

## Nature, limits and form-of-life

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Published in *Environmental Politics*, 30:1-2 (2021), pp. 81-99

Post-print version

### Abstract

Sustainable development, ecological modernisation, eco-efficiency and the like have reframed material limits to growth as conventional barriers. Even in arguments for degrowth limits recede to the background in favour of self-limitation. To reclaim limits as the grounds for an effective environmental politics, I reconstruct how the case for the limits to growth was reversed into a case for the growth of limits, and how foundational boundaries were increasingly blurred. Arguing that lifestyle politics is unlikely to be effective against the growth machine, I elaborate on the notion of form-of-life. If not understood as a solipsistic self-mastery but as the mutually formative encounter of living entities – provided with their own dispositions yet sharing a common destiny – this notion highlights how freedom and equality are premised on, rather than hampered by, limits. I conclude with four reasons why a radical theory and politics for the environment should make use of the notion.

**Keywords:** limits; degrowth; subsumption of nature; form-of-life; ecosystem services; environmental justice

### Introduction

When the ecological question erupted, around 1970, it was described as an issue of material limits to the expansion and intensification of human use of the planet. This account, however, was short-lived. In a few years – the time capitalism needed to reorganize – a new narrative emerged, conveyed by expressions such as sustainable development, ecological modernisation, eco-efficiency, and lastly the Green (New) Deal. These notions, in one way or another, transform limits into internal, moveable barriers to the growth machine.

However, 50 years after *The Limits to Growth*, and faced with the prospect of a pursuit of growth against all odds, time has arguably come for reclaiming limits as the grounds for an environmental politics aspiring to be more than window dressing. Of course, it is impossible to *demonstrate* that technology – which Marx called humans' 'second nature' – cannot indefinitely increase the extractive capacity from the planet, as for example 'ecomodernists' (Breakthrough Institute 2015) and 'accelerationists' (Srniczek and Williams 2015)

claim. However many signs, from the worrisome state of earth system processes (Rockström et al. 2009) to the declining returns on energy and research investment (Court and Fizaine 2015; Tainter 2006), suggest we should be careful with the technological gamble. Additionally, environmental justice activists and scholars have documented the extent to which ecological and social deterioration go hand-in-hand (Martinez-Alier 2002). Contrary to the assumption accompanying the Great Acceleration and its post-Fordist relaunch, growth is no substitute for distribution. And there is no such thing as distribution if not of what there *is*, rather than of what there *might be*. A politics for a better distribution, therefore, entails a politics of limits, or the other way round.

Thus, there is scope for reconsidering the notion of limit, reconstructing how it has sunk in a morass of fuzzy concepts, and trying to reframe it. This is a delicate operation since, as I will argue, one cannot challenge its downgrading from matters of fact to matters of agreement by simply reclaiming naturalism – the outlook on reality hinging on binaries such as nature/culture and mind/body around which modern science and common sense have developed (Descola 2013) – but has to try and explore new directions. I first deal with the meaning of limit and the ambivalence of its modern account. Subsequently, I address how the case for the limits to growth was soon replaced by the case for the growth of limits; how capitalism proceeded by moving the boundary between the social and the non-social, the technical and the non-technical (=nature, as per modern tradition); and how the conventionality of the boundary has increasingly become the common sense. Even degrowth scholars have come to argue that limit should be conceived as self-limitation, rather than material constraints. As an alternative to a lifestyle politics whose chances of success are undermined by its subscription to the same ontology that supports the growth machine, I elaborate on the notion of form-of-life. Its attractiveness lies not so much in that form and limit bear affinity already at a conceptual level, as in its challenge to naturalism and conventionalism alike. I find Agamben's take on the issue invaluable but also problematic in some respect. The account I propose seems to me at once more consistent with the intuition it conveys and more suited to a radical environmental political theory and practice. I conclude with four reasons for making use of the notion.

### **Limits: from accomplishment to hindrance**

The concept of limit is both intuitive and tricky to disentangle from others, such as boundary, threshold, edge, and barrier. Current dictionary definitions show that limit shares with barrier the idea of a blockage to progress and with edge, threshold, and boundary the idea that, going over the impediment, things would change dramatically yet proceed. Limit, in other words, means at once endpoint and turning point. This double register is not found in earlier accounts. In Aristotle's famous definition (*Metaphysics*, E, 17), limit stands for the form of a spatial magnitude or the last point, end or essence of each thing. This account is consistent with the view prevailing in his time, according to which even the cosmos is closed and such

limitation corresponds to its very perfection (=completion, accomplishment), the open and the endless being instead regarded as incomplete, confused, or hubristic.

The discrepancy between ancient and current definitions and the ambivalence of the latter are easy to understand. Since the dawn of modernity the individual has been conceived as a free, autonomous agent, and reality as actionable in the fullest sense of being open-ended. The notion of limit is in inevitable tension with this ontology, in the framework of which limitations are acceptable only if contingent or, as with moral or organizational rules, self-established as functional to individual and collective progress. This *Weltanschauung* shines, for example, through Hobbes's account of happiness as a never-ending rush towards the achievement of ever-more advanced goals with minimal impediments, or Hegel's claim that determining something as a limit entails for it to be already implicitly overcome.

Early generation economists took into consideration material limits to growth. Well-known examples are the Physiocrats and Malthus, who, respectively, focused on the loss of energy, hence of use-value, entailed by any transformative process, and on how the divergent ratio of expansion of population and food supply challenges human ingenuity. With the rise of neoclassical economics, however, limits were replaced with a notion of scarcity related to a subjective attribution of utility, hence with no direct referent in reality. This shift can be explained by reasons internal to the discipline, yet it is hard to consider it unrelated with the concomitant opening of the era of cheap, abundant fossil energy.

