THE ETHICS OF ECOPOIESIS AND ITS IMPORTANCE AS A REGENERATIVE ETHICS

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Abstract: The existential crises humanity faces are primarily crises of ethics. To solve them, I argue, it is therefore to philosophers that we need to turn and not scientists and engineers. But many philosophers throughout history have been part of the problem of the degeneration of ethics. In this paper I will introduce a new approach in ethics to help solve our ethical crises and regenerate ethics, ecopoiesis, created by process philosopher, Arran Gare. Ecopoiesis refers to the processes of home creation. Its roots are in process philosophy and radical ecology, fields which better understand the real complexities of reality. I model the regenerative ethics of ecopoiesis on the regenerative farming movement using the microbiome as an example of how it works.

Keywords: Ethics; Ecopoiesis; Philosophy; Regenerative farming

INTRODUCTION

The existential crises humanity currently faces are primarily crises of ethics. Whether they be global warming and associated ecological collapse, economic chaos, nuclear war or the threat of artificial intelligence, all can be traced to the big ethical questions of what is a good life and how to best create it. These crises emerge from fundamental and often hidden assumptions about what a good life looks like and here I suggest a few. In relation to global warming, for example, there are assumptions that higher energy use leads to a good life. In economics, it is that a good life is achieved through winning competitions for resources. In

nuclear war it is the assumption that my good life requires the obliteration of most other life and in relation to AI, it is the assumption that the good life will come from relinquishing control and responsibility for my own life to a higher and superior power.

Because these crises are primarily ethical ones, it is to ethics that we need to turn in order to overcome them. We need to turn to philosophers, rather than the scientists and engineers who help create these crises by too often not questioning their assumptions. But not all philosophers, I argue, because many philosophers have also been part of the problem in not adequately challenging their assumptions. It is philosophers with what I will argue are deeply flawed concepts of reality, knowledge and ethics who have helped generate our existential crises. This is why I will argue that we need to turn to those philosophers whose roots are in process philosophy and radical ecology.

In this paper, drawing on these philosophical traditions, I will defend this assertion by introducing you to a new approach to ethics which has its roots in process metaphysics and unites holistic ancient wisdom with current developments in post-reductionist science and radical ecology. This is the ethics of ecopoiesis, first conceived and developed by process philosopher, Arran Gare.[1] Ecopoiesis translates from Ancient Greek to mean home creation and so it focuses on the nature and quality of homes that creatures create and how these homes can either augment the conditions for the potential for life, or destroy them. I will also argue that ecopoiesis, drawing on the regenerative farming movement which seeks to replace unhealthy farming methods with healthy ones, can be thought of as a regenerative ethics.[2] My argument will be that in a degenerate global ethical environment, a regenerative approach to ethics will be needed to restore it to good health. But before discussing ecopoiesis in more detail, I want to provide some understanding of how such a concept evolved.

ECOPOEISIS AND PROCESS METAPHYSICS

Ecopoiesis begins with process metaphysics. I was introduced to process

[1] The main introduction to Gare's concept is in Gare A., *The Philosophical Foundations of Ecological Civilization: A Manifesto for the Future*, (Routledge,Oxon, 2017).

[2] My introduction to regenerative farming was through reading Massey C., *Call of the Reed Warbler: A New Agriculture A New Earth*, (University of Queensland Press, St. Lucia, 2017).

philosophy as an undergraduate in the Philosophy of Culture course run by Arran Gare. I was also introduced to the importance of systematic philosophy in which one's epistemology and axiology needs to be consistent with one's metaphysics. My first exposure to the nature of process philosophy came from reading Gare's seminal work, *Nihilism Inc.: Environmental Destruction and the Metaphysics of Sustainability.*[3] In his book, Gare tells a story of the history of philosophy from the perspective of a dialectic between two opposing metaphysical traditions, mechanistic materialism and process metaphysics. Mechanistic materialism has its roots in the argument by Parmenides and later Plato, that what is truly real is that which does not change. Process metaphysics, alternatively, has its roots in the arguments of Heraclitus that change or flux is fundamental. For Heraclitus, reality is vibratory and dialectical in being generated by the dynamic tension between opposing forces.

Through this framework, Gare is able to discuss and evaluate most of our greatest philosophers and philosophical traditions in relation to whether their work reveals a Parmenidean or Heraclitean metaphysics. In particular, he identifies the analytic tradition with mechanistic materialism and holistic relational traditions with process thinking. His main argument is that the environmental destruction we have seen over the past 100 years or more can be linked to the dominance of the static and highly abstract thinking associated with mechanistic materialism. Countering this, therefore, will require an understanding of the alternative history of process philosophy and its nature in order to increase its power and influence, not only in the academy, but among global policy-makers.[4]

The list of process thinkers, identified by their primarily active view of reality, is extensive and growing. Gare particularly focuses on post-Kantian philosophy and the relationship between Friedrich Schelling and Georg Hegel, seeing Schelling as the inspiration for process developments in postmodern science.[5] He

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[3] Gare A. *Nihilism Inc.: Environmental Destruction and the Metaphysics of Sustainability*, (Edo-Logical Press, Como, 1996).

[4] Ibid.

