ECOCENE POLITICS

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1. Introduction

Thinking Politically through the New Era

Let there be no doubt: the tragedy has already happened.

No matter how hard we try to wriggle our way out of so many ecological problems, the future is a matter of degrees of destabilizing change. There is no going back. No human society can still count on the future of their environment.

The notion that we can count on it has always been an illusion, but today we can no longer afford the illusion itself. It is known that tomorrow will be different, and that difference also means that many aspects of the world that make it joyful and livable today will likely disappear. As our ecological century advances, we have entered an era of universal loss, displacement, and decomposition.

The kind of disorientation occasioned by the undoing of worlds is easy to see. The SARS-COV-2 pandemic has forced billions to shelter for years. It would be tempting to think about this event as a matter of bad luck. After all, throughout human history viruses have come and gone, disease has moved in and out of populations, and life has always managed to survive, even flourish. Looking at things this way makes it seem as if we are still acting and living within the same seamless human history. This pandemic is like the last one, and like the next one to come.

This way of thinking only makes sense from the virus' perspective. Humans are habitats as they used to be, and as they will continue to be. The more humans, the better: the redundancy of a habitat is the most important ecological measure for ensuring the perpetuation of any species. But the humans of this story have changed so fundamentally that they can no longer afford to think in these terms of continuity, of history repeating itself. This pandemic is not like the last one, nor like

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those to come. Like many events that are still on the horizon of this twenty-first century, it is a watershed moment, an irruption that creates a clear before and after. The virus is a stark example of the continuous generation of crises that characterizes our social interface with the environing world. It is as if, for the time being, the dominant approach to this change of era is through a stubbornness that literally hurts.

There is a deluge of news announcing changes that can easily be seen as impending doom. The disappearance of ice in the Arctic by 2050 is now a certainty, like our knowledge of when the next eclipse will happen. The American North-West has experienced droughts not seen in 1200 years, while the Great Barrier Reef continues to bleach at a pace from which it will not recover. This comes fresh on the heels of the greatest Australian bushfires in memory (Aboriginal memory, first and foremost, as it is the longest on the continent). The Amazon itself is constantly burning, an idea that seemed a logical impossibility not too long ago.

Inasmuch as the individual worlds we may compose are constantly flattened under the singular world of modernity,[1] there is an increasingly unfathomable list of decompositions that will confine human beings to doctored, exclusive spaces of survival. Then, perhaps, the modern dream of being entirely separate from 'nature' will have been accomplished: humans in protective boxes contemplating a world fit for viruses. All of this leaves many hopeless. The progressive political answer to loss is often some variation on the theme of hope.[2] When faced with grave problems, it is assumed that being hopeful, finding scenarios that fuel the feeling of hope, is what can drive people forward. This book starts from a different assumption, that hope is not necessarily the principle of action it is deemed to be. Hope is necessary for action only if one believes in a magical ability to control the world according to one's wishes. In the Ecocene, this belief is untenable in multiple interrelated ways. No single individual's hopes for a particular kind of future can encompass the multiplicity of beings and possible worlds. Hope risks

1 In Chapter 2 I spend some time explaining what I find to be the most salient characteristics of modernity. Briefly, it is the operation of simplifying the environing world by positing abstract matter, devoid of any qualitative characteristic, as the real world. This is what Didier Debaise, commenting on Whitehead, calls the bifurcation of nature.

2 The reactionary one is fear.

dogmatism, an intransigence as to the possibility of radically different futures. Rooted in hope, people all too easily daydream the present away, towards a future that is already pre-determined to an extent that demands utopian imagination.

Instead, we need principles of action that do not depend on having or not having hope, because they are rooted in an understanding of the world as fundamentally mysterious (for the importance of ignorance, see Chapter 3), and not amenable to utopian dictates. A lack of hope focuses our attention on the present and the ways in which how one acts today matters first and foremost today, and not in some indefinite future when all will have been pacified by our favorite utopia. Freeing ourselves from hope allows human thought to become small, local, multiple, and changeable; it allows practices to take root because of what they are, not because of what they may, under laboratory conditions, achieve.

The underbelly of hope is despair, a pendulum that swings from unwarranted optimism to cynical renunciation in the face of an imagined end of the world. To hope is to expect a future contoured around one's desire, and therefore to be consistently disappointed. The duty to think anew is the necessary corollary of living without hope, because it accepts the unavoidable dynamism of the world. Ideas, prone as they are to becoming static, are never going to offer a faithful picture of the world, partly because what they are striving to immortalize is always one step ahead. As Wittgenstein would have it, "when we wager on a possibility, it is always on the assumption of the uniformity of nature" (1991, 238). Wagering on hope shares this flawed assumption.