Marx's idea of limit is nuanced but ultimately closer to the neoclassical than the Physiocratic. He stresses the 'everlasting nature-imposed condition of human existence' (Marx 1976: 290), and capitalism's 'rift in the interdependent process of social metabolism, a metabolism prescribed by the natural laws of life itself' (Marx 1981: 949).<sup>1</sup> However, for him, any limit to human capacity of use-value extraction is contingent on the existing socio-technical arrangement. It is entirely social – and necessary to capitalism. To create surplus value capitalism 'forces the workers beyond necessary labour',<sup>2</sup> yet it does so 'only to the extent and in so far as it is surplus labour and the latter is realizable as surplus value', which becomes 'the limit of objectified labour, of value as such' (Marx 1973: 353-4). In other words, capital has no interest in actualizing labour's potential if the latter cannot be transformed into profit. The limits to profitability, according to a given state of the forces and relations of production, set the barrier of labour's achievements, while the drive to profit leads to novel arrangements, whereby new surplus labour can be captured. Thus, capitalism progresses by way of the contradiction between 'posit[ing] a barrier specific to itself' and 'driv[ing] over and beyond every barrier' (Marx 1973: 353). Limits concern capitalism, not labour; the realization of surplus value, not the extraction of use-value from nature.

### **From the limits to growth to the growth of limits**

The issue of limits was brought back to the forefront by the MIT report on *The Limits to Growth* (Meadows et al. 1972). The book belongs to a constellation of publications which includes Paul Ehrlich's *The Population Bomb* (1968), Garrett Hardin's *The Tragedy of the Commons* (1969), Barry Commoner's *The Closing Circle* (1971), Nicholas Georgescu Roegen's *The entropy law and the economic process* (1971), and Herman Daly's *Towards a Steady State Economy* (1973). Together with events of worldwide resonance such as the first Earth Day (1970) and the Stockholm conference (1972), these works indicate that, around 1970, ecological preoccupations reached a tipping point, engendering a change in perspective. Ecological problems began to be seen as interdependent and composing a global issue. This intertwined with the fatigue of Fordist industrialism and welfare liberalism, signalled by stagflation, declining profits, and social turmoil.

While the MIT report and ecological economics suggested a strengthening of state control over the use of resources in order to re-establish the Fordist-Keynesian equilibrium on a global scale (Nelson 2015), things went the opposite direction. As storylines like sustainable development, ecological modernisation, and green economy indicate, in the post-Fordist regime of accumulation environmental issues become economic opportunities. Instrumental to this account is a new scientific thinking, developing alongside in chemistry, cybernetics, and the life sciences, which, contrary to earlier assumptions, sees normalcy in disorder, open-endedness, patchiness, fragmentation, competition, and unpredictable dynamics, deemed to bring renewal and change against the 'heat death' of equilibrium (Cooper 2008; Walker and Cooper 2011). In this framework, material limits are simultaneously acknowledged and pushed forwards. Technological and organizational innovation is assumed to translate them into contingent barriers to production. What for Marx was the hidden mechanism of capitalism becomes an open claim. The case for the limits to growth is reversed into a case for the growth of limits.

### **Capitalism and nature**

It is mostly the merit of feminist thinkers (Silvia Federici, Mary Mellor, Maria Mies, Ariel Salleh and others) to have breathed new life into the critique of capitalism. By shedding light on the role of reproductive labour in value creation, they drew attention to how capitalism is more than an economic system. In Nancy Fraser's words, it is an 'institutionalised social order' comprising both economic conditions (private property, free labour, and the market as the key institution for allocating values) and extra-economic ones (public powers ensuring the enforcement and protection of property rights, socio-reproductive activities building and sustaining the social fabric, and the free availability of the biophysical world as 'tap' and 'sink') (Fraser 2014a; 2014b; 2016). Hence, capitalism operates not only by creating and overcoming barriers to labour's valorisation but also by drawing and moving boundaries between economy and polity, production and reproduction, society and nature. The latter boundary encompasses both a division between a

valueless biophysical realm and an economic realm where value is ‘produced by and for human beings’, and ‘the hardening of a pre-existing distinction between the human – seen as spiritual, socio-cultural and historical – and non-human nature, seen as material, objectively given and ahistorical’ (Fraser 2014a: 63). The society/nature division moves, by way of a new round of enclosures, whenever the ‘free’ or ‘cheap’ resources ensured by the previous arrangement have been fully absorbed in valorisation processes (Moore 2015). Moreover, as technology advances, nature is subsumed to capital not only ‘formally’ or ‘horizontally’ – that is, without altering its value potentials but just actualising them more effectively, for example by improving efficiency in energy extraction and use – but also ‘really’ or ‘vertically’ – that is, refashioning it in order to work harder, faster, and more efficiently (Boyd et al. 2001; Smith 2007; Fraser 2014a). Think of the ‘FlavrSavr’ tomato, genetically modified to make it more resistant to rotting, or the ‘AquAdvantage’ salmon, modified to grow quicker. True, as the biotech industry tirelessly stresses, the ‘socialization’ of nature is as old as agriculture. Yet the implications of new biotechnologies, at least for how they have been instrumentalised to an accumulative logic, can hardly be dismissed. Thanks to their power, a decline in formal subsumption (=resource exhaustion) might well be offset by an increase in real subsumption (=intensification of value extraction). Ecomodernists claim that technology is bound to ‘decouple’ society from the biophysical world, allowing capitalism to survive and prosper (Breakthrough Institute 2015). Critics of capitalism also show a degree of ambiguity in this respect. Fraser, for example, claims that ‘the real question is not how much is being produced but what is being produced, and how and to whose benefit’ (Fraser and Jaeggi 2018: 173), seemingly assuming that growth and distribution can be addressed separately and that a limitless increase in energy and resource efficiency is possible. Similarly, Moore (2015) talks of limits to capitalism, due to the ‘one-way ticket’ character of the commodity frontier (once appropriated and commodified a resource is no longer available for free), remaining silent about the achievements of a society organised otherwise. To meet overt scepticism about technological eschatologies one has to turn to discussions about the declining returns on energy and research investment (Tainter 2006), or the running out of steam of the bio-ICT industrial revolution and the uncertain prospects of automation (Bonaiuti 2018).<sup>3</sup>

### **The blurring of divisions**

In this way the question of limits seems to boil down to a diatribe between techno-optimists and techno-pessimists. If the former are correct, then an ever-deepening socialisation of nature can ensure a virtually endless growth of limits. Yet, possibly, this very expression – growth of limits – is becoming inadequate as, rather than the receding signposts of a non-socialised nature, limits are increasingly understood as wholly conventional.

