Peoples, Nature and Environments

Peoples, Nature and Environments:

Learning to Live Together

Edited by
Ana Cristina Roque, Cristina Brito
and Cecilia Veracini

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INTRODUCTION

PEOPLES, NATURE AND ENVIRONMENTS

ANA CRISTINA ROQUE, CRISTINA BRITO AND CECILIA VERACINI

The deep and intrinsic interconnection between humans and the natural world is becoming part of the scientific and political agendas, as is the relevant role humankind has – and has had – on the changing of this complex array of equilibriums and relationships.

Since the dawn of humanity, survival has meant dealing with unpredictable natural situations and thus to experience and learn, to know and recognise the potential or diversity of resources that may be used and to adapt and create conditions that allowed such use in a variety of geographic spaces with different characteristics. This process determined specific forms of cultural adaptation to different environments and, consequently, an ensemble of anthropic impacts on natural communities. As a result, the human-nature relationship over time has become a privileged space in which knowledge, technique and science have developed, evincing the primacy of anthropogenic actions on nature.

This idea of nature encompassing an "extraordinary amount of human history" (Williams, 2005, 67) draws attention to the importance of historical and cultural imprints, justifying the emphasis on the dialogue between human, social and natural sciences, and the need for an interdisciplinary cross-cultural approach (e.g. Holm *et al.*, 2013; Kitch, 2017). All these aspects are essential to inform about the role of human beings, in the past and today, or about the role they may play in the future as an integral part of a broader dialogue with the nonhuman world.

The growing interest of the impact of humans on geological, biotic and climatic planetary processes is a sign of an important shift in how humans are coming to understand the relation with the environment. In the last decades, a growing number of scholars from different disciplines began to give great emphasis to the issues of historical interactions, connections and inter-dependency between peoples and the environment (e.g. Hornborg *et*

al., 2007; Hughes, 2001; McNeill & Steward Mauldin, 2015; Mosley, 2010; Nance, 2015, among others). Moreover, recent approaches to human-nonhuman animal interactions strive to re-examine traditional ethical, political and epistemological categories in the context of a renewed attention to and respect for animal life. In anthropology, a concern with new attitudes to understanding cross-species intersections characterises a recent 'multispecies ethnography' (Kirksey & Helmereich, 2010). Similarly, in history and literature, we are witnessing an 'animal turn' (e.g. Alves, 2011; Nance, 2015). As such, a critical reflection on the *status* of our planet, on human subjectivity and actions, and on their inextricable entanglement, is absolutely needed. In other words, we "need to re-frame global environmental change issues fundamentally as social and human challenges, rather than just environmental issues" (Pálsson *et al*., 2011, 5). Another take can be seen in the growing interest in recovering historical information (Roque, 2019) and in the recent animal and ocean turns as well as in the multiple and plural efforts within the environmental humanities (e.g. Haraway, 2008; Van Dooren, 2016; DeLoughrey, 2017; Veracini, 2017; Brito, 2019).

This book – *Peoples, Nature and Environments* – reflects some of these approaches. Bringing together contributors with different scientific backgrounds, perspectives and expertise related to these dynamics and interactions, it aims at exploring their joint potential for an innovative debate on this topic, surpassing the classic human/environment dichotomy and the separation between culture and nature (e.g. Haraway, 2008; Rose *et al.*, 2012; Richter, 2015; Kitch, 2017). The multiple aspects of this complex process of interaction are here addressed in an interdisciplinary and a long-term perspective.

Through multiple contributions informed by humanities, arts, social and natural sciences, the book deals with the way different disciplines approach this relationship. Interdisciplinarity or, as stated by Little (2017, 2), 'inter-humanities' – the interdisciplinarity within the humanities – is an objective of this book. This publication also points out the importance of relating diverse concepts and perspectives to enable a cross-cutting analysis and global perception of the human/nature interface throughout history. Moreover, it addresses the present concerns about our common future, reflecting humans' current commitment in a process of 'relearning' to live with nature.