[5] The importance of Schelling to process philosophy is argued for in Gare A, 'The Roots of Postmodernism: Schelling, Process Philosophy and Poststructuralism', in *Process and Difference: Between Cosmological and Poststructuralist Postmodernisms*, Ed. Catherine Keller and Anne Daniell (SUNY Press, New York, 2002), pp.31-53.

also singles out Henri Bergson, Jean Piaget, Maurice Merleau-Ponty, Paul Ricoeur, Pierre Bourdieu and more recently, Gilbert Simondon. What unites process thinkers from whatever tradition is their understanding that beneath our abstract definitions and determinations is that which is indefinable and indeterminate, whether it be Schelling's unpre-thinkable being, Charles Peirce's real vagues or Simondon's pre-individual.[6]

My interest in process thinking as a student was in its application to understanding the emerging global obesity crisis. My experience of working with people suffering obesity and associated health problems, was that they had lost their sense of reality in not being able to comprehend the extent of the deterioration of their health since their youth. Gare's process metaphysics and dialectic provided a framework within which to understand how static, mechanistic materialist metaphysical assumptions were associated with this loss of a sense of reality. It stemmed from an inability, or unwillingness to understand the reality of change and its impacts on processes of ordering. Process metaphysics provided a theory of reality which I could contrast with others and from this I could understand the role of human abstract thought and imagination in constructing Parmenidean virtual realities. I could then evaluate all of those actors within the field of the obesity crisis in relation to who had a better grip on reality.[7]

What particularly attracted me to process thought was that it provided an argument for holistic/relational thinking, something that I intuited was more fundamental, based not in mystical or spiritual thinking but in the history of philosophy as well as recent developments in physics and biology and the emerging sciences of complexity. Since completing my PhD in 2004, the knowledge base of science has moved further towards justifying a process view.

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[6] All of these concepts are variations on the theme identified by Murray Code, that the ground of process metaphysics is vagueness. Code M., *Myths of Reason: Vagueness, Rationality and the Lure of Logic*, (Humanities Press, New Jersey, 1995).

[7] McLaren G., *The Metaphysical Roots of Physical Inactivity and Obesity in Late Capitalism: Toward a Better Understanding of Major Health Problems Through the Application of Process Philosophy*, PhD. Thesis, 2004 at https://www.academia.edu/15168269/The_metaphysical_Roots_of_Physical_Inactivity_and_Obesity_in_Late_Capitalism_Toward_a_Better_Understanding_of_Major_Health_Problems_Through_the_Application_of_Process_Philosophy .

But even before this, [8]physicist Werner Heisenberg wrote in his book, Physics and Philosophy: 'We may remark at this point that modern physics is in some way extremely near to the doctrines of Heraclitus. If we replace the word 'fire' by the word 'energy' we can almost repeat his statements word for word from our modern point of view.'[9]

What process thinking also provided was an understanding of how order is generated in the universe through complex processes of constraint.[10] Whereas analytical thinkers start with a universe already divided into discrete parts, which then have to be related somehow, process philosophers start with a universe that is an undivided, interrelated whole. We then seek to understand how particular processes distinguish themselves from within this whole. Because everything in the universe is moving, order is understood as trajectories distinguished by different speeds. Also, because everything is moving, causation involves the constraining of processes rather than the Newtonian idea of the pushing or pulling of inert objects.

From within this metaphysical view, Ecopoiesis can be understood as rooted in process philosophy because in its Ancient Greek origins the word poiesis was understood as a verb. Ecopoiesis is the activity of making or creating a home and not a finished product. It is not Being, as Plato understood it, but a process of becoming.[11]

ECOPOIESIS AND THE HISTORY OF ETHICS

I teach ethics. I have for many years now but more specifically, I teach the history of ethics. Epistemologically, process philosophy sees narratives as being more primordial than facts and concepts.[12] As temporal creatures, humans gain knowledge and understanding through creating, telling and listening to stories in which there is a temporally linked sequence of events. The relationship between

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[9] Heisenberg W., *Physics and Philosophy: The Revolution in Modern Science*, (Penguin Books, London, 1990), p. 29.

[10] Gare A. *Nihilism Inc.* op. cit., p. 313-315.

[11] Ibid. It is the dialectical relationship between 'Being' and 'Becoming' explored by those such as Plato that is central to Gare's work.

[12] The primacy of narrative is argued for in Gare A., 'The Primordial Role of Stories in Human Self-Creation', *Cosmos and History: The Journal of Natural and Social Philosophy*, Vol 3, N. 1, 2007, pp. 93-114.

stories and facts or concepts is like the relationship between diachronic and synchronic approaches in linguistics. Process thinkers acknowledge a dialectical relationship between the two but see the diachronic movement through time as being more primordial than the synchronic point in time. As process philosopher, Alfred North Whitehead argued, a point in time is an abstraction and to take it as primary would be to commit the fallacy of misplaced concreteness.[13]

The problem with how ethics has been taught for many years now is that a synchronic approach has been favoured with a focus on particular theories or concepts abstracted from their historical contexts. Perhaps the main moral philosopher who has argued against this trend is Alasdair MacIntyre. As he writes in his A Short History of Ethics:

> Moral philosophy is often written as though the history of the subject were only of secondary and incidental importance…Some philosophers have even written as if moral concepts were a timeless, limited, unchanging, determinate species of concept…[14]

From my perspective, as a process philosopher, such static approaches have their roots in the metaphysics of mechanistic materialism and are highly abstract. I therefore teach the history of ethics using approaches such as MacIntyre's, particularly emphasizing the importance of telos in ethics and understanding ethics' concrete origins in human thought and argument. Through a historical, process approach, I am able to identify evolving dialectical patterns involving oscillating processes. Processes such as oscillations between order and chaos, nature and super-nature, absolutism and relativism and reason and emotion. I am able to appreciate what is similar and what is different between now and the past and I am able to evaluate moral philosophers and their concepts based on the levels of abstraction of their theories; who has a better grip on reality.