The biotech industry, for example, not only asserts continuity between traditional and genetic technologies but claims they do what nature always did, just doing it with more competence and precision (Thacker 2007). This amounts to saying that the distinction between nature and technology is just a matter of convention. This narrative transcends its promotional goals, expressing the spirit of the time. Consider, for example, the subtle ontological work underlying the legal protection of GMOs. These are assumed to be at once indistinguishable (=no need of specific regulation) and different (=more usable, valuable) from natural entities. Furthermore, protection covers both physical entities (seeds, for example) and the genetic information they incorporate. This indicates the fall of another major distinction. Life becomes at once material and immaterial, thingness and cognition, presence and pattern, which incidentally conveys an imaginary of endless value extraction as it embeds in matter the limitlessness and plasticity of information. The distinction between living and non-living also gets confused. In chemistry and biology not only life is infused with dematerialized characterizations (textuality, information, codification), but the inorganic realm is increasingly depicted as having vital connotations (Keller 2011). New prosthetics and brain-computer interfaces also question the divide between the organic and the inorganic, or between the natural and the artificial (Rao 2013). And new mining techniques that utilize microorganisms make the difference between the living and the non-living increasingly irrelevant to valorisation processes (Labban 2014).

In short, the blurring of ontological divides crucial to the rise of modern science and common sense (nature/technology, matter/information, living/non-living) is no longer a 'promise' (Fraser 2014a: 63) but an accomplished fact, and a means for further value extraction (Pellizzoni 2016). Consider also the categories of production and reproduction. The reprivatisation and partial commodification of social reproduction in the post-Fordist accumulation regime (Fraser 2016) dovetails with the 'feminisation' of jobs (=the increasing valorisation of the relational, affective capacities traditionally ascribed to women) and the commodification of biological reproductive functions (Cooper and Waldby 2011). As a result, notes Kathi Weeks, 'the always vexing exercise of distinguishing between production and reproduction – whether by sphere, task, or relationship to the wage – becomes even more difficult' (Weeks 2011: 28). One may object that this can be read not as the fall of a fundamental distinction but as a shift of the commodity frontier, with economic functions once extraneous to the market now being outsourced to, or integrated into, it. However, the burgeoning field of ecosystem services (ES) shows that ontological blurring involves the category of commodity itself.

ES are defined as the benefits biophysical systems give to humans, from resource provision to regulative and supporting functions like carbon sequestration, waste decomposition, soil formation, crop pollination, and also cultural ones, such as aesthetic, spiritual, recreational, educational, therapeutic (Millennium Ecosystem Assessment 2005). Of the two main strands in the economy of ES – markets (MES) and payments (PES) – the latter is the more intriguing conceptually. MES treat biophysical functionings as tradable commodities that can be disassembled and reassembled in a Polanyian, 'fictitious' way (Gómez-

Baggethun et al. 2010). For example, forests or wetlands are destroyed to give room to farming, industry or infrastructure to be recreated elsewhere, (supposedly) as per original. PES, instead, are transactions concerning the provision of a service, such as carbon sequestration in biomass or soils, or the securing of freshwater flows to downstream users. In this case, so to say, nature is commodified without touching it, gaining value precisely for that. But if no human intervention is needed, it means it was a commodity *already*, since the beginning, just waiting for recognition and measurement. This is actually the Kyoto Protocol's take on the atmosphere.<sup>4</sup> Fraser (2014b) remarks that the ontology of land and labour, as conditions for commodification, is not fixed as Polanyi assumed, but changes along history. The economy of ES confirms this in full. Nature has been socialized to the point that a pillar of capitalist economy – the distinction between labour, as what makes a commodity and the value it contains in abstract form appear, and a valueless biophysical world – melts away, non-human processes providing monetizable performances just like human work.

This raises a major interpretive question about capitalism. Many scholars equate the rise of the ES economy with a resurgence of rent (a notion which traditionally identifies revenue obtained 'without work', thanks to someone else's willingness or obligation to pay), seeing in this a (further) sign of capital's crisis. ES are fictitious commodities, it is claimed, because property rights over them allow holders to intercept part of the surplus value created elsewhere, in the sphere of production. Carbon and biodiversity offsetting would intercept surplus value produced by industrial activities or land uses, and payments for a forest, a water basin, or a recreational amenity would intercept part of the surplus value produced by the connected services (carbon sequestration, freshwater, tourism). This idea of 'value grabbing' (Andreucci et al. 2017; Felli 2014) mirrors the 'becoming rent of profit' of which autonomist Marxists talk, referring to how post-Fordist capitalism increasingly builds on workers' linguistic and communicative abilities, formed outside the sphere of production (Vercellone 2007; Hardt and Negri 2017). Capitalist economy, therefore, would evermore rely not only on cognitive work but also on the 'infinitely productive' potentiality of nature, 'presupposed, but not produced, by state and capital' (Braun 2015: 11); its 'self-organizing dynamics and regenerative capacities [...] outside of the direct production processes' (Nelson 2015: 462). The autonomy of nature would correspond to the logical-historical precedence of labour over capital. In both the human and the non-human sphere capital would increasingly depend on forces which it cannot control, because external to production and because surplus value comes precisely from the creativity of these forces. The emergent social contradiction of capital – growing dependence on workers increasingly disconnected from capitalist relations of production – would be replicated in the deepening of its ecological contradiction, presumably accelerating its demise.