By combining classic and innovative ways of examining the same theme in a variety of geographic spaces, the book also brings together contributions that merge traditional and scientific knowledge to better understand both the way humans have historically used nature for their

own benefit and the impacts of those same uses. Moreover, it joins authors at different moments of their careers, of different nationalities and genders, thereby broadening perceptions and providing different perspectives of analysis depending on specific cultural backgrounds and social contexts, thus contributing to stimulating a wide and innovative debate in the field of Environmental Humanities (Rose *et al.*, 2012; Little, 2017).

Peoples, Nature and Environments: Learning to live together is organised in five major parts, which mirror its title, and revolves around processes of the interactions of humans with other species; past climate and extreme events; environments, landscapes and human uses and impacts on nature; concepts and policies of management and conservation; and the memory, heritage, culture as well as history of science and natural history. In fact, the different chapters discuss transversally – across methods, subjects, geographies and time scales – how the natural world has been perceived, interpreted and manipulated by people, as well as the consequences of the secular exploitation of the different natural resources and the resulting current imbalances and major threats.

Part 1 – Learning to live together – is a reflection on how we have conceived human-nature relationships and human impacts on the natural world.

Patrícia Vieira brings an innovative approach to the way human beings relate to each other and to nonhumans with a holistic perspective and interspecies dialogue. She discuss theories of cosmopolitanism, embracing all human and nonhuman species, to delineate the notion of interspecies peace as an alternative to the current war of all against all – in a contest for the 'survival of the fittest' both individually and at the level of the species – that characterises most of our relationships with other living beings. This new perspective becomes more pressing when we consider the state of our planet and the effects of the 'war' which *Homo sapiens* is conducting against nature, other animals and himself. Telmo Pievani and Andra Meneganzin outline how the human species has become a dominant evolutionary force. Through a mix of different impacting activities (i.e. fragmentation of habitats, overpopulation, chemical pollution, invasive species, over-exploitation of resources in hunting and fishing), humans have produced the conditions for a serious extinction crisis. Therefore, it depends on us to solve the various problems and not to become the first 'self-endangered species' on Earth.

Part 2 – Climate and Environmental Changes – analyses aspects of this relationship from an historical perspective and from the point of view of

its close relationship with climate and environmental changes. It is unquestionable today that human actions have brought about major changes to the planet with a significant impact on many ecological systems. Yet, no less significant is the present need to be prepared to deal with climatic events with catastrophic consequences, which repeatedly affect a multiplicity of territories considered to be 'at risk'. In recent years we have witnessed a continuum of 'natural' disasters which, all over the world, evidence this need and make it urgent to develop and implement strategies to combat, avoid or minimise them. In this context, reconstructing the trend of climatic and environmental changes over time can be a powerful instrument to understand long term changes and impacts as well as human and nonhuman adaptations.

The contributions of this section bring us case studies from the Iberian Peninsula and Central America during the Little Ice Age (LIA). Cristiana Ferreira and her co-authors show how the climate was directly related to specific human activities in the Iberian Peninsula during the 17th century. Armando Alberola-Romá offers an historical approach to climate disasters in early modern Spain, showing the devastating effects of these extreme events in the past. Then, he and Luis Arrioja-Díaz Viruel, in a comparative study between Spain and the Spanish American colonies in the 18th century, demonstrate the unequivocal relationship between periods of intense rains, floods and earthquakes with production crises, famines, disease and epidemics.

Part 3 – Policies, Management and Conservation – provides an overview of the appropriation and use of different natural resources in different times and geographies, enhancing the importance of historical evidence to better address present-day conservation challenges. It includes chapters dealing with the impact of human activities on aquatic ecosystems during the European expansion, as well as on terrestrial ecosystems, especially in the chapters addressing the perception and conservation of animals and plants.