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How is one to respond to the tragedy that is already upon us? What does it mean to live without hope, in the absence of a more livable future? What kind of response could be commensurate with the loss of our world and its accompanying displacements? This book is anchored in the conviction that theorizing is a possible response; it will itself attempt to be part of a possible response, by experimenting with ideas. Theorizing in the face of doom might seem silly or futile, but I will argue that it is crucial. It might be one of the only sane options left.

One of the reasons why it helps to theorize in the face of loss is that generalities and abstractions have the force of reality behind them. This

idea has already been amply developed by Whitehead and Peirce, and excellently taken up by Debaise and Kohn in their respective domains (philosophy and anthropology; Debaise 2017ab). The argument is, in Peirce's words, that "generals are real" (in Kohn 2013, 59), because it is only through general ideas that actions are available to humans. Humans metabolize the world through ideas; it is useless to look for direct, unmediated action, because everything people do is motivated by some idea.

It is equally useless to look for ideas 'in the head' or the mind. As Wittgenstein reminds us, "thinking is essentially the activity of operating with signs. This activity is performed by the hand, when we think by writing; by the mouth and larynx, when we think by speaking" (1960, 6). But when we think "by imagining signs or pictures, I can give you no agent that thinks". This is partly because thought is always operative in action; there is no inner agent only available to human beings that can think up abstractions that would be devoid of pragmatic consequences, or without a trace of the world that generates them. This accounts for the immense variety of ways of doing (ostensibly) the same thing: different ideas are operational in different places and at different times.

For Whitehead, the reality of abstractions is both inevitable and potentially an enormous problem. Inasmuch as abstractions open up the world of actions, they are inevitable features of the relations between human ways of being and the world. However, the operations made possible by abstractions, though formally unavoidable, are content-wise always subject to change. In other words, ideas may change just as the world, and the body, change. Instead, what often gives abstractions a bad name is what he calls the "fallacy of misplaced concreteness" (in Debaise 2017a, 25 and in Borden 2017, 94). So, what is a necessary instance of interchange with the world becomes reified and assumes the stability of geological formations (themselves, given the appropriate timeframe, unstable; see Massey 2005, and Chapter 2). For Whitehead, everything is in processual change, and any kind of reification, whether of things in the world or of the ideas that are themselves part of the world, is a betrayal of the infinite multiplicity of which processes are formed.

If we accept that ideas are real, residing 'in the world' as much as 'in the mind', then it is clear why political theory may be an

appropriate response to the current predicament. After all, the current universalization of loss, as I will argue throughout this book, is a direct result of particular ideas, of reified ways of understanding, and therefore pursuing, the relationship between humans and worlds. Many have argued for a growing list of ideas that may retroactively inherit the guilt of destructiveness: the Cartesian separation of mind and body, the idea that the world is composed of resources, the desacralization of nature, and so on. Whichever one may be followed, the basic point is that, in the final analysis, it is through a number of influential ideas that the natural world is changing faster than societies are able to grasp.

The force of ideas can be partially illuminated through the peculiar relation between description and prescription. This relation can only be accounted for by postulating a theory that makes ideas part and parcel of the world, but with very special characteristics: the representations of the world in thought are both descriptive—inspired by states of affairs—and prescriptive, in that they structurally fail to accurately describe and therefore demand action better suited to the description. Given that descriptions can never be complete, representations never fully commensurate with the world, ideas are caught up in a perpetual process of changing their own environmental conditions. This is not out of a failure to grasp how things finally and really are. It is, instead, in itself a feature of the world. It might just be its evolutionary engine.

The difference between the presumed features of the world and its perpetual dynamism drives cultural, as well as biological, change. It is a well-known feature of evolutionary theory that natural dynamism drives varieties of adaptation. In the ideatic realm, we can see periods of "misplaced concreteness" alternating with periods of revolutionary upheaval in conceptions. For example, the reified rule of the separation of matter and ideas has now come to an end. As Latour (2007) has argued, materialism nowadays seems like the most abstract (in the negative sense) conception, completely unrelated to other descriptions of the world that seek to map empirical dynamism.[3] As I will explain later (see Chapter 2), the bifurcation of nature (Debaise 2017) has led

3 "This is why the materialism of the recent past now looks so idealistic: it takes the idea of what things in themselves should be—that is, primary qualities—and then never stops gawking at the miracle that makes them "resemble" their geometrical reproduction in drawings" (139).

us to see the natural world as devoid of any inherent qualities. What I want to point out now is how this kind of description of the world—matter is what is characterized through extension, and what is common to the world—leads to peculiar prescriptions that end up significantly modifying the world in the direction of the initial description.

