RESEARCH



The Philosophy of Anti-Dumping as the Affirmation of Life

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Abstract

Michael Marder in Dump Philosophy claims that there has been so much dumping with modern civilization that we now live in a dump, with those parts of our environment not contaminated by dumping, now rare. The growth of the dump is portrayed as the triumph of nihilism, predicted by Nietzsche as the outcome of life denying Neoplatonist metaphysics. Marder's proposed solution, characterized as "undumping", is to accept the dump and to promote reinterpretations and informal communities within the dump. It is argued here that Marder provides great insight into our current situation and its causes; however, his proposed solution is too weak. To respond to the situation described, it is argued, it is necessary to distinguish between healthy and unhealthy dumping, or more broadly, healthy and unhealthy participation in nature. To make this distinction, it is necessary see humans as ecosystems and components of ecosystems, including the global ecosystem, as these have been characterized by anti-reductionist ecologists. Ecosystems can be healthy or unhealthy. Dumping and dumps should be identified as problematic outputs when they damage the health of ecosystems. The products of human activity not destined to be consumed or used for further productive activity, can then be identified and judged according to whether they augment or damage ecosystems' health. Dumping should be severely restricted. This should be associated with making a commitment to life and its value, and living to augment life, developing the social and economic forms and institutions that facilitate living in this way.

Keywords Dump philosophy · Nihilism · Life · Ecology · Ecosemiotics

Introduction: from Nihilism to the Global Dump and Beyond

Friedrich Nietzsche in the fragments collected under the title *The Will to Power* (1968) noted that "Nihilism stands at the door" and asked "whence comes this uncanniest of all guests" (p.7). What did he mean by nihilism?: "*That the highest*

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values devaluate themselves. The aim is lacking, "Why?" finds no answer" (p.9). Analysing this nihilism further, he wrote: "From time immemorial we have ascribed the value of an action, a character, an existence, to the intention, the purpose for the sake of which one has acted or lived: this age-old idiosyncrasy finally takes a dangerous turn ... there seems to be in preparation a universal disvaluation: 'Nothing has any meaning" (p.351). These observations were a challenge, and this challenge was responded to both intellectually and through action. Michael Marder's book, Dump Philosophy: A Phenomenology of Devastation (2021), while only alluding to Nietzsche, both supports Nietzsche's claims and, through the metaphor of the dump, shows the consequence of this failure combat nihilism. As he notes, "the dump is an outgrowth of nihilism in all its positive splendour. Give the floor to Nietzsche's Zarathustra: 'The desert grows: woe to the one who harbours deserts'" (p.2). It is against the background of Nietzsche's work and philosophers influenced by it, such as Heidegger and proponents of Lebensphilosophie, that Marder's work can be most fully appreciated. Marder notes that excreting can be characterized as having a dump, and this image brings home graphically the universal disvaluation that Nietzsche was suggesting has been taking place. Our ultimate end is becoming the equivalent of dumped excreta, or is severely contaminated by it. We have transformed the world into a dump, and dumped ourselves within it. This now threatens the future of civilization, and possibly, humanity. Having faced up to and brilliantly characterized the devastated world we are now dumped within, and having accepted Nietzsche's argument that we can no longer find a way of orienting ourselves through an immutable transcendental realm of Platonic forms or Aristotelian potentialities, since effectively, focus on these engendered our current nihilism and the dump we are living in, Marder searches for a way out of this situation which does not participate in the logistics of the dump. As he put it, "We will be groping for answers and, even more so, for the right questions in semidarkness, at the dusk of thinking and being" (p.xiv). The book is a search for "the strategies of undumping: ... reactivating becoming ... in the absence of tried-and-tested support structures for thinking in action" (p.xiv).

In undertaking his search, Marder revisits the philosophers Nietzsche was responding to, and largely supports his assessment of their work. Like Nietzsche, he is more allied with Heraclitus than anyone else among ancient philosophers, and like Nietzsche, sees Neoplatonism celebrating the realm of the eternal forms standing above the world of change, the foundation of Christianity, as a major factor in generating nihilism. After claiming that this eternal realm was the source of all value, and along with this, upholding the quest for truth as the ultimate virtue, this quest for truth led to the death of God, the lynchpin of the eternal realm of forms, leaving the world completely meaningless. As Marder developed this theme, "Neoplatonism and the global dump are two sides of the same coin. ... [T]he earth has long been god's dump, which after his death, is (again) our 'own'. And we can only return into it as to a dump, to be dumped into it" (p.24 f.). Consequently, Marder claims, in the age of the global dump, "We live and die in a dump of ideas, bodies, dreams, materials, snippets of relations, soundbites and memes, decontextualized and dehistoricized, produced as waste, reproduced ad nauseum, clipped, isolated and thrown together in massive jumble in the wake of world" (p.1).

In *The Genealogy of Morals* (1956) Nietzsche pointed to the role of science in this devaluation of life and the world: "Has not man's determination to belittle himself developed apace precisely since Copernicus?" he observed. "Ever since Copernicus man has been rolling down an incline, faster and faster, away from the centre - whither? ... All science ... is now determined to talk man out of his former respect for himself, as though that respect had been nothing but a bizarre presumption" (291 f.). In current neuroscience, Marder (2021) notes, "The psyche is not reunited with but dumped into the body at the junction of neural networks, biochemical cues, algorithmic functions, and circuits of information-processing. Social space is poured wholesale into the psychophysical dump via the channel of new communication technologies" (p.12). Life has been reduced to biomass. As he puts it, "*je suis biomasse.*." "Biomass" is "a trashcan term" (p.32).

In portraying the outcome of nihilism, showing how if anything it is worse than Nietzsche predicted, Marder's concern is to show that despite this, life is still worth living and how we can live in this dump. To evaluate his proposals, it is first necessary to fully appreciate Marder's characterization of nihilism as it is now lived.

From Neoplatonic Metaphysics Through the Writing Dump to the Information Dump

Marder is doing far more than resurrecting Nietzsche's insights to understand our present situation, and how we might respond to it. He utilizes the insights of Freud, noting that for Freud's work highlighting the ambiguities in our experience and illustrates and vindicates Heraclitus' observation, that opposites are components of each other. On this basis, he further develops Nietzsche's critique of Kant, Hegel (the last great Neoplatonist) and Romanticism, utilizing more recent exegetical work on these philosophers. More importantly, through the notion of dumping and the dump, he illuminates more recent cultural developments entrenching the nihilism Nietzsche diagnosed. Interpreting metaphysis through Freud, Marder (2021) claims:

... for over two thousand years, metaphysics has been holding its stool back, accumulating its fantasies of immutable being. Now, it is finally having a dump, powerfully stimulating its rear end (the end of metaphysics is its rear end ...). Metaphysics contradicts itself and thrives on this self-contradiction: it wants relief and retention, the never-ending pleasure of having a dump with the great fecal mass of the world is or has become *and* total purification, the end of matter's passage. (p.81 f.)