Ana Catarina Garcia tries to identify what types of occurrences were considered pollution acts and in which terms the idea of 'pollution' was understood through the analysis of two case studies of Portuguese Atlantic insular harbours during the 16th and 17th centuries. Nina Vieira and her colleagues deal with Portuguese expansion during the late 18th century and the perception of aquatic animals – such as whales, manatees and dolphins –, showing how these animals have always been considered valuable and usable resources. The analysis of their exploitation provides information about the overtime variation of their populations and the impacts of human dominance over aquatic ecosystems. Susana Gonçalves Costa and her co-

authors examine the symbolic way humans perceive and organise other animal species. They show that socio-zoologic models categorise species according to their roles in each specific cultural context, with important consequences for endangered species protection. Such a symbolic division between good and bad can influence conservation issues in places where nonhuman primates live. Tânia Minhós and Maria Ferreira da Silva, who worked in the Cantanhez National Park, one of the last pockets of forest in Guinea Bissau, also show the consequences of human impact on nonhuman primates. They studied two primate species who have exhibited changes in their behaviour as a result of the anthropic modification of their habitats. Whereas some species are more plastic and able to change some aspects of their socio-ecology (e.g. diet, dispersal, group size), others fail to adapt to the new environment and suffer from significant population losses or even local extinctions. The anthropic impact on complex ecosystems and the political views associated with these actions are highlighted in the other two chapters. Francisco Bidone attempts to build a coherent relation between economic/developmental thinking and the instruments chosen for policy implementation in the 1960s by the Brazilian government regarding the Amazon forest while explaining the maintenance of an eternal vision of the Amazon as a 'frontier' for economic growth. In turn, Paulo Guimarães, based on recent contributions and on empirical historical research, identifies different types of conflicts resulting from the expansion of extractivism in Portugal since the second half of the 19th century, with special emphasis on the mining industry, agriculture and industrial fishing. He shows how environmental conflicts provide a privileged perspective about competitive visions on the appropriation and use of natural resources and the irreversible processes of the transformation of the environment, while contributing to questioning contemporary representations and nationalist identity constructions of a country.

Part 4 – Landscape and Heritage – points to the relevance of considering and using the operational concepts of 'landscape heritage' and 'cultural landscapes' when analysing past and present situations related to land use practices.

Ana Maria Costa and her colleagues reconstruct the Mesolithic landscape of the Portuguese Sado valley, which was occupied c. 8500-7000 cal BP by Late Mesolithic communities. Their results suggest an extensive brackish environment since at least 8400 cal BP, with an influence of marine water near the area occupied by the Mesolithic groups. The transfer and naturalisation of species is another very important issue

in the comprehension of today's landscape. It deals with contemporary ecological issues, sustainable land use, and political problems as well as with communities' identity. Many of these themes are analysed by Cristina Joanaz de Melo, who examines in particular the case of the *Eucalyptus globulus,* initially imported in Europe as a substitute for quinine and was then, as its use and plantations expanded, considered an undesirable tree in the 20th century. She discusses the process under which the same ecological object suffered a huge change in symbolic value depending on its context, time and space to understand the driving civilisational paradigms. Ana Duarte Rodrigues details the uses of vineyards in the 19th century and the construction of wine landscapes while farmers of the Algarve (south of Portugal) were adapting to their environmental conditions. Christine Rottenbacher's contribution details a public participation process where people experienced repeated contact with 'their' places and discussed cultural landscape values. She presents the results of her experience in landscape planning and contemporary dance performance, developing an assessment method (Moved Planning Process) based on the effects of moving together over sites to negotiate the use and maintenance of the places that build our cultural landscapes.