However, there is hardly any evidence that things are going this way. Cognitive workers are no less entrenched in capitalist relations of production than their forebearers (Dardot and Laval 2019), nor do ES markets seem hampered by tensions and contradictions in their measurement and monetization

(Robertson 2012; Turnpenny and Russell 2017). Sure, such measurement and monetization is also an expression of human labour – a complex intellectual one, actually (MacKenzie 2009; Büscher 2013). Yet, differently from the classic techno-scientific labour which identifies natural forces to funnel them into machines, such labour is seemingly doing nothing to reality but to analyse its functioning in order to provide it with a value. The correct reading of the flourishing of ES, then, is hardly of a ‘becoming rent of profit’ (=interception of part of the surplus value that labour generates over something lying outside production relations, in this case the ‘tap’ and ‘sink’ functions of nature), but rather of a ‘becoming profit of rent’ (=interception of the value such functions have in and by their own); or, more fittingly, a collapse of the very distinction between rent and profit, as value appears to stem from human and non-human operations alike.

In sum, if capitalism reacted to the socio-ecological crisis of the 1970s by reversing the case for the limits to growth into a case for the growth of limits, now this move seems to have come to its final destination: a full internalisation of limits; their complete reduction to the status of barriers capital posits to itself. Indeed, this is becoming common sense. The notion of Anthropocene in particular has seemingly taken charge of transferring to the wider public the idea, circulating for years among intellectual and corporate elites, that the virtually accomplished socialisation of nature makes any distinction between the social and the non-social, the technical and the natural, utterly conventional.

### **Degrowth and self-limitation**

If this is the state of play and one takes seriously the signs of ecological and social stress mentioned above, reclaiming the non-conventionality of limits seems urgent. Evidence that this is hardly a straightforward move, however, comes from the case for degrowth. Though its lineage and ramifications are complex (Kallis et al. 2018), the original standpoint, eminently represented by Serge Latouche’s writings between the 1990s and the early 2000s, is that it is necessary to stop growth, shrinking energy and resource throughput. Yet, partly in reply to mounting criticisms (how can there be a ‘happy’ downscaling of production and consumption, capable of improving not only ecological conditions but also human well-being? how can one talk of voluntary shrinking, faced with growing poverty even in affluent countries?), a significant drift in the argument has been taking place among the second generation of scholars.

The emergent idea is that one should tackle not so much the physical limits of the planet, as the framework of scarcity on which capitalism builds to justify socio-ecological plunder. To make such case Georges Bataille, rather than Marx, is used. For Bataille (1988, see also Romano 2019), what is contingent is scarcity, not abundance. Outside the restricted economy of bourgeois society lies the general economy of the living planet, where there is always an excess of energy available, ultimately coming from the sun, that asks to be consumed, wasted. Like all living beings, humans use energy only partly for their conservation and



reproduction. The rest goes to *dépense*, non-productive expenditure – art, luxury, games, wars, intellectual speculation, conviviality, and so on. Then, it is argued, if scarcity is a social, and specifically a capitalist, invention to which even the imaginary of environmentalism pays tribute, the task is to hollow out surplus, to direct it to unproductive uses, doing things that “‘burn” capital out and take it out of the sphere of circulation, slowing it down’, for example by ‘spending in a collective feast, [...] subsidis[ing] a class of spirituals to talk about philosophy or leav[ing] a forest idle’ (D’Alisa et al., 2015: 217).

Of course, an ‘unproductive expenditure that exhausts the potential for growth’ cannot be performed on a daily basis; it can only be an ‘occasional [energy] release’ (Kallis 2019: 116). Thus, *dépense* needs a companion concept, namely, self-limitation. For Giorgos Kallis, neo-Malthusians (from the MIT report to environmentalists) have taken Malthus wrong. Malthus talks of limits to growth to make a case for growth. He regards limits as contingent on demands, any socio-technical arrangement being unable to sustain the population it elicits. Yet, for him, this does not lead to self-limitation but to a drive to growth, in search of satisfaction of unfulfilled demands. For Malthus, in other words, ‘scarcity and productivity go hand in hand’ (Kallis 2019: 16). However, Kallis reflects, demands do not necessarily have to grow together with, or faster than, the possibility to satisfy them. If we turn our head to other cultural horizons, such as ancient Greece, we see that an accomplished and pleasurable life can build precisely on self-limitation, self-mastery, avoiding hubris and excess. One should not take the existence of ‘ecological forces beyond our control’ as limits, since ‘a limit presupposes a goal’ (Kallis 2019: 59). Limits, in other words, are not a matter of constraint but ‘of choice, determined by the type of world we want to create and pass to our children’. But then, ‘there are [no] external limits’; indeed, it is precisely ‘when there are no limits that we have to limit ourselves’ (Kallis 2019: 119-120).

So, limits are drawn again to the status of internal barriers. This, however, raises problems if the goal is not to support but to challenge the growth machine. A straightforward commentary to the argument above is that, in a capitalist economy, unproductive expenditure is easily captured in valorisation processes. Organising feasts is a lucrative activity, and a forest left idle may become an equally lucrative ES. The same happens with sobriety, regularly translated into consumer niches with an overall increase in consumption. The basic question, however, is whether the idea of self-limitation is adequate to the purpose. Kallis, it seems to me, downplays the difference between the ancient and the modern view of the human agent. The latter, as recalled above, conceives of itself as free, autonomous, and focused on actualizing its own potentials in a world infinitely open to change. The ancient view, instead, regards self-mastery as directed to finding one’s place in a ‘resisting’, and often adverse, world, nurturing the ‘true’ or the ‘best’ part of oneself shared with a cosmic Totality (Hadot 1995). Hence, the modern and the ancient outlook on self-limitation differ dramatically. The former is driven by the idea of choice; the latter by the idea of recognition. Actually, Greeks’ concern for hubris and excess makes sense only if these are conceived as a refusal to acknowledge, rather than choose, limitations. Hubristic is the attempt to overstep one’s agency;

it cannot be the mere exercise of such agency. Of course, if one wishes to speculate, acknowledging or refusing to acknowledge limitations are choices. Yet, in such choices, reality trumps the decisionmaker rather than the opposite, as when the decisionmaker sees only self-positing barriers.