I understand the history of ethics to be a dialectic of progress towards greater moral consciousness, similar to the dialectical approach of Georg Hegel, except that whereas Hegel saw this dialectical process leading to absolute freedom, I see it leading to a deeper understanding of the nature of constraints which are the

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[13] Whitehead initially used this concept to critique the idea of simple location of instantaneous material configurations being understood as primary in Classical Physics. Whitehead A. N., *Science and the Modern World*, (The Free Press, New York, 1967), p.51.

[14] MacIntyre A., A *Short History of Ethics*, (Routledge, Oxon, 2002) p. 1.

conditions for freedom. Hegel's dialectical process moved from abstract to negative to concrete.[15] I interpret the abstract as simplistic or naïve views of the world which then encounter a negative, or obstacle, which if overcome leads to a more complex understanding.

For example, think of the simplistic or naïve views of transsexuals that we have in our society, an abstract view. Encountering the negative would be an engagement and conversation with such a person which could then lead to a more concrete, or complex understanding of this person and the nature of their struggle for recognition. Through such a process of encountering and overcoming obstacles, humans go from being naïve holists as babies to alienated egoists confused over their relationships with everything to ultimately, all going well, informed holists knowing that the universe is their home. In terms of ecopoiesis, this journey can be understood as a process of home creation.

At each stage we create meaning by situating the particulars of life within greater wholes beginning with our immediate environments to various communities, the Earth and ultimately the Universe. This is practical philosophy because Whitehead argues that the study of philosophy is a voyage towards the larger generalities.[16] Against Hegel, however, I argue that there is no guarantee of such transcendence. Many never transcend alienated, egoistic and fragmented stages to become whole, particularly in an absolute Hegelian sense. Here I am more in agreement with Paul Ricoeur's critique of Hegel in emphasizing the imperfection of syntheses and the problem of Hegel's ultimate, atemporal mediation of history.[17] Our efforts often fail and the success or failure of our moral development process, I argue, will be largely dependent on the quality of homes we create to augment such transcendence.

In the development process which is the history of ethics, we see a similar journey of humanity. It begins with social life and the local and practical idea

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[15] Hegel develops his understanding of consciousness development in Hegel G. W. F., *Phenomenology of Spirit*, (Oxford University Press, Oxford, 1977).

[16] A good understanding of Whitehead's metaphysics and this direction is in Shang N., 'Whiteheads Process Metaphysics as a New Link between Science and Metaphysics', in *International Journal of Trend in Scientific Research and Development (IJTSRD)*, Vol 4, Issue 2, February 2020, pp. 242-250.

[17] A good discussion of Ricoeur's critiques of Hegels' dialectic is in Marmasse G., 'Ricoeur as a Reader of Hegel: between defiance and nostalgia', in A. Ferrarin, D. Moran, E. Magri & D. Manca (dir.), *Hegel and the Phenomenological Movement* , Springer, 2019, p. 163-175.

that particular character traits, or virtues, need to be developed and practiced by members of communities in order for them to thrive as wholes. This is common to both Eastern and Western cultures but it is perhaps in Aristotle's virtue ethics that this idea is best expressed. For Aristotle, transcendence requires a telos, or ideal of the good life that one should strive to realize.[18] Aristotle also combines ethics and politics in his argument that you need a virtuous society to create virtuous individuals.

Of great importance to the Ancient Greeks was the primary role of reason in determining how societies or individuals should act in fulfilling their roles. By reason, I mean the use of thought and argument and the continual human conversation challenging or affirming our established norms and rules, as well as creating of new ones. Lack of reason I associate with the unreflective acceptance of the status quo due to it being seen to have some fixed origin which transcends human thought and argument. By looking at the history of ethics as dialectical oscillating patterns, such a pattern can be seen to emerge relating to whether reason is encouraged or discouraged. The following is my brief interpretation of the history of ethics, seen through this dialectical perspective and roughly following the narrative outlined by MacIntyre. Socrates famous question about piety in The Euthyphro; whether the gods love the pious because it is the pious, or whether the pious is pious only because it is loved by the gods, sets the scene for this dialectic.

I will start quite late in this history with Christianity. With the emergence of the monotheism of Christianity within conditions of oppression in the Roman Empire, we see command deontological theory emerge from a supernatural source in which one is encouraged not to reason for yourself, but blindly follow absolute rules. This becomes the status quo for some time until Thomas Aquinas challenges such blind obedience by creating a space for reason in his Natural Law theory. Martin Luther's challenge to the authority of the Catholic Church due to its decadence takes us back to blindly obeying absolute, supernatural laws. We then see Renaissance Humanists, inspired by the Ancient Greeks, seeking to re-ground ethics in human reason. But perhaps the most significant challenges to the fundamental role of reason, of human thought and argument, come ironically

[18] Aristotle, *Nichomachean Ethics*, trans. W. D. Ross at https://classics.mit.edu/Aristotle/nicomachaen.html.

in the age of reason and the scientific revolution.