Part 5 – Science and Natural History – brings together perceptions and experiences related to the progressive 'discovery' of nature and how, over time, they have been scientifically validated, thus promoting successive reconfigurations of knowledge and stimulating epistemic interactions among people of cultures and differentiated technologies. Consequently, this part contributes to a better awareness of the past, present and future role of knowledge as an essential component of a broader dialogue with nature, reinforcing the need for a 'learn to live together' commitment, while, at the same time, drawing attention to the importance of the historical dimension of this process. Hence the chapters of this part follow a chronological order, from the 15th century – the so-called Age of Exploration – to the 20th century. Most of the chapters deal with the circulation of the novelties and their consequences, both in their physical form – *naturalia* – and in the form of ideas, between Europe, Africa and the Americas. Since ancient times, many animals, particularly parrots and primates, have been in great demand as pets, which quickly made them the subjects of highly profitable transnational trade. However, animals were not the only subject of this intercontinental trade. Other transoceanic but 'silent' passengers were living plants, namely seeds, rhizomes, tubers, bulbs and saplings, which were transferred from continent to continent throughout an expanding network of sailing routes during the 16th century.

Manuel Miranda Fernandes critically reviews some prominent examples of transoceanic plant transfer, highlighting the practical organisation and the trial and error approach required to overcame transportation problems. In contrast, Teresa Nobre de Carvalho discusses the relevance of collecting historical information and the importance of written sources (reports, treatises, letters) for the circulation of knowledge in the Early Modern Period, highlighting both the innovative approach shown in reporting Asian nature and the impact on the structuring of a new botanical knowledge, or on the very construction of a model of dissemination of knowledge that prevailed in the following centuries. As Fabiano Bracht notes, 18th century Portuguese colonial territories can be understood as places of intense and dynamic processes of the construction, extension, and reconfiguration of scientific knowledge. While Bracht focuses on India, Gisele da Conceição addresses similar issues for colonial Brazil. Analysing the panoply of agents and works involved in the processes of the recognition and construction of knowledge about Brazilian nature in this period, she underlines the association between knowledge and science on a transcontinental scale that is clearly global, bringing to the discussion the contribution of the scientific exploration journeys to the construction of a scientific knowledge about nature and, consequently, its integration into the scientific, political and economic context of the time. Wesley Kettle highlights the reports elaborated by scientists, colonial administrators and missionaries on their travels in the Amazon as part of the process of demarcating borders in the second half of the 18th century, and defends the idea of nature as an element capable of generating changes in the process of the Portuguese occupation of the Amazon and consequently modifying the plans of the Crown.

In *Peoples, Nature and Environments: Learning to live together*, all chapters converge on the idea of the long-term human-nature relationship no matter the time, place or context. As humans settled, developed agriculture and urban spaces, colonised islands and shorelines, explored the hinterlands, and interacted with other humans, they impacted and changed the natural world, making out of it a mostly humanised world. And while doing so, they have historically (and culturally) tended to forget their deep connection to animals and plants, to the lands and aquatic spaces they depend on.

We hope, with the present book, to contribute to this new scholarship as well as to the local and global understanding of how humans have related, still relate, and are expected to relate in the future, to non-humans and all parts of our common world.

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PART 1

LEARNING TO LIVE TOGETHER

CHAPTER ONE

INTERSPECIES PEACE: LEARNING TO LIVE TOGETHER

PATRÍCIA VIEIRA

At the dawn of Modernity, Thomas Hobbes (1588-1679) famously wrote that humans lived in a state of nature before they entered the social contract. This "is nothing else but a mere war of all against all," writes Hobbes (1642) in his *De Cive* (*On the Citizen*), only to add later, in *The Leviathan* (Hobbes, 1651), that in the "natural condition of mankind … [t]here is always war of everyone against everyone." Such permanent conflict "consists not in battle only, or the act of fighting," explains Hobbes, "but in a tract of time, wherein the will to contend by battle is sufficiently known," or when there is a "known disposition" to fight (Hobbes, 1651). In other words, the state of nature, grounded upon war, entails a latent condition of hostility that can at any moment turn into open fighting. Hobbes considers this to be a "hateful condition" and believes that all humans "desire […] to be freed from this misery" (Hobbes, 1642). The way out of this predicament is to leave the state of nature and to enter a contract, whereby humanity gives up some of its freedom in exchange for protection from violence. Hobbes calls the state, or *civitas* in Latin, created by the social contract the Leviathan, which he describes as an "artificial animal" and also as an "artificial man; though of greater stature and strength than the natural, for whose protection and defense it was intended […]" (Hobbes, 1651). The Leviathan guarantees its citizens' rights under the rule of law and peace amongst members of a civil society.