Together with Ștefan Constantinescu, I have published a series of articles that have detailed this process in one particular case, namely the incorporation into networks of state power of the Romanian Danube Delta. In short, what we demonstrated is that the state has attempted to describe the territory of the Delta through cartography, while its radically simplified cartographic descriptions were immediately appropriated for further expansion of power over the territory. Crucially, this has always meant the physical transformation of the territory by the state to more closely resemble the neat maps that supposedly described it. This kind of operation is well-known to students of colonialism, as it has always been a part of the annexation of territories and the justification for wielding power in ways that evidently and brutally cut across the lives of other people. But the peculiar ways in which description and prescription are intertwined in this fashion has received much less attention in political theory, where fear of the naturalistic fallacy (basing what ought to be on what is) still reigns supreme.

New descriptions are needed, not so that we get closer to the truth, but because of the prescriptive slippage that is their main characteristic. This is easier to see when looking at what is putatively *not* descriptive, namely a prescriptive statement, the kind of thing that is not supposed to describe anything at all. To take a famous example, Kant's categorical imperative proposes that one should act in accordance with the moral law, whether it suits her preferences or desires or not, in such a way that she could wish the maxim that guides her behavior to be a universal law. This seems to be entirely prescriptive but, as Stanley Cavell points out, Kant's imperative gets its force from *describing* what it is to act in a moral manner. Cavell therefore calls it the categorical declarative because it "does not tell you what you *ought* to do *if* you want to be moral; it tells you (part of) what you in fact do when you *are* moral" (2002, 25).

This shows very well the prescriptive/descriptive link that can be ignored only at great cost. Key in Cavell's statement is the parenthesis, where he draws attention to the fact that descriptions and prescriptions

do not exactly match or coincide. If they did, there would be such a thing as a universally correct description identical to what it prescribed. But this is not the case. Descriptions of the world are approximations and experiments, they can never be total, and this is partly why they demand the support of their prescriptive counterparts, to appear greater than they are. Kant's imperative has the appearance of a moral universal law precisely because it cannot describe all instances of moral behavior, and therefore requires the prescriptive veil that would help make the description total.

Modern descriptions of the world are both dependent on bifurcation (splitting the world into matter and, essentially, epiphenomena) and prescribe actions that would make the description universally true. They matter for ethical reasons, because with an awareness of what a description requires, different ones that incentivize the creation of alternative worlds can be stitched together.

The world supports an incalculable number of descriptive stances, and this obliges us to continuously interrogate and revise them.

The relationship between descriptions and prescriptions is unidirectional: the courses of action available must logically predate any prescription. One cannot prescribe, out of the blue, what ought to be done, without also having available a set of descriptive statements informing actors about what *can* be done. In this sense, theorizing is perhaps the most effective way of countering the generalized feeling of loss that characterizes contemporary and future times. Descriptions are a means of recomposing in the wake of decomposition.

It is because of these peculiar characteristics of ideas, at the intersection of description and prescription, that offering new ones is a means of resisting what Isabelle Stengers (2015) has called "the coming barbarism". To be clear, the ideas presented in this book are not, strictly speaking, new. Ideas never are. How could they be, since they are evolved features of the world? One of the main lessons of evolutionary and ecological thought is that there is no radical novelty, only gradation and perpetual change. Patterns are rearrangements of that which preceded them and are never created out of nothing; there is always a precedent and a predecessor. Or as Deleuze expressed it, "ideas are always reusable" (1988, 235). The ideas in this book are therefore crystallizations of intellectual histories and condensations of

the thoughts that have travelled across individuals and eras. They are, in this sense, impersonal.

* * *

Naming something brings it under the aegis of a set of possibilities implied by the name. The Anthropocene has been the most successful term to characterize the new era when human activity has become geological in scope. It has progressed from a neologism in 2000 to common usage today, appearing in popular magazines as well as prompting the creation of dedicated journals (see *The Anthropocene Review*). Some names languish until their time comes, though it may never arrive. The Anthropocene exemplifies the opposite phenomenon: it was adopted so rapidly that one wonders whether it responded to a need to catalog what was happening as quickly as possible, as if to move on in peace.