When Nietzsche was writing, the argument of David Hume and Auguste Comte that science has superseded metaphysics had been largely accepted. However, science still upheld the ambition of achieving comprehensive knowledge of the world, and even Comte acknowledged that science is built on metaphysical assumptions. This made it possible to question and propose replacements for these assumptions. In the Eighteenth Century, Roger Boscovich, influenced by Leibniz, had attempted this, promoting force as the primacy concept of physics rather than matter. As Whitlock (1999: 113) pointed out, Boscovich was a major influence on Nietzsche, and to some extent underpinned his assumption of there being a will to power that had somehow turned against itself with morality, crippling this will. This was his ultimate explanation of the emerging spectre of nihilism. Such challenges to metaphysical assumptions became more common with the development of post-positivist philosophy of science. However, these challenges have been marginalized through the growth of managerialism in educational and research organizations aimed at increasing efficiency by fostering the mass production of scientific papers. Marder claims we have entered the age of the writing dump (p.113), and as he points out, "The rapidly falling written mass is an information dump" (p.114). He described the consequences of this: "Increasing by the minute, falling on us and with us, the information dump lets one category—quantity—override the rest. ... Between their upper and lower thresholds, the senses buckle under overpowering streams of data" (p.55).

Marshall McLuhan had observed in 1966 that we have been entering the information age, superseding the scientific age. According to Marder, "McLuhan grasped the promise of describing the Information Age as a "mass age" and as a "mess age," the age of the masses and of messes. Even more so, biomass (a life mixed with nonlife) has its age (the rhythmic unfurling of finite temporalities) massified and tangled into an impenetrable mess" (p.31). We can now see consequences: "[I]n the global Information Age there is no ignorance, only fluctuating thresholds of repression, of knowing enough in order not to want to know more" (p.108). The paradoxical nature of this age is manifest in the strange evolution of the notion of information:

Information is a promising word. It is a pledge, in fact, to combine matter and form in a single word. On its semantic surface, it says that the stuff of the world reaches us in a particular form and that, once we welcome these givens, these data, with our senses and minds, they have a formative influence on us: we ourselves (our views, opinions, decisions) are informed. This positive dimension of information coexists with another, also integral to the word, namely the negation of formation. Information arrives unshaped, lacking in form, a flood of data that does not move in manageable streams. It buries or inundates its transmission lines and lineages that could act as ersatz traditions. In some sense, it is the dump in a nutshell, with its mass of rapidly dropped data spilling over and washing away the perceptual thresholds, cognitive schemas, attention spans, and other finite capacities of its recipients. (p.127)

Nietzsche predicted the broader destructive effects likely to be produced by the nihilism associated with science. As he wrote in his *Philosophical Notebooks*, (1979: 156n9), "The goal of science is the destruction of the world. … We are now at this level of development of politics." He did not foresee how this would be brought about, how a massive increase in economic activity facilitated by technoscience and legitimated by economic theory, driven by the quest for corporate profits and growth of GDP while fostering an insatiable consumerism, would so massively pollute the Earth that it would be fundamentally transformed. It would produce a global ecological crisis, while people living in their information dump in which various aspects of this are recorded would be unable to achieve any coherent perspective on what is taking place or offer any but token efforts to deal with the threats posed by it. For

Marder, this is the ultimate outcome of the dump society. As he wrote in the first paragraph of the Preface:

Every day, scientific studies, media reports, and visceral experiences of the rapidly deteriorating state of the environment hit us with a growing and disconcerting force. In drinking water, microplastics abound, and, by 2050, the total mass of synthetic, human-made materials in the oceans is predicted to surpass that of fish biomass. Megalopolises on different continents languish under a stew of airborne toxins during the intensifying and protracted periods of extreme smog. Forest fires consume large swathes of wooded land, due to a combination of rising global temperatures, droughts, monoculture plantations, and meagre investments into (as well as the unwillingness to rely on local knowledges for) fire prevention. Topsoil degradation, threatening the health and fertility of the earth, entails acidification, sharp increases in salinity, and toxicity, coupled with diminishing nutrient capacity and oxygen availability to plant roots. (p.x).

The residues of our practices are now "forces that reshape habitats, climates, and elemental milieus" while "the flood of information submerges perception and cognition alike" (p.xii). Even reports on the effects of dumping become part of the dump.

Undumping as a Response to Nihilism

Nietzsche offered some guidance on how to overcome nihilism. He rejected anything that undermined the value accorded to life and the will to power, attacking the slave morality of the Christians who turned their back on the world, holding bodily existence in contempt, lauding the weak and claiming we should live for the afterlife. He condemned Kantian morality and even the quest for truth as an echo of this, which he portrayed as the will to power turned against itself. Since the moral value accorded to the quest for truth had led to nihilism, he argued that we should judge beliefs not on their truth but on whether they inspire people to live life to the fullest. Embracing the will to power meant for him embracing life. Marder also considers what could be the alternative to dumping, characterizing it as "undumping": "Onerous as it may be, the next step will be coming up with the strategies of undumping: uncluttering, revitalizing physiological, cognitive, ecological, and planetary metabolisms, reactivating becoming" (p.xiv). As with Nietzsche, what is important is that we do not reject the world around us for some transcendent reality supporting transcendental ideals. It was through such rejection of the world around us and alignment with what is outside the sensible world that we ended up seeing nature as a dump, transforming the world into a dump, dumping the world and then dumping ourselves and the transcendental world itself into this dump. Despite its revolting aspects, the world should not have been rejected in the first place. Aligned with Heraclitus, this means accepting change, conflicts and tensions, acknowledging the diversity of life-worlds in tension with each other and appreciating that we are part of nature and participants within it.

This is not much elaborated on in *Dump Philosophy*. However, Marder had been concerned to offer hope to give meaning to life in other works, notably in his anthology co-edited with Patrica Vieira, Existential Utopia: New Perspectives on Utopian Thought (2012), and in his monographs Plant-Thinking: A Philosophy of Vegetal Life (2013) and Heidegger: Phenomenology, Ecology, Politics (2018). In the introduction to the anthology Existential Utopia Marder acknowledges the starting point of his work in Nietzsche's characterization of nihilism after the Death of God, although Marder and Vieira argue, God was only dying when Nietzsche was writing. The paradisiacal vision of salvation had been transformed into the idea of social and scientific progress, a secularized version of God. With God's death, Western nihilism 'spelled out the absurdity of externally imposed metaphysical standards for thinking and acting, be it in religion or in its secularized avatars" (p.x). In place of this, Marder and Vieira argue for a new form of utopia without an immutable transcendental anchorage: "The dissolution of institutional and essential ties allows existential relations to come to the fore of sociality no longer incarnated in a determinate locale or body politic. It is this enabling placelessness, at the level of life itself and not of a transcendental ideal reality, that distinguishes the political ontology of existential utopia" (p.xi). This existential utopia should be based on "a series of fleeting and precarious universals, faithful to their singular context and amenable to being changed or scrapped altogether, once they overstep their limited usefulness" (p.xii).