Hobbes's thought on the function of the social contract, which I have very briefly sketched above, warrants further scrutiny in light of the topic of this book, especially given its influence on subsequent political philosophy. First, we should pay closer attention to the expression "state of nature" – *status naturae*, in the Latin original from *De Cive* (Hobbes, 1642). Hobbes considers the "state of nature" to be one of permanent war or hostility, which is tantamount to saying that conflict is the normal, default

condition not only of human beings but of all living entities and of the natural world as a whole. War is hereby naturalized as the norm that only humanity can escape from. Even though Hobbes does not mention this explicitly, he assumes that, unlike humans who can create a civil society, non-humans are condemned to forever remain in a warring state of nature. This is how we can understand his famous adaptation of the Latin proverb "*homo homini lupus*" ("man is a wolf to man") in *De Cive* (Hobbes, 1642). To denounce uncivilized human behavior as similar to the conduct of wolves implies that these animals are themselves barbaric and prone to constant fighting. While wolves can do nothing to change their savage nature, Hobbes thinks humans should know better than to give in to their beastly instincts.

A second point we should highlight from Hobbes's thought is the idea that, in the state of nature, the "life of man [is] solitary, poor, nasty, *brutish* and short" (Hobbes, 1651). In the state of nature, humans live like brutes, beasts or animals. In order to become fully human, we need to leave this condition and use our reason to create the Leviathan – an organized state. The departure from the natural state is regarded as an emancipation, an inevitable separation from nature from which humans will never fully recover. This rift between humankind and nature can easily turn into a war against the natural world. In order to end the "war of all [humans] against all [humans]," humanity enters a struggle against nature, perpetually fighting the pull of bestiality that the state of nature represents. By combating nature – animals, plants, and so on, which are the opposite of the artificially engendered Leviathan – humans are battling their inner, brutish instincts, from which they try to distance themselves with the social contract.

It should also be noted that Hobbes chose the name of a monster from the Old Testament, the Leviathan, to describe the civil society created by humans once they abandon the state of nature. The Leviathan is an unnatural beast – it does not exist in the natural world – and is, in this sense, a fitting image for the commonwealth devised by humanity. What is perhaps less congruous with Hobbes's thought is that the Leviathan was used as an image for a demon, or even for Satan, throughout the Middle Ages. Is Hobbes unconsciously hinting at the fact that our leaving the state of nature is something satanical? Is the state (*civitas*, where civilization comes from) more of a demon than a blessing?

A final point to consider in Hobbesian political philosophy is that the Leviathan only guarantees peaceful co-existence within the state. Between different nations – different Leviathans – the state of nature reigns supreme. This is the conundrum that Enlightenment projects for perpetual peace, from

the Abbé de Saint Pierre's proposal for peace in Europe to Immanuel Kant's famous text "Perpetual Peace: A Philosophical Sketch" (1795), tried to solve. So, the creation of the Leviathan means not only a permanent state of war with nature but also with all other Leviathans. Another, pithier definition of the Leviathan could be: "a monster surrounded by war on all sides."