Here we see some of our most famous enlightenment thinkers using their powers of reason to preclude the need for reason in ethics. Thomas Hobbes, for example, in his social contract theory reasons that people are better off submitting their will to the Sovereign rather than think for themselves in order to be protected from dangerous others. David Hume, in his emotivism, sees no role for reason at all in ethics seeing it as just deriving from emotional sensations. Jeremy Bentham uses his reason to create a utilitarian algorithm we can all equally use rather than have to contemplate our actions and in response, Immanuel Kant, defending reason against Hume, creates his categorical imperative to generate absolute rules we can then blindly follow.

All of these highly influential thinkers in their own way reflect mechanistic materialist metaphysics, through their assumptions that ethics should be based on a fixed theory of human nature or a synchronic logical structure, rather than being contingent upon the history of human thought and argument. They seem to be pre-occupied with ending the arguments about ethics. All can also be seen to embrace the atomism emerging in new developments in science and the growing individualism driven by information technologies, by making the individual fundamental. It is not until Georg Hegel's response to Kant, inspired by the Ancient Greeks, that we see history and human's primary social nature being taken seriously again and ethics seen as a development process with a telos.

From my complex process perspective, the main problem with these theories is the high level of abstraction involved and their over-simplification of reality. Particularly in the case of Hobbes, Utilitarianism and Kantianism, in being reductionist, these theories just do not work unless the components of their theories are grossly over-simplified. With Hobbes, for example, humans are atomistic egoists seeking self-protection. For Bentham, humans are self-interested pleasure-seeking individuals and for Kant, humans are fully-formed, fully autonomous individual rational agents. Introduce any further complexity into these components and the theories fall apart. But these theories are not only deeply flawed, metaphysically, they are dangerous in their application. We know, for example that wicked problems, such as global warming, emerge from

applying simplistic solutions to complex problems.[19] With these theories we see simplistic solutions being applied to complex ethical problems.

A particularly bad outcome can be likened to the grey goo, or paper clip scenario discussed in relation to artificial intelligence. Here we see an advanced computer transforming the world according to what its particular logic dictates it should be, turning the world into paper clips. Utilitarianism, requires an ability to accurately predict future outcomes, something process thinkers regard as problematic due to reality being emergent and thus indeterminate. If unpredictability is a problem for a Utilitarian, but they don't want to give up on their theory, as many do not, then the answer is to try to make the world more predictable to fit the theory. As I have written about in my paper on the threat of Society 5.0., a global plan to integrate Industry 4.0 with 5G networks and robotics to create a predictable world in which an AI can anticipate and meet our every need, becoming predictable pets of an AI would be a Utilitarian disaster for human ethical development.[20]

For a Hobbesian Social Contract to be effective, we need to be trained to distrust our fellow humans and conform to what Hobbes defines us as being. This could have the effect of creating a surveillance society in which there are cameras monitoring our every move being observed by other humans or perhaps, an AI. This is just what is happening in the world, leading to those such as Gare arguing that we are now living in a Hobbesian world.[21] For Kantianism to work we need to create a sterile world where there are no shades of grey. Perhaps a world based on simplistic binary logic, which is, of course, the logic driving modern computers. Our creation already of these simplistic, more predictable worlds in the image of their human creators, has been a disaster for the environment as these worlds require vast amounts of energy to create and maintain them,

[19] The concept and nature of wicked problems was first put forward in Rittel Horst W. J. and Webber M. M., 'Dilemmas in a General Theory of Planning', *Policy Sciences*, 4:2 (1973: June), p.155-169.

[20] McLaren G., 'Why the Future Needs Ecological Civilization and Not Society 5.0', *Cosmos and History: The Journal of Natural and Social Philosophy*, vol. 17, no. 1, 2021, pp. 567-598.

[21] The political philosophy of Thomas Hobbes is a major focus of Gare's work. He sees his atomism, nominalism and psychological egoism as being particularly corrosive in the history of ethics and politics.

flattening oscillations necessary for continued potential for life on this planet.[22]

With Schelling and Hegel and the traditions they inspire, including the British Idealists and phenomenologists, we see greater complexity accounted for and therefore, from my perspective, a better grip on reality. With the British Idealists, for example we see a return to Aristotle to challenge Kant stressing our primary reality as social creatures and our development process towards a telos of self-realization. For F. H. Bradley, self-realization is the achieving of greater wholeness or the transcendence of the finite through comprehending your place in the infinite.[23] Inspired by Hegel, we also see the re-emergence of dialectical thinking to transcend analytic approaches.