In their own chapter in this anthology, "Existential Utopia: Of the World, the Possible, the Fine" (pp.35–50), Marder and Vieira explicitly align themselves with Heidegger's philosophy. Their contribution illustrates the problematic nature of this Heideggerian approach, trying to revive utopia while questioning every word in the traditional claim of utopian thinkers that another world is possible. It involves abandoning belief not only in transcendental ideals but in the Aristotelian notion of there being a potential to be realized. The alternative is based on Heidegger's notion of "*Dasein*" (being-in-the-world) in which we are thrown into to the world already characterized by a network of significations. In opposition to Marx's complaint that philosophers have only interpreted the world, the point is to change it, they argue that to interpret the world is to change it, and this regard, there are still possibilities. This does not preclude the utopia of an ecological civilization that actually augments the health of the global ecosystem, but it makes it difficult to acknowledge the significance of such all encompassing, enduring goal of humanity.

Marder's next book, *Plant Thinking*, grapples with the same problem. It presents a philosophy of plant life developed through a history of philosophical characterizations of plant life from Aristotle to Deleuze, and almost everyone in between, including, among others, Theophrastus, Plotinus, Goethe, Hegel, Schelling, Novalis, Nietzsche, Bergson, Heidegger, Merleau-Ponty and Levinas. However, Marder again takes Heidegger as his basic reference point, although he also incorporates ideas from Deleuze and Guattari in developing his philosophy. Influenced by Deleuze and Guattari's notion of the rhizome and rhizomatic thinking (p.168), Marder argues that plants, without an essential core, characterized by democracy of components and open to all other species, defy characterization in terms of metaphysical binaries such as soul and the body, self and other, life and death, interiority and exteriority, and also between theory and practice (p.53 & p.181). Ethics, Marder argues, "is an

offshoot of plant-thinking" (p.182). In opposition to Heidegger he argues that a plant has a world of its own associated with "a non-appropriative relation to the environment, with, in, and as which vegetal beings grow" (p.159). However, Marder is otherwise close to Heidegger, defending his claim, following Johann Peter Hebel, that we are plants, rooted in the earth and only on this basis, rise to bloom in the ether (p.58).

The monograph *Heidegger*, while having sections on ecology and politics, is a further explication and defence of Heidegger's philosophy, although again offering a limited critique. What Marder is most concerned to defend are "the possibilities of pre-institutional being-together with others and of dwelling in a place" (p.14). In defending Heidegger, Marder refers to "Heidegger's Failure, or the Failure of Heidegger" (p.27). This is mainly a discussion of the phenomenology of failure and the place of failure in experience, calling for recognition of nonactualizable possibility "without sacrificing it to the ontology of actualizable potentialities" (p.46). Marder is concerned with the "ecological underpinnings of ethical, and political life as opposed to economic arrangement" (p.69), but this is understood entirely in terms of Heidegger's notion of dwelling, and does not engage with the science of ecology, or economic theory. In the spirit of Heidegger, Marder endorses "a plea to return to the last, thingly repositories of an ecological comportment in our homeless, world-less, devastated world" (p.92).

These earlier works largely explain the ethical and political orientation of Dump Philosophy. There is a focus on people interpreting their immediate situations, and a lack of interest in efforts to replace existing institutional structures. The brilliant attack on dumping is weakened by interpreting Heraclitus as equating the cosmos with a dump, based on a translation and interpretation of fragment 124: "Just as a heap of refuse piled up without purpose, so [is] the most beautiful world-order [all hosper sarma eike kechumenon ho kallistos kosmos]" (p.37), and supporting this claim.¹ This suggests that wisdom involves accepting that we have always lived in a dump. All that we can do is recognize this and our immediate possibilities, and make the best of our situation, interpreting our situation in different ways and creating local communities beyond formal institutions. Emblematic of this attitude, Marder takes the character of Estamira, an elderly woman who lives off the scraps she collects at one of the largest landfills in the world in Rio de Janeiro. She functions as a broken mirror reflecting the wrecked reality of the dump. Marder describes her life: "A load of canned food carefully picked out from underneath mountains of garbage and saved for a much vaunted pasta sauce" (p.106). She is superior because she recognizes that she is living in a dump. As Marder notes, "Estamira's vision would have been yours were you capable of seeing microplastics in the water and the soil; CO_2 in the air; pesticides, traces of heavy metals, and irradiation (cobalt, cesium, etc.) in foodstuffs" (p.106).

¹ This is translated by T.M. Robinson in Heraclitus (1987) as "The most beautiful order (in the universe?) (or: 'the (this?) most beautiful universe') ... is a heap of sweepings, piled up at random" (p.70).

The Limitations to Marder's Notion of "Undumping"

The limited possibilities offered by this new interpretations of *Dasein* suggests limitations in Marder's understanding of the dump, in which it is suggested that almost any output of human activity adds to the dump. This also suggests the limitations of Marder's conceptualization of undumping. Humans in the past, and sometimes in the present, have outputs that enrich ecosystems. The Amazonian Indians produced and buried biochar, charcoal that retains water and provides niches for micro-organisms which facilitate the assimilation of nutrients in rain by vegetation. It is among the richest soil in the world, while without tree cover, tropical rainforest soil is among the poorest in the world. The indigenous Amazonians were part of a healthy ecosystem that augmented the global ecosystem. It was an ecosystem that absorbed carbon dioxide and buried carbon, while recycling water and minerals required by vegetation. With damage to this ecosystem, 25% more water is flowing out to sea from the Amazon River, and it now carries minerals and silt where once only pure water entered the sea. So the whole ecosystem is losing its fluids and minerals. The Amazon rainforest is reaching a tipping point. Satellite observations show at least 17% of it has been destroyed, destroying its integrity, and what is left is losing its resilience, having difficulty responding to droughts (Harvey, 2022). That is, it is recognized as being unhealthy. With further destruction, the whole system could collapse with disastrous implications for the global ecosystem. The indigenous people are trying to protect their way of life, and are frequently murdered for doing so.

What is needed is recognition that ecology has had to embrace the notion that there are healthy and unhealthy ecosystems, and the notion of dumps should be seen as outputs that do not augment but undermine the health of ecosystems. It has been claimed for some time that ecosystems can be healthy or unhealthy (Constanza et al., 1992). This claim has been defended by Robert Ulanowicz, among others. Health is characterized by mutual augmenting of the whole community and the component communities of each other, facilitating their continued successful functioning, their resilience in response to perturbations, new situations and stress, and for ongoing development and creativity to maximize developmental options, and can be measured as such (Ulanowicz, 2000: 99).

On this basis the activities of humans can be judged according to whether they augment or undermine the health of ecosystems. It is clear that humans have massively transformed the global ecosystem as well as a great many local ecosystems, and sometimes for the better. It is probable that the end of the last ice age was due to humans burning forests. Civilizations have been responsible for the collapse of ecosystems, but irrigation has often enriched ecosystems, or created new ecosystems. The major problem with Marder's dump philosophy is that he does not provide the means to discriminate between outputs that enrich or even create ecosystems and outputs that destroy them.