We are clearly still living in the shadow of the Hobbesian paradigm of political philosophy when it comes to our understanding of our relation to the environment. About two hundred years after Hobbes, Darwin saw the connections between different species and even between members of the same species as one of constant struggle. The "survival of the fittest," a phrase coined by Herbert Spencer to describe society in the wake of Darwinian biology, meant that only the victors would live on and those on the losing side would simply wither away. In our post-Darwinian world, the idea that life is a constant state of war of all against all, both at the biological and at the social level, remains. Notions such as "savage capitalism" testify to this translation of the state of nature to all spheres of human endeavor, from politics to economics. According to this view, humanity merely follows a generalized condition of life as a ruthless fight for survival that justifies dominating and exploiting those who might further our goals and slaughtering the ones who stand in the way.

This age-old struggle between humanity and nature is now often tempered by the discourse of conservationism. Still, the protection of the natural world is usually seen in utilitarian terms. Elements of the environment are regarded as "resources" that we need to preserve because their destruction endangers the very conditions for human survival. And the protection of one species or another is even more anthropocentrically driven – think of "save the whales," "save the pandas" and other such campaigns focusing on animals that conform to human standards of magnificence, beauty, and so on. The point is not that these animals do not deserve protection but, rather, that we need to reflect upon why we wish to protect these and not the myriad other species (insects, reptiles) disappearing every year. Is it because they are also mammals, or because they look cute in a picture? I submit that anthropocentrically inspired protectionism is nothing but a variation on the Hobbesian war against nature. We protect our enemies because we have just realized that our lives depend on theirs. In a Hegelian-Marxist framework, this kind of conservationism is reminiscent of the master-slave dialectic. Humans are still the masters, but they have understood that they depend upon their slaves and therefore have decided to protect them.

A much-needed change in our societies' attitudes toward the natural world entails scrutinizing some key concepts of our political and philosophical tradition. Since Hobbes's thought epitomizes many of these notions, I will dwell in some of the blind spots of his political philosophy in my attempt to imagine another kind of relationship with the environment. I will try to uncover alternative traditions of thinking about nature and, following in the footsteps of Kant, put forth a proposal for "Interspecies Perpetual Peace."

I would like to start by delving a bit deeper into the concept of a "state of nature." To do so, we should evoke the root of "status" (as in *status naturae*, translated into English as "state of nature"). Status is a noun related to the Latin verb *sto*, to stand, and *status naturae*, literally the state of nature, thus, means "to be in a natural state, or in a natural condition," "to be in the natural world". The Latin word *status* goes back to the same Proto-Indo-European root as the ancient Greek word *stasis*, which meant both a standstill and dissension or fighting. This etymology is particularly pertinent when we consider the idea of a "state of nature." If we think of *status* in terms of *stasis*, then it can be a situation of permanent hostility but also a condition of stability, in which opposing forces cancel themselves out.

The idea that our status, our very condition as living beings, is predicated on the ambiguity between conflict and stability harks back to pre-Socratic Greek thought. Heraclitus famously wrote that "strife/war [*polemos*, sometimes translated as "strife," other times as "war"] is common" and, in another fragment, that "strife/war is the father of all and king of all" (1948, 28). For Heraclitus, *polemos* refers to the tension inherent in all life, which springs from the clash between opposites. It is an ontological given of existence and, as such, part and parcel of living. The absence of *polemos* would be tantamount to the quiet of the cemetery that Kant mentions as a joke at the beginning of his text on perpetual peace. But while Heraclitus sees friction as the foundation of life, this does not necessarily entail warfare of all against all in the state of nature, as Hobbes imagined. Going back to the link between *status* and *stasis*, the state of nature could signify an ongoing *polemos* that creates a balance or equilibrium between different, opposing forces, a perpetual exchange without definitive victors and vanquished.