Despite being rooted in misconceptions and over-simplifications of reality and despite their impact in removing reason from ethics, Social Contract theory, Utilitarianism, Kantianism and add to that Command Theory, remain influential. But philosophers who take reality seriously have to ask themselves whether it is ethical to deny the complex truth of reality and over-simplify it in order to impose social control. Utilitarianism remains the basis of today's dominant economic theories, for example. This, despite the many criticisms of these theories for actually justifying unethical behaviour. In the process tradition's critique of mechanistic materialism, this influence can be seen to be due to the simplistic nature of these theories and human beings struggle to deal with complexity. A further example of this in the 20th Century, is G. E. Moore's naturalistic fallacy. According to Arran Gare:

> Of all the destructive ideas produced and disseminated by the British philosopher, G. E. Moore, one of the most influential progenitors of analytic philosophy, none has been more pernicious or disastrous for culture and civilization than the notion of "the naturalistic fallacy"…this so-called fallacy denied any relevance to efforts to advance our understanding of the cosmos and our place within it to ethics and political philosophy.[24]

In denying that an ought could be derived from an is, like David Hume before

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[22] I explore the existential and ethical threat of the drive to flatten oscillating processes in my paper, McLaren G. 'Climate Change and Some Other Implications of Vibratory Existence', *Cosmos and History: The Journal of Natural and Social Philosophy*, vol. 5, no. 2, 2009, pp. 134-160.

[23] MacIntyre A. op. cit. pp. 235-239.

[24] Gare A., 'Philosophical Anthropology, Ethics and Political Philosophy in an Age of Impending Catastrophe', *Cosmos and History: The Journal of Natural and Social Philosophy*, vol. 5, no. 2, 2009, p. 264.

him, Moore denied the possibility of finding a basis for ethics in nature, such as in ecology, arguing instead for subjective intuition. Other analytical thinkers like logical positivist, A. J. Ayer, deemed ethics to be in the realm of emotion and therefore irrational, meaning unable to be verified empirically. According to Gare and MacIntyre, the influence of these theories has created a current crisis of ethics as it has left the field of ethics fragmented and irrational. To remedy this, Macintyre argues for a revival of Aristotelian virtue ethics. Gare also calls for a revival of virtue ethics but in light of the environmental problems humanity now faces, a virtue ethics rooted in ecology and complexity science. Here is where radical ecology becomes important.

ECOPOIESIS AND RADICAL ECOLOGY

The problem with synchronic, analytical approaches to understanding ethics, I argue, is that, while logical problems can be found in theories, even fatal ones, the theories tend to be all seen as equally valid and applicable. As Chappell agues;

> Contemporary moral theory is obsessed by the contest of the theories, in which consequentialists, contractarians, Kantians and indeed virtue ethicists…set different accounts of 'the right' in competition, exploring their explanatory powers and exposing unwelcome consequences by reference to ever more far-fetched imaginary cases.[25]

I call this the supermarket approach to ethics. When one has an ethical crisis, you simply pull what theories you need off the shelf and apply them. But when examined in their historical context, ethics theories can be related to the particular problems in the world philosophers were engaged with at the time and the particular prejudices and biases of the philosophers themselves. In particular, one can better reveal the metaphysical assumptions underpinning theories and a better appreciation can be had of how applicable these theories are to the crises we now face. My view is that the misconceptions and over-simplifications of reality, I spoke of earlier, which underpin many theories in ethics, make them invalid.

Radical ecology emerges as a challenge to whether our supermarket shelf of existing theories are adequate to dealing with the ecological challenges we now

[25] Angier T., 'Aristotle, Ethics', *The Key Thinkers*, Bloomsbury, London, 2012.

face. It emerges within the relatively new and growing field of environmental ethics to challenge moral extensionism. Moral or ethical extensionism refers to the extending of human moral concerns to other domains, such as other animals and ecosystems.[26] The critique of moral extensionism by radical ecologists is aimed at the incremental nature of its development and its use of problematic, existing theories, arguing instead for a radical shift in our approach to ethics. As Carolyn Merchant famously defined it, radical ecology goes beyond our existing theories in seeking '…a new ethic of the nurture of nature and the nurture of people. It empowers people to make changes in the world consistent with a new social vision and a new ethic.'[27]

The history of moral extensionism reveals a broadening of its reach over time. It starts with anthropocentrism, or the view that we should protect the environment because it is good for humanity. It asks the question of whether we should extend our moral concerns to future generations of humans, a controversial question because the assumption is made that these future humans will be like us and that they perhaps won't be better able to solve their ethical problems than we can. The main problem with anthropocentrism is that it extends the view held by many enlightenment thinkers that the environment exists as primarily an instrument for human benefit. Deep Ecology thinkers criticize anthropocentric views in environmental ethics as Shallow Ecology, which seeks to solve our environmental problems while maintaining the status quo in affluent societies.[28]

As problematic are the extensions into the domain of other creatures of theories such as Utilitarianism and Kantianism. Peter Singer, for example, argues that because animals other than humans experience feelings of pleasure and pain, Utilitarianism should be extended into their domain. This is the basis for Singer's arguments against the killing of animals for food or experimentation. Alternatively, as a Kantian, Tom Regan argues that animals other than humans should be seen as ends in themselves and not as instruments and should be

[26] Newman J. A., Varner G. and Linquist S., 'Extensionism in Environmental Ethics', Ch 8, in *Defending Biodiversity: Environmental Science and Ethics*, (Cambridge University Press, 2017), pp. 233-273.
[27] Merchant C., *Radical Ecology: The Search for a Livable World*, (Routledge, New York, 2005), p. 1.
[28] Naess A., 'The Shallow and the Deep Long Range Ecology Movement: A Summary', In *Inquiry*, 16, 1973, pp. 95-100.

afforded the same rights as humans. He justifies this by broadening Kant's definition of what it is to be an autonomous rational agent, referring instead to individuals who are subjects-of-a-life. Like Singer he also rejects the exploitation of animals but from a Kantian perspective.[29]

While this might provide a good outcome for some animals, the problem is that both of these theories, as I have discussed, are deeply flawed in their conception. They are reductionist in privileging consequence or intent and require a simplistic model of animal nature in which to work, particularly the metaphysical assumption that individuals are primary. Singer's and Regan's efforts to complexify Bentham's and Kant's theories only create more problems. One of these problems involves using these theories to justify moral intervention in the lives of individual animals with little concern or understanding of how such interventions might upset the delicate balances of complex ecosystems.