This points to a blind-spot in Marder's work. Despite his reference to ecology in his book *Heidegger*, Marder never really grapples with the science of ecology and its developments. He does refer to ecology in *Dump Philosophy*, only to dismiss it, along with "ecological, environmentally friendly, 'green' discourse" for claiming that everything is linked to everything else, thereby rendering the notion of relations

meaningless (p.5). Such discourses, he claims, are thereby "implicated in the growth of the desert and the dump" (p.5). In fact, theoretical ecologists have pointed out that healthy ecosystems are modular, limiting connectivity (O'Neill et al., 1986: 127; Salthe, 2005: 3). This is associated with the incorporation into ecology of thermodynamics and complexity theory, most importantly, hierarchy theory. Hierarchy theory gives a place to the emergence of order through the interpolation of constraints, echoing Schelling's argument, and before that Anaximander's argument, that the cosmos develops with all its specific kinds of beings though limiting of the unprethinkable Being, or in Anaximander's case, of the unlimited. Integrating thermodynamics, complexity theory and hierarchy theory, Salthe (2005) has linked this to the emergence of semiosis as characterized by biosemioticians, and thereby to the emergence of life, and then human culture. Lack of awareness of this is symptomatic of a lack of engagement with not only the science of ecology, but science generally. This is encouraged by Heidegger's argument that modern science, based on experiments which set up boundary conditions to reveal what is predictable and thereby controllable, frames the world as standing reserve to be exploited, implying that science could not be anything else, and as though there could be no competing research traditions in science based on different metaphysical assumptions that attempt to avoid this. Heidegger does not call for a transformation of science, but argues that science be subordinated to fundamental ontology concerned to allow Being to reveal itself. Marder does not argue this, but something equivalent.

Closely related to this is Marder's lack of interest in transforming formal institutions. Marder acknowledges the dynamics of capitalism and its relation to metaphysics in destroying diversity. In *Plant-Thinking* he argued:

Metaphysics and capitalist economy are in unmistakable collusion, as they militate against the dispersed multiplicities of human and non-human lives; economic rationality, which currently treats plants as sources of bio-energy or biofuel, converts, concretely and on the global scale, the metaphysical principles of sameness and identity into the modes of production and reproduction of material existence. (p.55)

And in the epilogue, defending his plant ethics, he noted that: "The temporality of capital ... violates this botanical "hospitality" itself, in that it imposes the routine of the same—the exigencies of commodification and ever-accelerated profiteering—on crops grown under the auspices of the capitalist agro-scientific complex" (p.183 f.). However, while appreciating the role of metaphysics in the capitalist economy and the agro-scientific context generated within it, Marder does not acknowledge the possibility of challenging and then replacing the prevailing metaphysical assumptions.

What is more fundamentally lacking in Marder, and before him, Heidegger, is a full appreciation of the metaphysical revolution of the Seventeenth Century that gave rise to modern science, including mainstream economic theory, and its association with the institutions that now dominate the world, and the reactions of philosophers and scientists to this. This in turn is related to the acceptance of Heidegger's characterization of metaphysics, virtually identifying it with the tradition of Neoplatonist thought and the quest to know an eternal realm of forms, denying any possible challenge to this with an alternative metaphysics. While strongly influenced by Nietzsche, in his lectures on Nietzsche, Heidegger complained that even Nietzsche had not freed himself from metaphysics. While being a form of Pythagorean Neoplatonism, the scientific revolution of the Seventeenth Century was still a major metaphysical revolution within the tradition of Neoplatonism facilitating major advances in natural philosophy. Not acknowledging the role of metaphysics in science, Marder does not acknowledge the possibility of questioning, challenging and replacing the metaphysical assumptions of Newtonian science not only in the natural sciences, but also in the human sciences, including economics, and then subordinating markets to institutions based on different assumptions about nature and humans and on this basis, revealing the possibility of transforming institutions or developing new institutions not only of local communities but of nations and civilizations based on radically different ways of thinking about life and humanity. Even though he utilizes ideas from the philosophy of plants, some of them inspired by an alternative metaphysical tradition, Marder does not recognize the existence of this alternative tradition, and the breadth of ideas associated with it.

This alternative is really the tradition launched by Friedrich Schelling, although Schelling was influenced by Fichte, Herder, Kant, Leibniz, Spinoza and Bruno, along with the Greek, pre-Socratic philosophers and current developments in science. In the wake of the triumph of Newtonian science, Kant had attempted to put metaphysics on a firm foundation by showing that what we take to be true are answers to questions posed to nature in terms of our conceptual frameworks, which are produced by a transcendental ego. Through what he called transcendental deductions, he argued that Newtonian science, at least Newtonian science as it had been developed by Huygens, provides the only coherent way of cognizing the world. However, even Kant was coming to appreciate that concepts adequate to the reality of life might be offering alternative concepts. Inspired by Kant's *Philosophy of* Judgment, Schelling (1994) took this path, arguing at the same time for a fallibilist notion of metaphysics transcending the opposition between realism and idealism, spiritualism and materialism (p.20). Influenced by pre-Socratic philosophers, including Anaximander as well as Heraclitus, together with contemporary philosophers and developments within science, Schelling defended metaphysics and developed a form of process metaphysics based on the notion of beings as self-limiting activities in which forms are generated by balances of opposing forces. Living beings, interacting with their environments, must actively maintain their forms, and in doing so, they define their environments as their worlds. He claimed that not only inanimate matter and life, but human consciousness, culture and society could be made intelligible through this conceptual framework. In this way, the enterprises of philosophy and science could be made intelligible as emergent processes within nature. In developing these ideas, Schelling accorded a place to natural and human history while promoting a revolution in mathematics and the sciences required to do justice to the reality of life. Schelling's metaphysics, reconciling science, the humanities and the arts, confronted the nihilism of Enlightenment thought with its roots in the works of Newton and Locke.

Schelling's philosophy influenced a number of major philosophers and had a major influence on mathematics and the sciences (Gare, 2017: 126 ff.). C.S. Peirce,

who characterized himself as a Schellingian of some stripe, exemplified those whom Schelling inspired, which, directly or indirectly, includes Henri Bergson, Alexander Bogdanov and Alfred North Whitehead and their followers in both philosophy and science. Advances in science inspired by this tradition include the mathematics of vector spaces, field theories in physics, the development of thermodynamics, holistic biology, philosophical anthropology, humanist psychology and institutionalist economics. The work of Hermann Grassmann, Michael Faraday, Alexander Bogdanov, von Bertalanffy, Ilya Prigogine's work on dissipative structures, complexity theory, the anti-reductionist tradition in biology, including general systems theory, work in morphogenesis and hierarchy theory, along with Gestalt psychology and institutionalist economics, can all be seen as developments of this Schellingian tradition. Biosemiotics should be seen as a major advance in this tradition, integrating, building on and going beyond past achievements (Salthe, 2005).