This widespread adoption of the term has also come with significant critiques. The most dominant of these has been that the Anthropos central to the term is not some disembodied universal human, but rather conceals the guilt of particular humans. To speak of humanity as such as a species unified by its actions on the planet is to engage in a double reification. On the one hand, humans are lumped together as the collective agents of destruction. In fact, it is largely the internal (to human societies) dynamics of destruction that drive most of the current transformations. Not too much digging is required to uncover that, under the apparent actions of the entire species there lies a great deal of human-on-human predation and exploitation. On the other hand, talking about the planet is also misleading, especially if our reason for talking about it is to draw attention to the relationships between people and their environments. Nobody relates to the planet as such, though climatologists and planetary system scientists ostensibly try to. But at the end of the day, it is particular environments that animate these scientists' work, their thought, their actions.

Given these essentially political shortcomings of the term, others have been proposed: Capitalocene (Moore 2017, 2018), Plantationocene or Chthulucene (Haraway 2015, Tsing 2015), to name a few. All of these terms have their own benefits. They oscillate between naming an agent of change (capital) and identifying a mode of operation of that agent

(the plantation). Donna Haraway's Chthulucene has the benefit of anchoring itself most clearly in the descriptive-prescriptive nexus I have described. It proposes a world that is situated in a perpetual here and now, in a dense web of interrelations with an undefined number, and kind, of creatures.[4]

I don't find it useful to propose a new term for the sake of it. But there is something that none of these other terms capture that I find to be the most salient feature of the new era: the irruption of ecological processes within the polis. In strictly geological terms, the Anthropocene is probably the best we have, because it designates a particular way of reading sedimentary history. In geological terms, it is illuminating to note that current processes of sedimentation will likely show the tremendous influence that humans have had on the natural world. The process of sedimentation itself, and the question of where sediments end up, is modified by human actions today, through the building of dams and the diversion of rivers. In this sense, the Anthropocene is a good word, but it is politically naïve. Some of the other terms seek to identify the culprit, as it were, and bring their responsibility to the fore. This is a worthy pursuit, but the new age should not simply be dealt with in terms of 'guilty' and 'not guilty'. Others would rather focus on the interrelations at play and leave the political stakes under-defined. Instead, what I think is needed is lucidity as to precisely what the political stakes are.

4 Though there are many similarities between the Chthulucene and the Ecocene that I will propose, they do not overlap sufficiently to warrant adopting Haraway's term. My concern in naming the Ecocene is to intuit, through the idea of ecology, a few political ideas that would challenge our habits of thought, including the newly acquired habit of thinking of assemblages as infinite and more or less uniformly agential. Focusing on ecology, as I do, leaves the door open for limited kinds of interactions to start mattering more, or less. In the final analysis, as I understand it, the Chthulucene's political project is expressed in the idea of making kin, whereas the Ecocene, given its composition, offers a different set of potential directions for thought.

Even if our analyses are congruent (they are certainly proposed in a spirit of solidarity), I side with Emil Cioran when he was accused of always repeating himself and being unoriginal. Paraphrasing, he said: anyone can have an experience of loss (for him, death). But *how* you express it is everything. It speaks to different people and allows them to transform an ultimately banal experience into a living idea. I trust that the Ecocene will speak to sensibilities that other terms may not stir up, and therefore contribute to the transformation of the experience of loss from an increasingly banal experience to a transformative political idea.

The irruption of ecological processes brings new kinds of actors into the polis. CO2 is of concern because of what its concentration *does* that is of immediate relevance to human life. Similarly, the relevance of all so-called ecological crises lies in the fact that they institute new sequences of actions that have direct consequences for how people live. In that sense, ecological processes both have a life of their own, and are co-determined by human beings (as implied by 'Anthropocene'). But to focus only on the humans (whether as ignorant or guilty actors) misses the fundamental point that, in political terms, this new era is not about humans at all, but rather about how to accommodate, make peace with, and negotiate with everything that is *not* human.[5] To focus obsessively on the human is also to betray the fact that omnipotence is completely severed from any kind of omniscience: powerful and powerless humans alike are still essentially ignorant of how the non-human world works, and how to relate to it in regenerative ways.

