires changes to the curriculum and the education of students:

> Intense discussion has centered on the question of how the academic system might adjust in order to be better prepared to effectively contribute to the coping of complex sustainability problems (Leshner 2002; Raven 2002; Rowe 2007). In the field of sustainability science, a consensus has emerged that academia needs to be reoriented in order to achieve a better balance between disciplinary and interdisciplinary research, and to actively involve stakeholders and decision makers at local to global levels in a *trans*disciplinary process (Gibbons 1999; McMichael et al. 2003; Martens et al. 2010; Reid et al. 2010a, b). The academic system is still fundamentally organized according to disciplines. As a response to the challenges mentioned, however, decisive changes in the academic system have already occurred. New hybrid disciplines such as "environmental sciences" have emerged, and integrated projects and integrated modeling are promoted. This also has implications for the education of students, who are increasingly involved in interdisciplinary settings to tackle (contested) human–environmental problems (Stauffacher et al. 2006; Barth et al. 2007; Wiek et al. 2011).

Is ecology as a science-based movement capable of questioning the very foundations of modernity and contesting its logic in the name of science (Sachs, 1991)? The opposition in question might be better seen in terms of a broader philosophical position, one that lines up science on one side, with a mainstream, "no-limits-to-growth" economics of development (read "modernization"). As such, it reflects Enlightenment (and Eurocentric) assumptions about "change" and "progress" against a Romanticist anti-modernism. The latter, by contrast, attempts to hold onto organicist metaphors, resists the instrumental rationality that characterizes the perceived positivism of the sciences, and courts "deep ecology" principles, "local knowledge" and the naturalism of other cultures. This deep philosophical ambivalence that originates within Enlightenment culture hints at a conceptual and epistemological tug-of-war, one that has its genealogy, at least in the modern *episteme* (to use a Foucauldian term), originating from the days well before the formation of the discipline of scientific ecology in the early twentieth century. Understand-

ing this opposition – the whole intersecting matrix of grand narratives of modernism and its oppositional anti-modernist counter-narratives – which, incidentally is still very much part of the on-going "culture wars" of the early twenty-first century, is fundamental to understanding how we might break free of this controlling dualism, and thus move beyond modernity.

Another fundamental starting point is signified in the "eco" root meaning shared by ecology and economy. It provides the basis for various conceptions of the university and higher education in general in its contribution to knowledge economies and ecologies within the concept of the emerging global digital university ecosystem. It includes not only the advent of social media, knowledge sharing and collaboration, but also the development of "big" publishing systems, the emergence of "big data," open access and other innovations in the field of academic publishing. The dual cross-over purpose is the question of a going beyond a productionist metaphysics that dominates the industrial age, to a new ethos and new possibilities for exploring the post-industrial green or sustainable economy (Peters, 2012). In this endeavor there needs to be room for an ongoing investigation of the possibilities of alternatives to science, technology and capitalism that have been developed out of the Heideggerian corpus (Zimmerman, 2000; Critchley, 2004; Mei, 2011, Fitzgerald, 2006) and the emergence of environmentalism, environmental ethics and environmental justice.[10]

As humanity proceeds into the twenty-first century there has been a steady focus on the profound changes to our relationship with the rest of the living world. This has occasioned attempts by scientists to argue the case for formally recognizing the Anthropocene as a new epoch in Earth history (Steffen et al., 2011) and to propose "Earth System" governance as an emerging new paradigm in the social sciences (Biemann, 2014). In this global change, science universities have a responsibility beyond the economic instrumentalism and utility that currently captures the academic imagination. That is, they must rethink the fundamentals, rethink the disciplines and rethink the concept of the university.

NOTES

1. http://www.poets.org/poetsorg/poem/force-through-green-fuse-drives-flower

2. I would like to thanks Prof. Dick Pharis, University of Calgary, for invaluable comments and corrections to this essay.

3. The pre-history of the ecological university might be said to begin with the rise of systematic biology in the nineteenth century with Linnaeus at Uppsala University in Sweden and continue into the twentieth and twenty-first centuries with the rise of biology, the life sciences and biotechnology as the reigning sciences.

4. See http://branemrys.blogspot.co.nz/2014/09/xenophons-oikonomikos.html for a brief description and http://www.perseus.tufts.edu/hopper/text?doc=Xen.+Ec.+1&fromdoc=Perseus%3Atext%3A1999.01.0212 for the English translation.

5. See "Earthsongs: Ecopoetics, Heidegger and Dwelling" (Peters & Irwin, 2002).

6. On the concept and local practices see Eco University – sustainable design innovation http://inhabitat.com/tag/eco-university/; What are Eco-Schools? http://www.eco-schools.org/menu/about; Green schools and green campuses – https://www.linkedin.com/groups/GreenSchools-EcoSchools-GreenCampus-EcoUniversity-Practitioners-7430053; Eco university alliance http://guizhou.chinadaily.com.cn/2014-07/07/content_17663145.htm; Gaia education – the first online Eco University http://www.gaiaeducation.net/index.php/es/gaia-education, http://www.gaiaeducation.net/index.php/es/gaia-education-webinars.

7. See http://www.macaulay.ac.uk/copenhagen/

8. For interesting work on this question see Schroll (2000) and Shiue, Ivy et al. (2014).

9. See Clark & Dickson, (2003).

10. On environmental ethics see the entry by Brennan and Lo in the Stanford Encyclopedia of Philosophy at http://plato.stanford.edu/archives/fall2011/entries/ethics-environmental/. I am referring to the recent field of environmental law and governance that guides environmental policy and planning, and draws on political ecology and its discussion of development and sustainability (Schlosberg, 2007).

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