Evaluating "Undumping" as a Response to Dumping

How then should we judge Marder's dump philosophy? Examining all the instances of dumping identified by Marder, recognizing the relationships between these, is even more important when we differentiate between what augments and what undermines the health of ecosystems, especially when we come to appreciate that this dumping on a massive scale, contaminating every part and aspect of our environment, including our culture, has been generated by a particular set of institutions that we could transform or replace. I began this paper by pointing out that Marder's real starting point is his confrontation with the nihilism of the culture of modernity. The practical outcome of this nihilism, Marder shows, is that we have largely transformed the world into a dump. We are dumped into this dump, and we ourselves are becoming little more than dumps, and this threatens the future of the current regime of the global ecosystem on which human civilization, and possibly, humanity itself, are dependent. Such dumping is ecocide.

Marder has identified a profusion of dumps which are even more appalling than Marder claims because, collectively, they are not just symptoms but are damaging to the health of ecosystems, including the cultural life of human ecosystems and the global ecosystem. All that Marder characterized as dumps are instances of ecological damage, undermining of the health of the ecosystems of which we are part, and ourselves. Portraying this as dumping so that people now live in dumps, brings home just how nihilistic the civilization of modernity has become and the concrete effects of this nihilism. This is the value of Marder's dump philosophy, forcefully bringing home Nietzsche's suggestion that nihilism is associated with expansion of deserts (or dumps). Through this nihilistic culture we are committing ecocide, and somehow, are incapable of responding to this of facing up to its significance.

One of the most important dumps analysed by Marder is the information dump. We live in the so-called "information-age" flooded with information and information processing technology. The implications of this are even worse than Marder claims. Information no longer informs but is processed by data analysts with computers. In the future, not even the data analysts will be required. The dump of information confuses and disorients people, paralysing their capacity for collective action against oppression or major problems. Marder's characterization of the information dump brings home just how fragmented our culture has become. What should be associated with wisdom, understanding and knowledge, has been decontextualized. As T.S. Eliot put it in The Rock (1934: 2):

Where is the wisdom we have lost in knowledge? Where is the knowledge we have lost in information?

The reduction of cognition to accumulation of information and information processing is related to other issues. It is really an effort to account for life and consciousness within the framework of the metaphysics of Seventeenth Century science, largely in accord with the work of Thomas Hobbes (Gare, 2020). By reducing knowledge to information, it promotes a view of science that does not acknowledge its own metaphysical assumptions and rules out questioning these assumptions. As noted, it also facilitates the reduction of knowledge to a commodity and blocks efforts to understand this process of commodification and to develop alternatives to it.

In the past, context was provided by traditions and stories or narratives. Narratives held together these traditions and provided identities and maintained projects of action over generations. They are essential components of communities, their identities and the identities of their components, ranging from local communities through nations to civilizations. As Alasdair MacIntyre, David Carr and Paul Ricoeur argued, narratives are not just stories told, but are first of all lived. In some cases, narratives can be inculcated without any room for reflection, but as Mikhail Bakhtin pointed out, narratives have within them the potential to engage with different perspectives; that is, to be dialogical, and this opens up the possibility of those living out these narratives to take an active role in questioning and reformulating the narratives they have been socialized into. This dialogic reflexivity is characteristic of novels, and as Nietzsche argued in The Birth of Tragedy (1956, XIV, 48), Plato's dialogues were the first novels. With the information society, narratives are not taken seriously, abandoned, concocted at random by advertisers and public relations experts and algorithms without any concern for real history through which the present could be linked to the past and to a projected future, or they are treated as nothing but amusements in the entertainment industry.

The marginalization of narratives, including the history of science, has the effect of decontextualizing scientific research. Yet as MacIntyre (1977) argued, narratives are central to science, defining it as a tradition with achievements and problems to be addressed. It is also through narratives that radically new ideas and competing research programs can be evaluated. These range from competing programs addressing particular topics to major research programs associated with competing metaphysical theories as world-hypotheses. Ignorance of such narratives has been associated with the multiplication of disciplines and subdisciplines, with funding or support for anything but highly focussed research being almost eliminated. As Charlton (2012), a former editor of a leading medical journal, pointed out, this leads scientists to ignore findings of related disciplines, even if these are directly related to and possibly invalidate their own conclusions. Science is then identified with technoscience by those who fund it, who, for such funding, want information. Detached from the theoretical framework on the basis of which questions were asked to gain such information, information is treated as a commodity. Usually, the information they want is what will facilitate making profits, for instance, for pharmaceutical industries, or to legitimate political projects, and consequently is unreliable. In other cases, it is merely part of the mass output of publications required for scientists to gain research funding and gain or retain employment. Thus, the scientific enterprise itself generates an information dump. As Charlton argued, what we now have is the mass production of hyperspecialized, shoddy papers and the fragmentation of scientific knowledge which is really destroying the quest of science to advance understanding of the world. This is associated with the collapse of the humanities and decline of the arts in educational institutions and in society. The notion of a dump in the full sense as Marder described it does provide a poignant picture of the culture in which we now live, providing we appreciate that there are other paths out of this dump that he has not acknowledged.

As I have suggested, the most fundamental blind-spot in Marder's work, a consequence of his alignment with Heidegger and Derrida, is not recognizing the history and significance of the development of the Schellingian tradition of process metaphysics and its role in developing major research programs within science challenging the Newtonian paradigm of science, and aligning science with art and the humanities. This tradition is manifest to its fullest in post-reductionist ecology, and it is through ecology that we can see most clearly the impact of dumping. Ecology studies ecosystems, including human ecosystems, and as Maran (2020) has argued, while these involve human forms of semiosis or culture, these are always built on and related to the semiosis of living bodies and the broader ecosystems of which these are components, even when such semiosis is ignored in culture. While Marder, following Nietzsche, Heidegger and Derrida, traces the roots of the current condition to Neoplatonism, the transcendental forms that now dominate and blind people to their embodiment in nature are the forms of money. As Robert Nelson argued in Economics as Religion (2001), economics has become the new religion, and many economists are now playing the role of a new priesthood. The information dump Marder complains about is subverting culture through semiotic corruption associated with advertising, public relations, propaganda, technoscience and junk science. As a consequence, as Hendlin (2019) argued, "the signs in our environment are serially fake... the human umwelt has become increasingly pervaded with signs intentionally and unintentionally oriented to capture our agency, undermining our autonomy and delivering our habits and actions to convenient grooves laid by entities without our best interests in mind" (p.132). These grooves are eliminating the quest for understanding and wisdom and blinding us to what does not fit our preconceived categories. This corrupted culture evaluates almost everything as commodities to be bought and sold, and people to buyers and sellers of commodities, including themselves, their creative potential and even their body parts, transforming the entire world into dumped commodities or wastes from their production. The main exception is massive expenditure on security forces, including the industrial military complex, required to impose and keep this order in place. This is already intimated by Marder, but going beyond Marder, this should be portrayed as damage

to the semiotic health of human ecosystems, driving the destruction of the broader ecosystems of which they are part. The corruption of culture through dumping is a corruption of the semiosphere as it was characterized by Hoffmeyer (1996, 59), supposedly facilitating the domination by humanity and the rest of nature by economic, social and political institutions and technology, but through embodying defective assumptions about nature, humanity and the place of humanity in nature, driving the destruction of the ecological conditions for humanity.