This ignorance is not simple, not just a kind of lack. This is one possible meaning: a lack of information, or its willful denial. This condition can in theory be remediated, if enough is presented to fill the gap. What cannot be escaped is another kind of ignorance: the constitutive, structural kind. It defines the contours of knowledge's relationship to the world, and its constitutive character is not a lack but a power, because within the spaces that it opens, new questions can be asked, and new answers received. Ignorance as a lack and ignorance as a power are related but distinct, and anchoring oneself in the structural kind of ignorance is the only way of continuously quenching the lack.[6]

A term is needed, then, that could encapsulate both the centrality of ecological processes and the subordinate role of human agency, as that which provokes but cannot guide the subsequent series of events. Human agency has become the *provocateur par excellence*, but this does not mean that human agency is in the driving seat, deciding where

5 I am not implying that strictly human problems of domination and exploitation do not exist! But I am implying that those need to be tackled against a backdrop of a general re-dimensioning of humans, not the other way around. It is not the case, in my view, that if certain oppressive social arrangements were to disappear, this would necessarily lead to more regenerative relations with the natural world. A humanly equal world does not imply a regenerative one. I develop this point more in Chapters 5 and 6, through the concepts of reciprocity and responsibility.

6 This structure is closely mirrored in the discussion of vulnerability in Chapter 3.

larger natural processes are leading. If the primary focus is not humans, but ecological processes, then it seems to me that the Ecocene is an apt term.[7] It has the benefit of putting ecology front and center. But too often 'the ecological' is used in a vague way. What is specific to ecology that recommends it for the current moment? Though of course I cannot be exhaustive on this question, I take ecology to contribute three important insights to politics: chance, change, and locality. I develop these at greater length in Chapter 3. Briefly:

Ecological arrangements are stochastic affairs. It is only by artificially cordoning off an 'environment' that we get the idea of balance. In fact, when studying any particular place from the point of view of the interactions among all participants, it becomes impossible to either specify a whole (such that participants become 'parts') or to observe long-term rules of regularity that would obviate the role of chance. Instead, natural arrangements are always partly generated by chance, such that to any given participant opportunities and challenges *happen*, much as in human life. Disruption and unannounced radical change are, in the long term, the norm.

This brings us to change, which is much more characteristic of natural arrangements than balance. Ecology studies systems inasmuch as it emphasizes their provisionality. And within 'systems' themselves, change is constant. We can hardly make sense of evolutionary thinking without accepting the centrality of change, a process that is present from the metabolic, to the developmental, and indeed to the evolutionary scale. Flux and dynamism come together in the idea of ecology.

Lastly, and closely related to the other two, ecology requires attention to locality. In fact, the study of the planet as such is not primarily done by ecologists, but originates in the work of scientists studying other planets. This early history has given rise to an impressive connection between disciplines, including geochemistry, climatology, and geology,[8]

7 I borrow this term, with his gracious consent, from Rafi Youatt, *Interspecies Politics* (2020). There, Youatt starts to develop it along the lines followed here, bur stops short of a full engagement.

8 It would be absurd to deny the usefulness of thinking at the planetary level as far as climatology is concerned. It reveals dynamics that would remain invisible were it not for the adoption of this scale. What I am arguing is that the scale at which climatology operates is of limited political potential, beyond international negotiations that set general frameworks, which are mostly so far ignored. What *does* have political potential is the idea of ecology, because it shows how what

that produce models of the planet that attempt to predict its future course. We will explore the conceptual underpinnings of modeling later. For now, it is important to understand that the level of the planet as a whole is not the remit of ecological science.

Instead, ecologists are preoccupied with particular places. This makes a lot of sense if we think, along with Latour, of how life actually presents itself, namely as a thin exterior enveloping an indifferent core. Life—the study of which is the science of ecology—does not manifest as a globe, but rather as a skin dressing the globe, a barely-12km-thick envelope that is characterized by incredible variety and constant variability. It is at this level—what Latour (2017, Latour and Weibel 2020) calls critical zones—that ecology forces us to think. And it is at the intersection of scales that ecology can connect properly with the sciences postulating a whole, and in that sense, it is its vocation to constantly pull them back down to earth (see discussion of Margulis and Lovelock in Chapter 3).

Chance, change, and locality are characteristics of the world that ecology posits, but they are not always the guidelines of the science of ecology itself. There, the temptation to simplify and to subsume under immutable principles is as strong as in any other science. If modernity tends towards the annulment of the striations and textures of the world, then modern ecology is also subject to this operation of simplification. It nonetheless has resources, perhaps more so than other sciences (save for biology), to constantly rethink and undermine its certainties. This is because it is ultimately based on observation, which gives continuous and insistent opportunities to rethink the certainties of our frames.