Whereas both Singer and Regan extended their theories to creatures with more evolved nervous systems, others such as Albert Schweitzer extended ethics to all living creatures. The Enlightenment, according to Schweitzer, failed to find meaning in the world and therefore failed to affirm life, creating the conditions for pessimistic philosophies to emerge which simply expressed the will-to-live, devoid of ethics. Schweitzer argues that: "True philosophy must start from the most immediate and comprehensive fact of consciousness, and this may be formulated as follows: 'I am life which wills to live, and I exist in the midst of life which wills to live.'"[30] While in nature one form of life must always prey upon another, according to Schweitzer, human consciousness holds an awareness of, and sympathy for, the will of other beings to live and so an ethical human must strive to escape from this contradiction as far as possible.

The next level of extensionism is to land or ecosystems, exemplified in the work of Aldo Leopold. According to Leopold:

> The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land . . . [A] land ethic changes the role of *Homo sapiens* from conqueror of the land community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the

[29] Milburn, J., 'The analytic philosophers: Peter Singer's animal liberation and Tom Regan's the case for animal rights', In Wright, L., (ed.) *The Routledge Handbook of Vegan Studies*. Routledge, pp. 39-49.

[30] Schweitzer A., 'The Ethic of Reverence for Life', at http://www.animal-rights-library.com/texts-c/schweitzer01.htm.

> community as such.[31]

With Leopold we enter the field of radical ecology in which it is argued that it is not enough to extend existing and deeply flawed ethic's theories to address our environmental crises, theories that are actually implicated in creating and exacerbating the problems. Instead, we need a new ethic which can heal the dysfunctional relationships humanity has with the natural world.

Inspired by those such as Leopold, Radical ecology begins with philosopher Arne Naess and the Deep Ecology movement. Deep ecology argues that the natural world is a complex of relationships in which the existence of organisms is dependent on the existence of others within ecosystems. It argues that non-vital human interference with or destruction of the natural world poses a threat therefore, not only to humans but to all organisms constituting the natural order. Importantly, Deep Ecology is often framed in terms of the idea of a much broader sociality; it recognizes deep diverse communities of life on Earth that are composed not only through biotic factors but also, where applicable, through ethical relations, that is, the valuing of other beings as more than just resources.[32]

According to the Ecodharma Centre, Radical Ecology is defined, not as a monolithic movement with a fixed ideology, but as a critical engagement between Deep Ecology and Social Ecology, or might I suggest, a dialectic. They state that:

> Although deep ecology has provided a valuable philosophical and spiritual basis for the emergence of an ecological consciousness, and a revealing critique of the anthropocentric paradigms of our current civilisation, it has sometimes failed to offer much by way of political critique. At times proponents of deep ecology have tended to indiscriminately lump humanity together into an undifferentiated anti-ecological entity, sometimes even falling into misanthropy. Deep ecologists have often failed to recognise how, what Raine Eisler has called, the 'dominator system' of social organisation has been at core of the ecologically destructive socio-economic systems of our time. The apparent lack of a political critique and understanding of the role of socio-economic systems in ecological destruction led to a variety of criticisms from social ecologists. Many of those criticisms have been welcomed and have contributed to a deeper understanding of the systems at play

[31] Leopold A., *The Land Ethic, in A Sand County Almanac*, (Oxford University Press, Oxford, 1949), p. 204.

[32] Naess A., 'The Deep Ecology Movement: Some Philosophical Aspects', at https://openairphilosophy.org/wp-content/uploads/2019/02/OAP_Naess_Deep_Ecology_Movement.pdf.

amongst deep ecologists.[33]

In regard to Social Ecology, they go on to say that:

> Social ecology augments deep ecology with its analysis of the way in which patterns of social organisation such as patriarchy, capitalism and imperialism are central to the current ecological crisis. Social ecologists and ecofeminists have pointed out how the exploitation of nature has gone hand in hand with the exploitation of other humans in various hierarchical, militaristic, capitalist and industrialist forms. They point out that social transformation does not simply lead from a change of consciousness, but also requires radical restructuring of the socio-economic system. The work of many social ecologists like Murrray Bookchin, Francis Moore Lappé, J. Baird Callicott, along with contributions from George Bradford, Ariel Kay Salleh, Janet Biehl, and Carolyn Merchant have offered a valuable critique and corrective to deep ecology's limitations in this respect.[34]

ECOPOIESIS

The link between the ethics of Ecopoiesis and Radical Ecology can be seen in a mutual understanding of what the ethical problem is in relation to ecological destruction. As the Ecodharma Centre expresses it:

> There is now one dominant global culture, an ever expansionist and predatory industrial capitalism, valuing profit above life. It is a system which reduces the entire natural world – mountains, forests, oceans; plants and animal species (including human beings) – into resources to be ordered and controlled, used and exploited in the pursuit of material growth and economic development – this ever more suffocating technocratic system, is destroying the ecology of life.[35]

Both also share similar ideas of how to address this problem. Ecopoiesis, however, has its roots much deeper within the historical dialectic between process philosophy and mechanistic materialism. It is process philosophy which provides the metaphysical groundless ground which makes sense of holistic, relational, ecological approaches as well as offering a historical critique of the mechanistic materialist metaphysics underpinning ecological destruction. The holistic, relational and ecological approach of Radical Ecology is emergent from process

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[33] EcoDharma Centre, 'Radical Ecology', at https://ecodharma.com/articles-influences-audio/radical-ecology#:~:text=Embracing%20both%20deep%20ecology%20and,political%2Djudicial%20and%20technological%20systems.