Despite the pervasiveness of the information dump, there is still some good science. However, even when it produces the information that Marder refers to, such as pollution in the oceans, climate change etc., by being dumped as information it does not orient people to fully understand the problems or for effective action to deal with these problems. Evidence of increased CO_2 levels and their relation to global temperature was a major achievement of climate scientists, but without an understanding of global ecology, the nature of stability and instability in ecosystems, the possibility of a runaway greenhouse gas effect, perhaps accelerated through the melting of clathrates - methane crystals on the ocean floor and in permafrosts, the significance of this is poorly understood by the general population. This allowed Exxon-Mobil's public relations experts to first deny its possibility, and then claim that this is an issue in dispute, despite knowing this this was not the case. That there are still dissenting voices in science is a feature of how science operates, but this subtlety is ignored in the information dump and then is weaponized by the public relations industry. Also, people can be appalled at pollution of the oceans, but without some knowledge of ecology, the possibility that mass eutrophication with the destruction of plankton through suffocation by plastics, ocean acidification through CO_2 , and increasing temperatures, could lead to levels of hydrogen sulfide in the atmosphere toxic to aerobic organisms, eliminating all animal life, will not be understood through the information dump. What is lacking in our culture are generally accepted means to relate all these bits of knowledge.

From this perspective of ecology, including ecosemiotics, the failure of Marder to differentiate clearly between outputs of human activities that are problematic and those that are not, or are even beneficial to ecosystems, and then to consider what economic and cultural productions and institutions could generate beneficial outcomes other than people re-interpreting their situations and fostering local communities, must be seen as limitations in his vision of what is possible.

The Importance of Ecology, Biosemiotics and Ecosemiotics

What is required to overcome reduction of science and writing generally to information dumping and the destructive effect of this on culture are transdisciplines that enable information and knowledge to be put in perspective, and this is where the Schellingian tradition of process metaphysics is essential. Along with genuine metaphysics and history developed through hermeneutics, there is no science more important for this than ecology, subsuming geology and geography. All these are strongly influenced by this Schellingian tradition of process metaphysics. While there are reductionist approaches in ecology, ecology is overwhelmingly

anti-reductionist and brings into focus and integrates the Schellingian influenced traditions in the natural sciences and the humanities. This includes thermodynamics, complexity theory, hierarchy theory and biosemiotics. The theoretical ecologist Ulanowicz (1997) argues that ecology, conceived of as "process ecology" and upholding an "ecological metaphysics", should now be seen as the reference point for defining science, in place of physics. As he put it, "Ecology occupies the propitious middle ground. ... A new perspective on how things happen in the ecological world might conceivably break the conceptual logiams that currently hinder progress in understanding evolutionary phenomena, development biology, the rest of the life sciences, and, conceivably, even physics. (p.6). In its anti-reductionist form, ecology has been developed to include humans as cultural beings, recognizing us as having always been significant components of the dynamics of ecosystems. It is associated with the development of human ecology. As biosemioticians have shown, ecology so conceived provides a site for the study of semiosis (the production and interpretation of signs) and its evolution into more complex forms associated with new levels of constraint and semiotic scaffolding. As Jacob von Uexküll argued, each organism has an Umwelt or surrounding world that is meaningful to it, which it senses or perceives, grows or acts in response to. (von Uexküll, 1926: Ch.5). The development, response to and interaction between such surrounding worlds has been analysed and advanced through Peircian semiotics and hierarchy theory, revealing semiosis to be central to symbiosis and co-evolution. Organisms, from prokaryotic cells to humans themselves are now regarded as highly integrated ecosystems "in which the thermodynamic patterns seen in ecological ascendancy achieve high boundedness, stability, and predictability" (Depew & Weber, 1996: 474). They are characterized by a diversity of increasingly complex forms of semiosis (including vegetative, animal and symbolic), while semiosis is essential to the global ecosystem, generating a global semiosphere (Hoffmeyer, 1996; Emmeche & Kull, 2011; Maran, 2020). As Kull (2010) argued, ecosystems are made of semiotic bonds. Science developed on such a basis does more than enframe the world as standing reserve. It provides the basis for us, as components and participants in nature, to understand and appreciate the intrinsic value of nature and the place of humanity, along with its culture and institutions, within it, while revealing new possibilities for humanity.

This reorientation finds support in the work of Timo Maran. Building on the work of Juri Lotman, Maran (2020: 2) argues that it is abstract thinking that encloses us within culture. It is by seeing human culture in relation to that which is outside culture, and in particular, to the semiosis of ecosystems, that we can avoid the tendency of humans to undermine other forms of life. Coming into contact with such extracultural space is the source of its creativity and the dynamics of culture. This creativity involves semiotic modelling, which includes works of art, which can become a source of meaning for the rest of the ecosystems of which humans are part, connecting various aspects of the world that are normally divided by different disciplines. It can also involve semiotic re-modelling of society, humanity and nature.

Ecology has provided the basis for advancing economic theories not based on Seventeenth Century assumptions. The most important of these are institutionalist economic theories. Institutionalist economics began with the work of Thorstein Veblen, who at one stage was a student of Peirce. Institutionalist economics is now

being reformulated through ecology and human ecology. Vatn (2005: 98 ff.), a prominent institutionalist ecological economist, argued in his defence of this that it rejects the conception of humans as homo-economicus. It upholds an evolutionary view of society in which institutions themselves, and the character of people, are evolving. It is able to focus on, criticise and show how to alter the institutions that make up society, and the character of people. Polanyi (1957), one of the most influential of the institutionalist economists, argued that markets, as institutions facilitating decentralization of decision-making, are unavoidable in complex societies. However, beginning in Britain in the early Nineteenth Century, markets were partly dis-embedded from communities and communities were subordinated to the logic of markets. While goods and services are appropriately treated as commodities, this imposition of the market involved treating not only produced goods, but land, labour and capital as commodities, bringing about a distorted and misleading understanding of these. Guided by economic theory modelled on physics and assuming the Hobbesian conception of humans as machines moved by appetites and aversions, markets have expanded since then, and through imperialism, have been imposed globally to dominate relations between people and between humanity and nature world-wide. Money has become a universal language, supposedly making the value of all purported commodities commensurable. But as Hornborg (1999) argued, money is like a language with only one phoneme; it inevitably blinds people to the complexity of the world they live in. It blinds people to the intrinsic value of life, and to the very meaning of community. Bunker (1988) and Hornborg (2019) as human ecologists have shown, it is associated with a world-system of global overexploitation of natural resources and labour and generation of pollution that renders effective action to prevent ecological destruction impossible. What is required are more localized economic systems protected from the logic of the global market. The same conclusion was reached by the theoretical biologist Mae-Wan Ho and the theoretical ecologist Robert Ulanowicz (2005: 47), examining economic globalization from an ecological perspective. Institutionalist ecological economics is providing a richer language to formulate goals facilitating the re-orientation required to reorganize economies, re-embedding markets in communities so they serve these communities, including broader biotic communities.