For example, the concept of the ecosystem, like that of the biome, is often used as a heuristic. But it is also often taken to describe a deeper reality, through a process of reification. However, observation of any 'ecosystem' calls into question the very concept of ecosystem that was coined to encompass all of its constituent parts. Similarly, the concept of species functions to classify the vastness of creaturely life but cannot accurately predict individual behavior. As Mayr and Drury (1998) remind us, ecology cannot be a predictive science, only a probabilistic

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climatology predicts is unpredictable at the local level, which is the level where politics actually functions. Climatologists are in fact consistently surprised by how their predictions play out in different localities. It is the pull of the local in relation to the global that offers the most radical political possibilities.

one. The field naturalist, they argue, has the right to informed guesses, but no more. Wittgenstein may as well have been thinking of ecology when he wondered whether the world may be amenable to predictions.

The relationship between creatures and their world is one of limited interactions. This observation excludes the idea that the biome, or the ecosystem, needs a certain composition of species. Rather, what can be inferred at any given time is an economy of exchange that can and does mutate, and that has a contingent relationship with the creaturely make-up that expresses this economy. In other words, the critical zone that is life on earth functions through the mutability of behavior *together with* the mutability of conditions. The two are inseparable, but they do not *a priori* specify a certain kind of composition (this must interact with that).

Ecological concepts can therefore be a philosophical orientation towards the world and creaturely interactions. They are a way of making sense of the vastness of textures and qualities. This is a difficult position to sustain because it asks for an ongoing lucidity of ignorance, one that is generative. Many times over, ecological science has conveniently, for a while, forgotten its philosophical vocation and its duty to remain as open as the world it studies. That notwithstanding, the openness and tolerance for change that ecology *can* display is what politics must inherit from it.[9] This does not mean that we should pine for the ecologist-king who would be able to determine how systems should work, according to well-defined predictive models. It means that observational power, which leads us to continuously changing our minds, allows thinking its proper place within the fine, shimmering grain of the world. This is a quintessentially pragmatic orientation, and it is why politics can inherit it.

The Ecocene, then, by foregrounding the central role of ecology in the new era, also implies that we have to make political sense of our

9 Increasingly, the science of ecology is showing a growing awareness of its philosophical potential. Soil ecology, for example, has started to uncover relationships so complex and mutable that they are forcing a thorough rethinking of previous models. The idea of the critical zone as a skin enveloping the planet is first and foremost expressed in contemporary soil science. See Kutílek and Nielsen (2015), *Soil. The Skin of the Planet Earth*, where soil is specifically described as skin. Interestingly, Merlin Sheldrake, in *Entangled Life* (2020), compares soil with the gut, because of its digestive properties (breaking down organic matter and recycling it for further use).

times via concepts that are synchronous with ecological science. And if we accept that chance, change, and locality are what ecology injects into political thought, then the Ecocene becomes that era when human social and political arrangements *start from the necessity of living with uncertainty*.[10]

Though the idea of Anthropocene politics has gained a lot more ground, I would argue that it is Ecocene politics that needs careful consideration. If Anthropos is front and center, it seems routine to allocate political duties to it. It also becomes possible to think up big systems, whether managerial or not, to solve the problems of 'humans'. The Ecocene disallows these actions, because it is not about humans: it is about how chance, change, and locality *force* humans to live. Ecological processes and their dynamics have always forced themselves on human societies. How could they not? The challenge is to invent ways of living with that fact without seeing it as a punishment, or something without which we would be better off. Our imbrication with the world is not something to be escaped so as to find human meaning and purpose; it is itself the condition for meaningfulness (see Chapters 6 and 7).

There is an Ecocene politics that happens by default when the obsession with Anthropos continues: it takes the form of either ecomodernism, or denialism. These are but two names of the same fundamental response: a desire to continue the modern project of walling societies off from their environments, either through positing an infinite series of technological fixes that could keep the illusion alive, or by denying that there is anything to worry about in the first place. There are other possibilities, and the first step in moving towards these is calling what is occurring by its proper name: we have not entered the age of humans, we have entered the ecological age.

* * *

There are several ideas that I will connect in order to propose a renewed basis for political life in the Ecocene. These are neither the only possible ideas, nor dogmatically held ones; instead, they are sketches of patterns

10 Politics grounded in uncertainty—in constitutive ignorance coupled with worldly change—answers the requirements of action outside of hopeful projections. It is a way of recomposing without a definite end by changing the descriptive apparatus as soon as it outlives its prescriptive usefulness.

that have survived the steamroller of modernity and that are taking shape anew. In an effort to think sideways, the book will draw on diverse intellectual histories, absorbing aspects from multiple sources and mixing them in new ways. By doing this, I hope to contribute to the increased preponderance, and therefore influence, of the ideas I describe.