[34] Ibid.

[35] Ibid.

philosophy and so an ethics of ecopoiesis is an approach which sits comfortably within the Radical Ecology tradition.

The importance of process philosophy to Radical Ecology can be understood from this quote from Gare:

> Acknowledging the irreducibility of complex processes, the reality of creative becoming, and that we are participants in the world that we are trying to understand, requires radical rethinking about the very nature of physical existence, and what it means to explain anything. As Prigogine and Stengers argued, it requires the acceptance of the process philosophy of Bergson and Whitehead in place of the reductionism of mainstream physics, whether in the form of atomism or unified field theory. And Ulanowicz is now arguing for a "process ecology" which should serve as the foundation for "an ecological metaphysic". That is, the ultimate existents of the universe have to be seen as creative processes, or durational self-constraining patterns of activity, and configurations of such processes in dynamic interaction, rather than as objects or things. The focus of science should be on processes and chance events, rather than on law, since as Ulanowicz put it: "laws emerged out of inchoate processes eventually to become static, degenerate forms of the latter".[36]

So, what is Ecopoiesis and how can it work? Important here is the idea in process metaphysics of reality consisting of multiple levels of different rates of processes in which larger, slower processes constrain and therefore provide the conditions for smaller and faster processes through processes of downward and upward causation. Hierarchy Theory emerging within ecological science, which argues for the complex interactions of different levels in nature where higher levels limit the potential for activity in lower levels constraining them to act in the interests of the whole, is consistent with this process view.[37] These different rates of processes can be conceived of as communities and so reality consists of a multiplicity of communities with different lifecycles. In Ecopoiesis, living communities can be further understood as homes. These homes, or communities are understood to be semi-autonomous and to retain levels of autonomy an organized de-centralization of power is needed. As Gare argues:

> The most promising path to achieve this transformation is the development of a

[36] Gare A., Toward an Ecological Civilization: The Science, Ethics and Politics of Ecopoiesis, Process Studies, 39.1, 2010, p. 14-15.

[37] Allen T .F. H. and Starr Thomas B., Hierarchy: Perspectives for Ecological Complexity, (The University of Chicago Press, Chicago, 1982).

> hierarchy of communities characterized by organized decentralization, with a high level of civilization at all levels of society. Broader communities should provide the homes for more local communities, constraining the way they develop, preventing conflict and exploitation, enabling and inspiring them to develop their full potential to augment the life of their communities, while empowering these local communities to constrain the broader communities to ensure they work for the common good. The economy also should be organized in this way, protecting local economies from destructive competition.[38]

What is it that we normally think of when we think of homes? After surveying my students the most common responses were warmth, security and privacy. But an important quality from a process perspective is stability. Ecopoiesis recognizes, like many ecologists, that there is not a balance of nature but dynamic stability requiring a tension between order and chaos.[39] A level of chaos creates indeterminacy and the potential for anticipating uncertainty and continual evolution of diverse forms. Good quality homes are distinguished by their ability to create dynamic tension between order and chaos, or metastability, where consistent order is generated which is not too ordered but at the same time open to other possibilities. Ideally these oscillations do not swing too wildly from one to the other, or have too wide a range of amplitudes.

The history of ethics I have put forward, however, reveals often wild oscillations between order and chaos. In the decay phases of the lifecycles of civilizations, for example, we see moral relativism emerge as the civilization loses the plot of its narrative. The response to this is most often the imposition of some form of strict, oppressive order. Those ethics theories that I have discussed which seek to stifle thought and argument emerge in these decadent phases to restore order. Both chaotic decadence where hedonistic or libertarian ethics dominates and oppressive forms of order, where absolute rule-based ethics dominates, are not conditions for good homes. A good home is a more dynamically stable place from which you can gain the confidence to explore the world knowing that it will be there to support you when you return.

In the history of ethics there seems to be only one theory which is also our most Ancient, which acknowledges the need to achieve a dynamically stable

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[38] Ibid, p. 31.

[39] The idea of life at the edge of chaos is discussed in Goodwin B., *How the Leopard Changed its Spots: The Evolution of Complexity*, (Princeton University Press, Princeton, 2001).

dialectical relationship between opposing forces, such as order and chaos; Virtue Ethics. Aristotle's concept of the mean acknowledges the relationship between virtue and vice and seeks virtue in finding the mean between extremes. This mean, I have argued, can be thought of as being at the edge of chaos.[40] Virtue ethics also understands that achieving dynamic stability requires a development process similar to Hegel's in which we learn where stability is through experience and transcending immature stages. Virtue ethics is dynamic and relational. It is dynamically created and maintained within communities. It recognizes the processual, vibratory nature of existence and the need to train ourselves and others to aim at the mean and exercise self-restraint. It also recognizes the importance of telos. That is why, Ecopoiesis is a form of ecological virtue ethics.[41]

Ecopoiesis and Radical Ecology reveal that G. E. Moore was wrong about his naturalistic fallacy. There is, an is, which justifies an ought and that is ecology and the conditions for the potential for life. A good home creates these conditions and a bad one does not.