Modern subjectivity exposes self-limitation to the vagaries of will. All the more so in a context marked by technological hype and the alleged conventionality of distinctions, which emphasise how individual choice is always revisable and how already at a local scale, let alone a planetary one, no expert assessment or democratic procedure can set without controversy the amount and allocation of restrictions suitable to the circumstances. Even awareness that the drive to growth sets in motion uncontrollable forces, big and small (from climate to viruses), is hardly an endorsement for self-limitation: lack of control is increasingly portrayed as actionable through a politics of trial and error, permanent experimentation, preparedness and resilience (Cooper 2006; Clark and Yusoff 2017).<sup>5</sup>

### **Limit and form-of-life**

The trajectory of the case for degrowth shows the gravitational attraction that the modern conception of the individual agent keeps exerting. The claim that all ontological distinctions are conventional and all limits are self-positing can be regarded as a logical development of this conception.<sup>6</sup> The original standpoint of degrowth might be rough but was also unequivocal about the growth machine. In the new version it boils down to lifestyle politics – that is, personal choices concerning ‘dress, diet, housing, leisure activities, and more’ (Portwood-Stacer 2013: 4) – something which has long proven welcome to capitalism and hardly a bulwark against consumption.

When I describe the original degrowth standpoint as ‘rough’, I do not just mean that, for example, the distributive aspects of shrinking economy were ill-elaborated, but that the naturalism on which it built is inadequate to the subtle ontological work that underlies current techno-science, corporate policy, and regulation. However, if tackling the growth machine from the side of naturalism can hardly succeed, the same happens from the side of conventionalism, because of the inflated account of agency it implies. The only option left, therefore, seems to be moving along the ridge of the two sides of modernity. How? I believe a possibility is offered by the notion of form-of-life.

This notion is neither new nor univocally understood. The expression *Lebensform* is well attested in the German-speaking area at the turn of the twentieth century, where it already bears multiple meanings: biological, psychological and socio-cultural (Saidel 2014). Wittgenstein possibly drew inspiration from these debates while giving a twist to the notion, calling form of life the discursive and non-discursive practices within which language-games take shape and statements get meaning. A recent elaboration comes from Rahel Jaeggi, who gives the notion a meaning pretty close to Fraser’s concept of institutionalised social

order (Jaeggi 2018; Fraser and Jaeggi 2018). Yet, the author who more insistently, and more usefully to my purposes, has used it is Giorgio Agamben.

For him form-of-life means a life 'linked so closely to its form that it proves to be inseparable from it' (Agamben 2013a: xi) – hence the hyphenation. As an example Agamben focuses on monastic rules. Middle-age debates account for these as paradigms of conduct to which monks should conform, in the literal sense of the word. This is most evident in Franciscanism. Francis' rule is 'poverty', namely the imitation of Jesus's life, as narrated in the Gospel, in the totality of the monk's existence – all actions, thoughts, and behaviours. Of course, just promising the rule cannot produce these effects. The monk has to devote all of himself to the rule, day after day, endeavouring to make life and rule one and the same thing, struggling to imitate Jesus to the point that he cannot live otherwise; becoming the imitation, in a sense. So he starts trying to be by doing, but should end up doing just what he is. Or we can also say: he starts with a lifestyle, but should end up with something else – a form-of-life.

For Agamben, this account takes on a broader relevance when gauged against the peculiar character of political power in western history, as a recurrent effort to control the biological, animal side of humans by isolating it from the cultural or intellectual side; making the former subservient to the latter (Agamben 1998). Form-of-life is for him a being who is able to stand against such efforts, building on the dismemberment of life and form. Therefore, following Agamben, we can regard the notion of form-of-life as indicating the possibility of countering the modern separation of mind and matter, nature and society, taking distance from both naturalism and conventionalism. Moreover, form-of-life conveys an idea of agency at once close and distant to the modern one. Close because the agent is self-ruling. Distant because this self-ruling is contained in a form (=limit, according to Aristotle). Form-of-life, we can say, is a mode of being and living where the mode is neither shaping nor shaped by, but fitting being and living like a glove. This reciprocal belonging, or affection, of life and form seems to remove the two drivers of the idea of lack of limits, of infinite growth – lack of shape and lack of substance. If there is matter, it cannot take any shape, at will; and if there is shape this has to adhere to matter, on penalty of sagging. The opposite is what power would have you believe, making you meek and obedient to the ever-renewed promise of enhancement and transcendence.

There is, of course, a problem. What if form and life expand together? Many organisms, or parts of organisms, may grow indefinitely. And the modern account of the individual admits, invites, or even prescribes going on forever exploring and fulfilling one's potentials, according to circumstances themselves ever-changing. As twentieth-century philosophical anthropology has insisted, humans have no innate specialization in the interaction with the environment. However, as Agamben stresses (borrowing from Aristotle), the lack of predefined tasks and abilities entails both an affirmative and a negative account of potentiality. One *can* properly do only if one can *not* do (Agamben 2011). The imperative of growth, instead, builds on the persuasion, ingrained in western modernity, that to be one *has* to do (make, get,

become).<sup>7</sup> Acknowledging that real potentiality presupposes its negative side – *impotentiality*, the capacity of not doing – is important because it indicates we are not compelled to grow; or that growth is a compulsion which hollows out our freedom. On this view, the fact that any increase in energy and resource efficiency is regularly overwhelmed by depletion somewhere else in the ecosystem is no accident, nor the curse of the rebound effect. It rather indicates how the drive to value extraction drains innovation of its negative capacity, the ability to not harness an element or process to the bottom and look for a more considered approach to the relations and values involved.