Five notions are developed and connected. The argument starts with the idea of volumetric space to describe the world in a way that does not betray its inherent multiplicity;[11] it then applies the same fundamental framework of multiplicity to describe the lives whose intercourse with the world is the condition of possibility for Gaia itself.[12] Throughout, I will demonstrate how the concept of *relationality* is fundamental to understanding worlds as well as lives.

The idea of the primacy of relations is currently undergoing a renaissance. It isn't new, having been present in biology and social science intermittently throughout their respective histories (which, it bears saying, have always been connected). But it is reappearing after a historical period, roughly equal to the twentieth century, where fewer and fewer practices considered it. This period is also that of the Great Acceleration,[13] the time when the project of modern development seemed to reach its long-desired supremacy by expanding at an unprecedented rate, churning worlds and paving over them with the same developmental ethos. Relationality has survived through the cracks, and as these grow wider, so the theorizing of relations is once again becoming more prominent.

But relational thinking also risks being as vague as the modern conceptions it is replacing. Partly because of this risk, there is an acute

11 Chapter 2 deals with ontological arguments that form part of the theoretical context of the book. However, readers that are not especially eager to read occasionally dense text can safely skip to the first Intermezzo and continue from thereon.

12 See Chapter 3 for a fuller discussion of the idea of Gaia. I follow Isabelle Stengers' use of the concept. Briefly, Gaia denotes two things: the Earth as a living planet, so one that gets its fundamental characteristics from the interaction of biotic and abiotic elements; and the irruption of natural processes within political processes. Neither of these imply a holistic conception of the planet, quite the contrary.

13 See Steffen et al. (2015) for a history of the Great Acceleration. Briefly, this refers to the post-1950 era of cumulative economic activity that shows a steady rise across all indicators of production and consumption. The data shows different growth rates for wealthy countries, but increasingly more countries are joining the J-shaped curve of development capitalism.

need to consider relations alongside the salient characteristics that make it possible to relate in the first place. It is also imperative to develop relationality towards a political ethics appropriate for the times we have entered. It is in this spirit that I propose the concept of *vulnerability* as a crucial complement of relationality. I develop this idea, in both its ontological and ethical senses, in Chapter 3.

Vulnerability has already been prominently discussed in conversations on social and political ethics, for example in the works of Judith Butler. I want to extend its uses to creatures beyond the human, by showing how being vulnerable is part and parcel of ecological processes, as well as a foundation for a certain kind of moral thought. I will also argue that vulnerability is a power first and foremost, and a characteristic of the living that raises very difficult questions about exactly what is to be protected, preserved, or cared for, and how.

The notions of relationality and vulnerability conspire to make up an ontological foundation that is open to certain kinds of actions, and therefore to certain kinds of inherently political moral thought. I will develop these moral threads through the concepts of *reciprocity* and *responsibility*. Of the two, it is the latter that has received most attention in political ecological thought. In dialogue with Māori philosophies, I will propose that reciprocity holds an untapped potential to ground political ethics in ways that are compatible with a fluid and multiple ontology. Reciprocity can be the basis for ecological relations, while responsibility becomes the basis for specifically human relations against the backdrop of a wider ecological ethics. The surrounding world is reciprocated, while responsibility is reserved for the humans (and human-like companions) that make up a wider community.

Relationality, vulnerability, reciprocity, and responsibility form the backbone of the argument, alternatives to political ideas that have dominated our thinking in times when we have been strangely unaware of the ecology of the world. *Mutualism* will be the name that reunites these in a more-or-less coherent political frame. This term also has a long history that has become marginal to the modernity with and within which more and more people have lived. Its history has developed along political and biological lines, which have sometimes been in productive contact with one another.

Mutualism both recapitulates the history of anarchist thought, where it first acquired a political meaning, and the history of the biological sciences, where it is now becoming more prominent. It ties the free association for mutual benefit of the anarchists with the individual creatures of modern biology, who are no longer individuals in any recognizable sense. Beings are increasingly shown to be composed of multiplicity all the way down, and without this fact they could not count as living beings. Humans cannot live without the complex biome that makes up most of what we identify as a separate body. The notion of the holobiont describes this newly postulated being inhabiting the consciousness of modern biology. Because of this multiple history, mutualism can incorporate a political ethics that is ecologically grounded.