ECOPOIESIS AS A REGENERATIVE ETHICS

I want to finish by speculating on how ecopoiesis works as a regenerative ethics in relation to the human microbiome. The idea of regenerative ethics was inspired by my engagement with regenerative farming in my paper, published in 2019, *Health in an Ecological Civilization: Towards a Process Understanding of the Dialectics of Health.*[42] Here I draw on the work of human ecologist and farmer, Charles Massey in his book, *Call of the Reed Warbler.*[43] Massey argues that the domination of the mechanical mind of humans and its obsession with technological fixes, has led to industrial farming and the degeneration of our land and our ability to sustainably grow nutritious food. He puts forward many examples of farmers prospering by rejecting the industrial approach and working with the land rather than trying to totally control it. This approach has seen drought, fire and

[40] I argue for this in McLaren G. 'Climate Change and Some Other Implications of Vibratory Existence', op. cit.

[41] This is a fundamental argument of Gare's in his Manifesto, drawing on virtue ethicist, Alasdair MacIntyre. op. cit.

[42] McLaren G., 'Health in an Ecological Civilization: Towards a Process Understanding of the Dialectics of Health', *Cosmos and History: The Journal of Natural and Social Philosophy*, vol. 15, no. 1, 2019.

[43] Massey C., op. cit.

chemically destroyed land regenerated into fertile, sustainably productive land. Essential for Massey is the idea of 'listening to the land' and studying its history and creating a future of partnering with the land.

Regenerative farming can teach us lessons in how to regenerate degenerate ethics environments in the world. Like regenerative farming, ecopoiesis, as Gare conceives it, requires that we transcend the toxic, nihilistic and fragmented egocentric levels of under-developed self-consciousness generated by mechanistic materialist thinking by studying history and listening to stories of ethical development and the world around us as they relate to a variety of homes. Through this we can develop a perspective which partners with multiple levels and works with natural processes, rather than trying to dominate and control them. We can develop what Gare calls, 'a feel for the whole' to overcome our alienation from the natural conditions for healthy life. We can regenerate at multiple levels, the ethical slums our mechanical and nihilistic thinking has generated, transforming them into homes that are the fertile ground for sustainable ethical development.

One way of understanding this is by starting with the homes we create for our microbiome. The Harvard School of Public Health characterize the microbiome this way:

> Picture a bustling city on a weekday morning, the sidewalks flooded with people rushing to get to work or to appointments. Now imagine this at a microscopic level and you have an idea of what the microbiome looks like inside our bodies, consisting of trillions of microorganisms (also called microbiota or microbes) of thousands of different species. These include not only bacteria but fungi, parasites, and viruses. In a healthy person, these "bugs" coexist peacefully, with the largest numbers found in the small and large intestines but also throughout the body. The microbiome is even labeled a supporting organ because it plays so many key roles in promoting the smooth daily operations of the human body.[44]

We all have unique populations of microbiota and while most of these are symbiotic, others can be pathogenic if not constrained. 'Microbiota stimulate the immune system, break down potentially toxic food compounds, and synthesize certain vitamins and amino acids, including the B vitamins and vitamin K. For example, the key enzymes needed to form vitamin B12 are only

[44] 'The Nutrition Source, Harvard T. H. Chan School of Public Health', at https://nutritionsource.hsph.harvard.edu/microbiome/.

found in bacteria, not in plants and animals.'[45] There are genetic factors determining the health and makeup of our microbiome but diet and lifestyle factors also play an important role such as ingestion of pro-biotic foods, fibre and performing regular exercise.

As a whole organism, we, therefore, have agency to create and maintain a home for our microbiome. This home acts as a level of constraint not only to provide the conditions for the microbiome to thrive, but to prevent individuals from asserting themselves in ways that can threaten the integrity of the whole organism, as with cancer cells. In the ethics of ecopoiesis, as a whole organism, we are understood to have an ethical responsibility to our microbiome. The microbiome are a community within communities and the quality of their home will be impacted by the quality of other homes which constrain them, such as the condition of my body, the home I live in and the broader homes in which we live. If I fail to create a good home for them, my microbiome will destroy my home and the conditions for life. My home, therefore, needs to be a place where they feel at home.

In this way the microbiome provides a good model of a regenerative ethics of ecopoiesis and its multi-level complexity. The homes of our microbiomes have suffered degeneration due to the subversive actions of higher level constraints driven by mechanistic materialist thinking. The industrial farming that Massey describes and the drive to create food and eating practices that are addictive and profitable rather than sustainable and nutritious, have negatively impacted the quality of the homes we create for our microbiome which has in turn, negatively impacted our health as wholes including the health of the planet. Through the approach of ecopoiesis we can regenerate these homes, but in returning to the beginning of the paper, we need to first recognize that these problems are not primarily ones for science and engineering to solve, but philosophy and ethics.

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[45] Ibid.

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