Conclusion: "Undumping" as Augmenting Life by Enriching Ecosystems

As noted, the dump as described by Marder is the realization of nihilism of which Nietzsche warned us. It is the state in which there has been a universal devaluation of values, threatening the future of humanity. Marder's work is a struggle to find some way out of this through "undumping". In responding to this, I have tried to show that there are more possibilities for undumping than Marder allows through challenging the debasement of science and denigration of metaphysics as core components of culture, a debasement most fully manifest in information society. By supporting a metaphysical revolution in the sciences, both natural and social, replacing scientific materialism and reductionist science generally and placing non-reductionist ecology based on process metaphysics incorporating biosemiotics as the core of science, amounts to recognition of the reality of life, including humanity, and its significance and value. It also grants a place to real creativity, generating new forms and activities in nature and society in response to problems that are not simply realizing potentialities (recognized by followers of Peirce as "abduction") but creating new possibilities and new potentialities, something barely acknowledged by Marder. Focussing on the relationships between living beings and the conditions for their flourishing, ecology provides the basis for a life affirming world-view that can replace the life denying world-view of reductionist scientific materialism. In place of Nietzsche's affirmation of life as will to power (Beiser, 2023: 60), this ecological world-view upholds a will to life with an ethics and political philosophy committed to augmenting life through self-limitation (seen as embracing facilitative constraints), able to guide our response to our current civilizational crisis and the threat of global ecological destruction.

Ecology includes human ecology, in which humans, the symbolic species, are recognized as cultural beings while still being understood in relation to the biosphere. As Kalevi Kull argued, the symbiotic bonds of ecosystems involve semiotic bonds, and constraints are associated with living beings appreciating the significance of life and developing in a way that augments its conditions. Jesper Hoffmeyer argued in Signs of Meaning in the Universe (1996: 59) that the development of semiosis inseparable from the biosphere has generated the semiosphere, enabling human culture, including history, science and the arts, to be understood as a development within this biosphere. Recognizing this relation itself involves overcoming a major component of the sick state of current human ecosystems, the defective semiosis of a fundamentally defective life-denying culture of modernity that has transformed the world into nothing but a dump. Following Hoffmeyer, it involves recognizing and appreciating the signs of meaning in the universe and acting accordingly, including to signs of sickness, and responding to these. Such ecological thinking, incorporating semiotics, provides the orientation necessary to really change the world, altering its current trajectory towards global ecological destruction of the conditions for human flourishing, not merely reinterpreting it.

To a considerable extent, such an ecological process metaphysics supports the ethics and politics of Marder's "vegetal anti-metaphysics", with some differences. Marder draws on developments in plant biology to support a radically democratic ethics and politics. What is missing from this, with its radical questioning of the notion of identity and individuation, is a place for self-limitation of processes in their relationship with other processes to maintain themselves in existence. Self-limitation has been central to ethics and politics, from the Ancient Greek notion of autonomy, to Kant's categorial imperative, to Fichte's reformulation of this based on the notion of being limited by recognition of the autonomy of others. Biosemioticians have questioned received notions of identity and self and upheld the reality of relations, but do not take this scepticism about identity and individuation and identity, which is greater in animals than plants, and greater still in humans, biosemioticians give a place to semiotic constraints, and as in hierarchy theory, recognize the role of enabling constraints in semiotic scaffolding in advancing freedom.

Acknowledging the importance of constraints provides the basis for an effective ethics and political philosophy that does not involve the will to power turning against itself, but the augmentation of life through enabling constraints. Through the development of such constraints, dumping by virtue of which the world is being transformed into a dump can be opposed. Biosemiotics provides the basis for an ethics and politics of ecopoiesis, that is, of home making (Gare, 2017: 193 ff.). According to Peirce, logic should be seen as a branch of ethics, working out how we should think, and ethics should be seen as a branch of aesthetics, achieving self-control through educating feeling (Sírensen & Thellefsen, 2010). This can be further elaborated through biosemiotics, in which vegetative semioisis precedes and is the condition for animal semiosis, which precedes and is the condition for symbolic semiosis. It is when symbolic symbiosis takes a form which obscures its conditions of existence in embodiment involving animal and vegetative semiosis, as when bits of information are treated in abstraction from context, or signs are defined only in relation to each other, as in structuralism, that we descend into nihilism. What is required of humans above all is their self-cultivation so that they limit themselves on the basis of their cultivated feelings, generating cultural vitality of healthy semiosis to ensure their outputs augment the health of the ecosystems of which they are part rather than polluting them.

When it comes to human ecosystems, a place can be given in ethics and political philosophy to formal institutions as well as informal communities. Both can involve enabling constraints based on mutual recognition of people's significance and the significance of life, facilitating the augmentation of life, and they can be seen as the conditions for each other. Formal institutions, for instance, the Humboldtian model of the university, provide the conditions for informal communities, while the vitality of these informal communities can be the condition for the continued functioning of formal institutions. In this way human ecology incorporating ecosemiotics can be used to justify democratic, local communities, as called for by Marder. However, the suggestion that formal institutions are irrelevant to undumping, even in relation to informal communities, ignoring the power relations in the globalized world economy and how these operate through a multiplicity of mutually supporting institutions, should be regarded as naïve. As Zygmunt Bauman in Globalization: The Human Consequences (1998) pointed out:

... the technological annulment of temporal/spatial distances [associated with globalization] emancipates certain humans from territorial constraints and renders certain community-generating meanings exterritorial – while denuding the territory, to which other people go on being confined, of its meaning and its identity-endowing capacity. (p.18)

What is required is the development of institutions that re-embed markets in communities, and to prevent ecologically destructive exploitation, localizing economic activity as much as possible. This should involve, among other things, the rejection of all-purpose money and the development of local currencies, as Hornborg (2019) argued. And as Vatn (2005) argued, mainstream neo-classical economics as the basis for formulating economic policies needs to be replaced by ecological institutionalist economics that brings into focus what kinds of

institutions can constrain markets so that they serve communities, not dominate them. Such institutions should provide the conditions for the maintenance and development of healthy communities, human or otherwise. The ecological economist, Herman Daly, along with John Cobb Jr. (1994: 176 ff.), the world needs to be organized as communities of communities, in which humans also recognize that they are components of broader human and other biotic communities. As similar conclusion was reached by Mae-Wan Ho and Robert Ulanowicz on the basis of working out the implications of ecological theory.