None of the above ideas is intended to build a new utopia. This book is thoroughly anti-utopian because it is committed to a particular idea of ecology that does not allow utopian projections. Ecological thought, as I understand it, is in a deep sense thought that can only draw temporary and precarious connections. This does not mean that they are unimportant, quite the contrary: only the assumption of mastery over some entire system would tempt this conclusion. Instead, ecological thinking commits one to the specific scale at which things matter, and to the acknowledgment of (and commitment to work with and from) one's own fundamental and deep ignorance.

The temptation to think in utopian terms is hard to resist. Radical political offers that genuinely want to move beyond the fixed ideas of modern development are still drawing on a political imagination that is invested in achieving a controllable and ultimately stable state of affairs. The critique of capitalism, for example, is an extremely important allay. But it mostly posits a post-capitalist order in which destructive relations between humans, as well as between humans and their environments, would be pacified simply by overcoming capitalism. Proposals to move beyond the obsession with economic growth and towards degrowth are similarly framed in terms of sufficiency societies that can settle on an acceptable level of consumption, as if all that were missing is the right formula. Moving away from growth is of course one of the most urgent tasks. But as a political thought, this approach misses the perpetual chance and change that the world will inevitably throw its way.

The 'small thinking' of ecology inspires a narrow, political thought that is interested in the mutualist relations that can be drawn across multiple worlds.[14] Political life must, in the Ecocene, be capable of recomposing worlds, whether in the ruins that some people already inhabit (Tsing 2015, Tsing et al. 2017, de la Cadena and Blaser 2018), or through the barbarism that may yet become generalized (Stengers 2015). Small politics is interested in the question of how to live with the historical consequences already playing out all around us, and how to reinvent our practices and livelihoods accordingly. If political theory can only guide people in living together under conditions that cannot exist, then it is literally useless, divorced from its purpose.

Ecocene politics is about undermining big orders and renovating existing connections that adhere to a mutualist ethics. There is no end point in sight, but rather a continuous fidelity to the enhancement of the world around us, wherever we may find ourselves. Importantly, and also as a direct consequence of ecological thinking, Ecocene politics has to be local without being nativist. There are no criteria of belonging beyond what one *does*. The world to come is neither defined by a perpetual state (of sustainability for example), nor is it composed by birthright. The most livable worlds of the Ecocene are fundamentally open in the sense that they are always unfinished, and open in principle to all participants.

The arguments of this book are connected and inspired by ways of living in the world, by ongoing and flawed experiments in building mutually beneficial ecological relations. The largely philosophical arguments are peppered with intermezzos that anchor the themes discussed within particular contexts. These will be revisited throughout in order to both show how different ideas emerge from practices, and how these practices stand to benefit from the theoretical formulations that they have inspired. I will discuss olive culture in Southern Italy and genealogical conceptions of life in Aotearoa New Zealand. These are not illustrations of 'best practices', blueprints for some end point; they are sketches of possible routes forward, of the messy relationships that both inspire projects of renovation and impede a fuller pursuit of

14 There are potentially productive similarities between what I call 'small thinking' and the idea of low theory championed by Halberstam. In particular, the ways in which McKenzie Wark and David Graeber appropriate the use of low theory is resonant with the work of this book.

mutual beneficence. The intermezzos are also articulated in relation to the pivotal Chapter 4, where I discuss rewilding and nature restoration (with some examples from Romania). Together, these contexts have largely influenced the ideas in this book. They show what every locality is up against: a fundamental recomposition that occurs through the process of inheriting past practices and ideas. They are ways of critiquing, as much as ways of recuperating.

Many other struggles and situations can stimulate political thinking. Despite their heterogeneity, there are several elements that make up these common struggles. Whether we are thinking about the growing movement for reinstating commons, the theories and practices coming out of Indigenous struggles under the banner of the pluriverse, legal movements for extending legal personality to (parts of) nature, conservation movements trying to decolonize conservation practices, agroecology and permaculture fighting against industrial agriculture, to name but a few; all of these different ways of articulating worlds share a general principle of mutualism. This is not held dogmatically, but rather grows out of a shared commitment to multiplicity, relationality, reciprocity, and responsibility.

The profusion of alternatives notwithstanding, we should not delude ourselves with thoughts of an inevitable transition to modes of composing livable worlds. A multiplicity of alternatives suggests that the old dreams of sudden revolution may have become, as David Graeber has argued, a matter of perpetual erosion of the status quo. This requires one to unlearn ways of thinking that are geared towards totalities and stability. Following Engel-Di Mauro's *Ecology, Soils and the Left* (2014), being uncomfortable in knowledge production may ultimately be an ethically necessary practice. This is the time to abandon certainties, to cross boundaries, and to think anew, forever. The process, in this case, really is everything.