Given the pre-Socratic notion of *polemos*, the Hobbesian state of nature appears in a new light. If *polemos* is the ontological condition of humans and non-humans alike, then the stark contrast between the state of nature and culture or civilization, which can only thrive in the Leviathan, comes undone. Animals (or plants, for that matter) are not more brutish, barbaric or savage than humans. They all partake in strife, in *polemos*, a great

equalizer that unites all beings. Such an understanding of humanity undermines the idea that humans are divided between their bodies and their minds, their animal or instinctual and rational or logical selves, a separation that retraces the Cartesian division between *res extensa* and *res cogitans*. This view of humans was what made Hobbes consider that we were at war with our inner, irrational nature and, by extension, with external nature as a whole. The human war against the natural world, part of our desire to abandon the state of nature, is futile in the context of an ontological *polemos* that permeates all life.

The above-mentioned expression from *De Cive* (Hobbes, 1642), "*homo homini lupus*," is nonsensical to the extent that wolves, or any other non-humans, are not intrinsically more polemical than human beings. In fact, humans are the only forms of life capable of cruelty and of willingly inflicting suffering upon others for no other reason than their own amusement. This is Father António Vieira's argument in his "Sermon of Saint Anthony to the Fish" (1654), where he decries humans for behaving worse than animals. While fish only kill and eat each other because they need to nourish themselves, humans do so out of envy and greed and are therefore more deserving of condemnation than animals.

Considering that *polemos* is part of human (and non-human) ontology, it will not disappear with the creation of a civil society. What if, rather than saving us from the war of all against all, the state is itself the cause of permanent hostility, which leads our ontological condition of *polemos* to degenerate into full-fledged wars? As we have already seen, the creation of the state as we know it not only sparked the human war against nature but also the conflict between different nations that engulfs humanity in constant warfare. Perhaps this is the reason why Hobbes named the state Leviathan, a monster or a demon. He was, maybe unwittingly, recognizing the pitfalls of seeing the state as a solution to warfare.

It is pertinent here to turn to another politico-philosophical tradition of conceptualizing the state of nature, not as a war of all against all but, on the contrary, as a peaceful life of plenty in a Golden Age. The myth of a Golden Age of humanity, when we lived in tune with the natural world, was prevalent in ancient Greece and Rome, beginning with Hesiod's description of the past of humankind in *Works and Days*, and continuing with Plato's mention of a Golden Age of Athens in the *Timaeus*, together with Ovid's references to this ideal state in the *Metamorphoses*, as well as with Theocritus's *Idylls* and Virgil's *Eclogues*. This notion is also part of the Judeo-Christian Book of Genesis, which describes the earthly Paradise inhabited by humans before the Fall.

Later political philosophers went back to this idea of a Golden Age to describe human life before the onset of civilization. Rousseau (2002), for instance, wrote in his *Discourse on Inequality* that the "happiest and most durable" stage in human development took place right before the full-fledged development of civil society and, most notably, before the emergence of private property. He believed that humanity was destined to remain at that stage, the "real youth of the world" and that it was some "revolution" or "fatal accident" that removed us from this condition, an accident that "for the common good, should never have happened" (Rousseau, 2002, 119). Rousseau does not address the issue of humankind's relation to the natural world during this privileged time, but we can assume that, akin to animals, human beings lived off the fruit of the land, obviating war both amongst themselves and against the environment, much like what is described in the Book of Genesis. Like Rousseau, Kant also speculates about a state of nature, during which humans lived in "peaceful indolence." However, the German philosopher considers that human life without progress, pleasant as it may be, bears no meaning. Even though development may be painful, humanity needs to follow the dictates of reason and create a civil society.

If our leaving a peaceful existence in tune with nature is considered a fall, can humanity ever return to this state of grace? Can we go back to nature and reverse the current intra- and interspecies war? Will the "wolf [ever] dwell with the lamb / and the leopard […] lie down with the young goat," as the Old Testament (Book of Isaiah) metaphorically put it in its image of a future righteous Earth? Will humans ever live peacefully side by side with non-human beings? While, for Rousseau, the answer would be "no," Kant's approach is more nuanced.

Rousseau does not address our relation to non-humans, but one can surmise from his thought that interspecies war, as much as war amongst humans, derives from the development of civilization. Interspecies peace, then, would entail a return to the past that would approximate the state of nature as much as possible, knowing full well that one would never be able to go back to that perfection.