However, this double register of potentiality, positive and negative, emphasises the role of choice. I can do because I can not do, and vice versa. Limit seems again to boil down to self-limitation, and form-of-life to lifestyle, with the problems already discussed. A correspondence between form-of-life and lifestyle is actually proposed by some commentators (Prozorov 2017). Moreover, Agamben depicts form-of-life as a monad, which, rather than entertaining a proper relation with other entities, is in touch with them only on its own terms, ‘represent[ing] them in itself, as in a living mirror’ (Agamben 2016: 232). This description sounds worryingly close to the modern solipsistic, self-mastering account of individuality. Nothing prevents this monad from limitless growth. Its limit can only be a self-limitation.

As far as environmental politics is concerned, form-of-life can make a difference only if irreducible to mere choice or the capacity of formatting the world in one’s own image. Luckily, a clue is offered by Agamben himself, namely when he remarks that ‘every body is affected by its form-of-life as by a *clinamen* or a taste’ (Agamben 2016: 231). ‘Affected’ is an appropriate term, because one cannot properly *choose* a taste, an ‘inclination’. On the contrary, taste or inclination is what choice presupposes, and without which no choice is possible. Any proper, major choice entails literally a (re-)cognition of oneself. I can do not only if I can not do, but also if, in some fundamental respect, I cannot do otherwise. Once acknowledged and seconded, this element of unavailability – this limit – is arguably what keeps life and form in balance, helping resist the lure of endless growth. Nor can such inclination be just an internal disposition of a monad. Even organisms able to grow indefinitely can do so only in principle. Sooner or later they meet something at once impedimental and formative to them, and on which they usually act likewise. A life inseparable from its form, then, is a life whose form takes shape at the encounter with other lives, all provided with their own *clinamen*, yet also sharing a common destiny. Compared with other living beings, an additional effort – acknowledgment – is asked to the members of the species that managed to become self-conscious, experimenting in full the thrill and the burden of intentionality.

## Conclusion

This, I believe, is an account of form-of-life suitable to a radical theory and politics for the environment. Yet, should such theory and politics make use of this concept? I think so for four reasons. First, we have seen

that the fortress of growth can be attacked neither from the side of naturalism nor from the side of conventionalism. After a short season during which it seemed capable of informing radical reforms, the notion of material limits to growth has increasingly receded, being eventually replaced with a full-fledged account of nature as a barrier internal to the social and the technical; an account which is instrumental, rather than obstructive, to growth. In this framework, pointing to a politics of restrictive self-styling has little chances of success for the precariousness of any pure act of will, especially faced with the lure of marketing and technological sirens. Quite different can be to move along the ridge between naturalism and conventionalism; to hinge on the idea that finding ‘measure’ in life entails acknowledging the formative limitation stemming from the encounter of inner dispositions and outer affections.<sup>8</sup>

Second, any apparent obscurity in the notion of form-of-life is an effect of the conceptual concretions accumulated over modernity in its oscillation between naturalism, with its sharp dichotomies, and conventionalism, with its hypertrophic agency that smooths out and eats away reality. Such concretions veil something in fact quite intuitive, as testified by how *Lebensform* was applied since the beginning to a variety of phenomena: biological and cultural, organic and discursive, individual and collective. If ‘life’ – as per Oxford Dictionary – is indicated by features (to some extent shared by inorganic matter) like the capacity for growth, reproduction, functional activity, and continual change, there can be no life without a form that makes it emerge from and stand against entropic indistinctness; and there can be no form without a replenishment of some sort. Even symbols or abstract ideas such as mathematical concepts cannot be imagined (take life, it is said) without a substance giving them support – a sound, a sign, a colour, something standing or moving.

Third, the idea of form-of-life, as we have come to specify it, dovetails with the case for environmental justice, as an alternative of growing theoretical and political significance to the (naturalist) case for environmental protection and the (conventionalist) case for eco-efficiency. Pillars of environmental justice are the claim that, before and outside modernity, peoples have been able to evolve together and in balance with their biophysical milieu; that production is premised on distribution (hence on limits, as noted in the beginning); and that any non-dominative and non-destructive relationship with the biophysical realm entails that a plurality of orders of worth, rather than a single measure of value, be kept available and actionable in any specific circumstance (Martinez-Alier 2002).

Fourth, the idea of form-of-life arguably captures the driving intuition that underpins a number of emergent experiences from the global North and South, such as permaculture, participatory plant breeding, community-supported agriculture, energy cooperatives and comparable practices in the primary sector; frugal innovation and alternative ways of crafting and making; *zones à défendre* and other attempts to set ‘places apart’ from the market and the state. All these initiatives, called prefigurative mobilisations (Yates 2015), new materialist practices and movements (Meyer 2015; Schlosberg and Coles 2016) and otherwise, seek to alter the dominant grammar of goals, values, and relations among people and with

things much in the same way as the notion of form-of-life suggests.<sup>9</sup> This notion, therefore, may help grasp a social effervescence that poses interpretive difficulties (Schlosberg 2019), as it differs from traditional political activism but also from lifestyle politics, while stimulating reflexivity from activists themselves. The concept of form-of-life needs to be delved into deeper than it was possible to do here. What can be seen already is that it enables us to make sense of what went wrong in environmental politics and what emergent mobilisations arguably announce: the return of limits to the human use of the planet, not as a reluctantly accepted limitation but as a recognised condition of freedom and equality.