With democratic federalism supporting both global and local governance and localized economies, with people appreciating that they are components of human communities at multiple levels and at the same time, biotic communities or ecosystems, avoiding destructive dumping will become imperative. The affirmation of life involves not just undumping within the dump, but "antidumping" through self-limitation to prevent ecologically destructive pollution, including semiotic pollution. In developing institutions, technologies and builtup environments, it will be necessary to think in terms of whether niches in which organisms, including humans, can flourish in a way that augments the conditions for life, are being created or destroyed. That is, it will be necessary to ensure that outputs are not just dumps but are augmenting the environments of other life processes, most importantly, by being potential inputs for these processes. This is the philosophy promoted by William McDonough and Michael Braungart, which they characterized as Cradle to Cradle (2002). This could involve degrowth, and as Orlov (2017) argued, the shrinking of the technosphere is required to provide the conditions for the flourishing of life. In short, institutionalist ecological economics and ecological politics, understood in the broader context of human ecology and ecological metaphysics, upholding an ethics of virtues associated with self-limitation, are necessary to sustain the institutions through which markets and bureaucracies can be subordinated to communities, ensuring this can and does take place (Gare, 2017).

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References

Bauman, Z. (1998). Globalizaton: The human consequences. Polity Press.

- Beiser, F. C. (2023). Philosophy of life: German lebensphilosophie 1870–1920. Oxford University Press.
- Bunker, S. G. (1988). Underdeveloping the Amazon: Extraction, unequal exchange, and the failure of the modern state. University of Chicago Press.
- Charlton, B. G. (2012). Not even trying: The corruption of real science. University of Buckingham Press.
- Constanza, R., Norton, B. G., & Haskell, B. D. (Eds.). (1992). Ecosystem health: New goals for environmental management. Island Press.
- Daly, H. E., & Cobb, J. B., Jr. (1994). For the common good: Redirecting the economy toward community, the environment, and a sustainable future (2nd ed.). Beacon Press.
- Depew, D. J., & Weber, B. H. (1996). Darwinism evolving: Systems dynamics and the genealogy of natural selection. MIT Press.
- Eliot, T. S. (1934). The rock. Faber & Faber.
- Emmeche, C., & Kull, K. (2011). Towards a semiotic biology: Life is the action of signs. Imperia College Press.
- Gare, A. (2017). *Philosophical foundations of ecological civilization: A manifesto for the future*. Milton Park: Routledge.
- Gare, A. (2020). Semiosis and information: Meeting the challenge of information science to post-reductionist biosemiotics. *Biosemiotics*, 13(3), 327–346.
- Harvey, C. (2022). Amazon rain forest nears dangerous "tipping point". Scientific American E&E News March 8th. https://www.scientificamerican.com/article/amazon-rain-forest-nears-dangerous-tippingpoint/. Accessed 1 June 2023
- Hendlin, Y.H. (2019). 'I Am a Fake Loop: the effects of advertising-based artificial selection. Biosemiotics, 12, 131–56. http://link.springer.com/10.1007/s12304-018-9341-z
- Ho, M. W., & Ulanowicz, R. (2005). Sustainable systems as organisms? Biosystems, 82, 39-51.
- Hoffmeyer, J. (1996). Signs of meaning in the universe Tr. Barbara J. Haveland. University Press.
- Hornborg, A. (1999). Money and the semiotics of ecosystem dissolution. Journal of Material Culture, 4(2), 143–162.
- Hornborg, A. (2019). Nature, society, and justice in the anthropocene. Cambridge University Press.
- Kull, K. (2010). Ecosystems are made of semiotic bonds: Consortia, umwelten, biophony and ecological codes. *Biosemiotics*, 3, 347–357.
- MacIntyre, A. (1977). Epistemological crises, dramatic narrative and the philosophy of science. *Monist*, 60, 453–472.
- Maran, T. (2020). Ecosemiotics: The study of signs in changing ecologies. Cambridge: Cambridge University Press.
- Marder, M., & Vierei, P. (2012). Introduction: Utopia: A political ontology, & Existential utopia: Of the world, the possible, the finite. In: P. Vieira, & M. Marder (Eds). *Existential utopia: New perspectives on utopian thought*. Continuum, ix-xv & 35–50.
- Marder, M. (2013). Plant-thinking: A philosophy of vegetal life. Columbia University Press.
- Marder, M. (2018). Heidegger: Phenomenology, ecology, politics. Minneapolis: University of Minnesota Press.
- Marder, M. (2021). Dump philosophy: A phenomenology of devastation. London: Bloomsbury Academic.

McDonough, W., & Braungart, M. (2002). Cradle to cradle: Remaking the way we make things. North Point Press.

Nietzsche, F. (1979). *Philosophy and truth: Selections from Nietzsche's notebooks of the early 1879's*. Ed. and Tr. D. Breazeale. Humanities Press.

Nietzsche, F. (1956). The birth of tragedy and The genealogy of morals. Tr. F. Golffing Anchor Books.

Nietzsche, F. (1968). The will to power Tr. W. Kaufmann. Vintage.

- O'Neill, R. V., DeAngelis, D. L., Waide, J. B., & Allen, T. F. H. (1986). A hierarchical concept of ecosystems. Princeton University Press.
- Orlov, D. (2017). Shrinking the technosphere: Getting a grip on the technologies that limit our autonomy, self-sufficiency and freedom. New Society Publishers.
- Polanyi, K. (1957). The great transformation. Beacon.
- Robinson, T. M. (1987). *Heraclitus. Fragments: A text and translation with a commentary.* University of Toronto Press.
- Salthe, S. (2005). The natural philosophy of ecology: Developmental systems ecology. *Ecological Complexity*, 2, 1–19.
- Sírensen, B., & Thellefsen, T. L. (2010). The normative sciences, the sign universe, self-control and rationality – according to Peirce. *Cosmos and History*, 6(1), 142–152.

von Uexküll, J. (1926). Theoretical biology. Tr. D. L. Mackinnon. Kegan Paul, Trench, Trubner & Co.

Ulanowicz, R. E. (1997). Ecology: The ascendent perspective. New York: Columbia University Press.

Ulanowicz, R. (2000). Toward a measure of ecological integrity. In D. Pimentel, L. Westra, & R. F. Noss (Eds.), *Ecological integrity: Integrating environment, conservation, and health* (pp. 99–120). Island Press.

Vatn, A. (2005). Institutions and the environment. Edward Elgar.

- von Schelling, F. W. J. (1994). On the history of Modern Philosophy. Tr. Andrew Bowie. Cambridge University Press.
- Whitlock, G. (1999). Roger J. Boscovich and Friedrich Nietzsche: A re-examination. In B. Babich (Ed.), Nietzsche, epistemology, and philosophy of science: Nietzsche and the sciences II (pp. 187–201). Springer.

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