For Kant, perpetual peace amongst humans arrives at the end of history with cosmopolitanism, which reconstructs the Golden Age of the past through the mediation of human rationality. Interspecies peace would be a matter of extending cosmopolitan rights to non-humans. The foundation of Kantian cosmopolitanism is the "communal possession of the earth's surface" or the "*right to the earth's surface* which the human race shares in common" (Kant, 2008, 106). Interspecies cosmopolitanism, then, would entail recognizing that humans and non-humans have a common possession

of the Earth and a right to occupy it. The world republic (*Weltrepublik*) of cosmopolitanism, which guarantees perpetual peace, would thus need to encompass non-humans; that is to say, it would be an interspecies *res publica* or, rather, a *res-biotica*.

The very notion of the "cosmos" would be at stake under such an interspecies *res-biotica* world – an imperative to discuss the very meaning of the world that Bruno Latour (2004) has already identified. Cosmopolitanism would become "cosmopolitics," in the words of Elisabeth Stengers (2010, 2011), a debate about what the cosmos, or the Earth, really is. The Hobbesian distinction between the state of nature and the Leviathan would turn into ongoing cosmopolitics, a *polemos* within the *res-biotica*. We could conceive of the creation of a world parliament that would include the air, water, earth, energy and all living beings, following in the footsteps of Michel Serres (2009, 40, 51). This cosmo-parliament should avoid the pitfalls of anthropocentrism that tries to impose a human *logos* (speech, reason) upon all other living and non-living entities. It would have to contend with the fact that different beings have different languages and articulate their existence in diverse ways. Interspecies peace would be the outcome of a lively debate amongst the members of this parliament, a debate for which we would still need to create an appropriate language and procedures. Such a cosmopolitical *res-biotica* would be a first step in the long process of learning to live peacefully together with one another and with the non-human beings with whom we share our planet.

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CHAPTER TWO

HOMO SAPIENS: THE FIRST SELF-ENDANGERED SPECIES

TELMO PIEVANI AND ANDRA MENEGANZIN

ANTHROPOCENE DEFAUNATION: A VERY RISKY TRANSITION

Edward O. Wilson, Niles Eldredge, Peter Ward and Norman Myers, all distinguished evolutionists and biodiversity experts, claimed twenty years ago that, in light of the dramatic rate of extinction of species induced by human activities in recent centuries, the biosphere is going through a 'mass extinction', that is, a rapid loss of biodiversity on a global scale (Eldredge, 1995, 1998; Myers & Knoll, 2001; Ward, 1994, 2000; Wilson, 2003). More precisely, they argued, we are confronting the Sixth Mass Extinction, that is, nothing less than the last five catastrophes caused by volcanic eruptions, ocean acidification, climatic fluctuations, changes in the atmosphere's composition, impacts of asteroids on Earth, or a combination of these factors. The last of these was the best-known massive event that 66-65 million years ago wiped out most of the dinosaurs (except a small branching group that evolved into birds) and almost two-thirds of all other organisms, and is known as the Cretaceous-Tertiary extinction (K-T). As regards the speed of impact and the mortality rate, Wilson and his colleagues argued (Eldredge, 1995, 1998; Ward 1994, 2000; Myers & Knoll, 2001; Wilson, 2003), the ongoing extinctions caused by *Homo sapiens* today can be fairly comparable with the previous five.

The official label "Sixth Mass Extinction" was first introduced by the paleoanthropologist Richard Leakey and science writer Roger Lewin to indicate the anthropic sequel of the Big Five in 1992, denouncing the destruction of biodiversity (mainly large mammals) in Africa (Leakey & Lewin, 1992). Two pioneering studies, separately proposed in 1995 by Robert May and Stuart Pimm's authoritative teams (Lawton & May, 1995;