## Acknowledgments

I wish to thank the editors and two anonymous reviewers for their insightful comments to earlier versions of this paper. Special thanks to John Meyer for careful and sympathetic editorial work. I am also grateful to the organizers and participants in the *Environmental Politics* 30<sup>th</sup> anniversary workshop (Spetses, 8-11 July 2019), where the first version of the paper was presented, for creating a wonderful atmosphere of intense intellectual exchange and friendly relationship.

## Notes

<sup>1</sup> For extensive accounts of the 'green' Marx see Foster and Burkett (2016); Saito (2017).

<sup>2</sup> 'Necessary labour' means the labour needed for the reproduction of workers and of what is consumed in the production process.

<sup>3</sup> Moore (2015) concurs with these analyses but sees in them only an indicator of (terminal) crisis of capitalism.

<sup>4</sup> The analogy between biodiversity and carbon offsetting confirms the blurring of the matter/information and living/non-living divides, the disassembling and reassembling of materiality being indifferently figurative or actual, aimed at the organic or the inorganic. The room of manoeuvre in terms of valorisation is also comparable. For example, reforestation programs can replace original forests with commercially valuable plantations, such as palm or gum trees. A reassessment of the 'global warming potential' of greenhouse gases can modify carbon credit allowances and terms of exchange.

<sup>5</sup> Preparedness is increasingly advocated for tackling resurgent and insurgent pandemics (Lakoff 2017), such as Sars-CoV-2. Its rise in relevance goes hand in hand with the marginalization of calls for addressing the root cause of zoonoses – relentless industrialization of agriculture and farming.

<sup>6</sup> Scholars claiming the contingency of any ontological distinction usually set their standpoint against modern humanism and the dominating implications of its binaries over an ever-changing, vital materiality (e.g. Bennett 2010; Coole and Frost 2010). Upon closer examination, however, a case against any ontological stability (=limit) reproduces the problem, to the extent that it fails to undermine, and indeed embraces, its engine: an account of agency as unrestricted, irrepressible in both the descriptive and normative sense of the word. Over time such agency has, so to say, eaten up the world it was originally supposed to be acting upon, converting objectivism into its opposite. To

tackle modern humanism, therefore, one should challenge its account of agency, rather than extend it to the whole materiality. The mistake is confirmed by how these scholars often regard ontological blurring not only as anti-humanist but also anti-capitalist (e.g. Braidotti 2013). As we have seen, this is hardly the case.

<sup>7</sup> One may ask where such persuasion comes from. According to Agamben (2013b), by splitting creation and economy (administration) of life, the Christian Trinitarian doctrine consigned the historical world to the latter, leading to a conception of being as contingent on the effects it produces.

<sup>8</sup> Such an account, it is worth stressing, avoids both the presupposition of a telos, an accomplished state for individual entities or collectives, and a naturalist account of human belonging in a larger biotic community.

<sup>9</sup> For an embryonal attempt to apply the notion of form-of-life to new mobilisations cf. Bulle (2018).

## References

Agamben, G., 1998. *Homo sacer*. Stanford: Stanford University Press.

Agamben, G., 2011. On what we can not do. In: G. Agamben, *Nudities*. Stanford: Stanford University Press, 43-45.

Agamben, G., 2013a. *The highest poverty*. Stanford: Stanford University Press.

Agamben, G., 2013b. *Opus dei*. Stanford: Stanford University Press.

Agamben, G., 2016. *The use of bodies*. Stanford: Stanford University Press.

Andreucci, D., García-Lamarca, M., Wedekind, J. and Swyngedouw, E., 2017. 'Value grabbing': a political ecology of rent. *Capitalism Nature Socialism*, 28(3), 28-47.

Bataille, G., 1988. *The accursed share. Volume 1*. New York: Zone Books.

Bennett, J., 2010. *Vibrant matter*. Durham, NC: Duke University Press.

Bonaiuti, M., 2018. Are we entering the age of involuntary degrowth? Promethean technologies and declining returns of innovation. *Journal of Cleaner Production*, 197(2), 1800-09.

Boyd, W., Prudham, S. and Schurman, R., 2001. Industrial dynamics and the problem of nature. *Society and Natural Resources*, 14, 555-570.

Braidotti, R., 2013. *The posthuman*. Cambridge: Polity Press.

Braun, B., 2015. New materialisms and neoliberal natures. *Antipode*, 47(1), 1-14.

Bulle, S., 2018. Formes de vie, milieux de vie. La forme-occupation. *Multitudes*, 71, 168-175.

Breakthrough Institute, 2015. *An ecomodernist manifesto*. Available from:

<http://www.ecomodernism.org/manifesto> [Accessed 30 March 2016].

Büscher, B., 2013. Nature on the move I: the value and circulation of liquid nature and the emergence of fictitious conservation. *New Proposals*, 6(1-2), 20-36.

- Clark, N. and Yusoff, K., 2017. Geosocial formations and the Anthropocene. *Theory, Culture & Society*, 34(2–3), 3–23.
- Coole, D. and Frost, S., eds., 2010. *New materialisms*. Durham, NC: Duke University Press.
- Cooper, M. and Waldby, C., 2014 *Clinical labor*. Durham, NC: Duke University Press.
- Cooper, M., 2006. Pre-empting emergence. *Theory, Culture & Society*, 23(4), 113–135.
- Cooper, M., 2008. *Life as surplus*. Seattle: University of Washington Press.
- Court, V. and Fizaine, F., 2015. *Estimations of very long-term time series of global energy-return-on-investment (EROI) for coal, oil, and gas productions*. Paris: Université Paris-Dauphine, CDC Climat: Working Paper 2015-10.
- D’Alisa, G., Kallis, G. and Demaria, F., 2015. From austerity to dépense. In: G. D’Alisa, F. Demaria and G., Kallis, eds. *Degrowth*. London: Routledge, 215-220.
- Dardot, P. and Laval, C., 2019. *Common*. New York: Bloomsbury.
- Descola, P. 2013. *Beyond nature and culture*. Chicago: University of Chicago Press.
- Felli, R., 2014. On climate rent. *Historical Materialism*, 22(3–4), 251–280.
- Foster, J.B. and Burkett, P., 2016. *Marx and the Earth*. Leiden: Brill.
- Fraser, N., 2014a. Behind Marx’s hidden abode: for an expanded conception of capitalism. *New Left Review*, 86 (Mar/Apr), 55-72.
- Fraser, N., 2014b. Can society be commodities all the way down? Post-Polanyian reflections on capitalist crisis. *Economy and Society*, 43(4), 541-558.
- Fraser, N., 2016. Contradictions of capital and care. *New Left Review*, 100(Jul/Aug), 99-117.
- Fraser, N. and Jaeggi, R., 2018. *Capitalism*. Cambridge: Polity Press.
- Gómez-Baggethun, E., de Groot, R., Lomas P.L., and Montes, C., 2010. The history of ecosystem services in economic theory and practice: from early notions to markets and payment schemes. *Ecological Economics*, 69(6), 1209–18.
- Hadot, P., 1995. Reflections on the idea of the ‘cultivation of the self’. In: P. Hadot, *Philosophy as a way of life*. Oxford: Blackwell, 206-213.
- Hardt, M. and Negri, A., 2017. *Assembly*. New York: Oxford University Press.
- Jaeggi, R., 2018. *Critique of forms of life*. Cambridge, MA: Harvard University Press.
- Kallis, G., 2019. *Limits*. Stanford: Stanford University Press.
- Kallis, G., Kostakis, V., Lange, S. et al., 2018. Research on degrowth. *Annual Review of Environment and Resources*, 43, 4.1–4.26.



- Keller, E.F., 2011. Towards a science of informed matter. *Studies in History and Philosophy of Biological and Biomedical Sciences*, 42(2), 174-179.
- Labban, M., 2014. Deterritorializing extraction: bioaccumulation and the planetary mine. *Annals of the Association of American Geographers*, 104(3), 560-576.
- Lakoff, A., 2017. *Unprepared. Global health in a time of emergency*. Oakland, CA: University of California Press.
- MacKenzie, D., 2009. Making things the same: gases, emission rights and the politics of carbon markets. *Accounting, Organizations and Society*, 34(3-4), 440-455.
- Martinez-Alier, J. 2002. *The environmentalism of the poor*. London: Elgar.
- Marx, K., 1973. *Grundrisse*. London: Penguin.
- Marx, K., 1976. *Capital. Volume 1*. London : Penguin.
- Marx, K., 1981. *Capital. Volume 3*. London: Penguin.
- Meadows, D.H., Meadows, D.L, Randers, J. and Behrens III, W.W., 1972. *The limits to growth*. New York: Universe Books.
- Meyer, J.M., 2015. *Engaging the everyday*. Cambridge, MA: MIT Press.
- Millennium Ecosystem Assessment, 2005. *Ecosystems and human well-being; synthesis*. Washington, DC: Island Press.
- Moore, J., 2015. *Capitalism in the web of life*. London: Verso.
- Nelson, S., 2015. Beyond the limits to growth: ecology and the neoliberal counterrevolution. *Antipode*, 47(2), 461-480.
- Pellizzoni, L., 2016. *Ontological politics in a disposable world. The new mastery of nature*. London: Routledge.
- Portwood-Stacer, L., 2013. *Lifestyle politics and radical activism*. London: Bloomsbury.
- Prozorov, S., 2017. Living à la mode: form-of-life and democratic biopolitics in Giorgio Agamben's *Use of bodies*. *Philosophy & Social Criticism*, 43(2), 144-163.
- Rao, R., 2013. *Brain-computer interfacing: an introduction*. Cambridge: Cambridge University Press.
- Robertson, M., 2012 Measurement and alienation: making a world of ecosystem services. *Transactions of the Institute of British Geographers*, 37(3), 386–401.
- Rockström, J. Steffen, W., Noone, K. et al., 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society*, 14(2): 32.
- Romano, O., 2019. *Towards a society of degrowth*. London: Routledge.

- Saidel, M.L., 2014. Form(s)-of-life. Agamben's reading of Wittgenstein and the potential uses of a notion. *Trans/Form/Ação*, 37( 1), 163-186.
- Saito, K., 2017. *Karl Marx's ecosocialism*. New York: Monthly Review Press.
- Schlosberg, D., 2019. From postmaterialism to sustainable materialism: the environmental politics of practice-based movements. *Environmental Politics*, DOI: 10.1080/09644016.2019.1587215.
- Schlosberg, D. and Coles, R., 2016. The new environmentalism of everyday life: sustainability, material flows and movements. *Contemporary Political Theory*, 15(2), 160–181.
- Smith, N., 2007. Nature as an accumulation strategy. *Socialist Register*, 43, 17–36.
- Srnicek N. and Williams, A., 2015. *Inventing the future*. London: Verso.
- Tainter, J.A. 2006. Social complexity and sustainability. *Ecological Complexity*, 3, 91-103.
- Thacker, E., 2007. *The global genome*. Cambridge, MA: MIT Press.
- Turnpenny, J.R. and Russel, D.J., 2017. The idea(s) of 'valuing nature': insights from the UK's ecosystem services framework. *Environmental Politics*, 26(6), 973-993.
- Vercellone, C., 2007. From formal subsumption to general intellect: elements for a Marxist reading of the thesis of cognitive capitalism. *Historical Materialism*, 15, 13-36.
- Walker, J. and Cooper, M., 2011. Genealogies of resilience. From systems ecology to the political economy of crisis adaptation. *Security Dialogue* 4(2), 143-160.
- Weeks, K., 2011. *The problem with work*. Durham, NC: Duke University Press.
- Yates, L. 2015. Rethinking prefiguration: alternatives, micropolitics and goals in social movements. *Social Movement Studies*, 14(1), 1-21.