The political workshop of nature

From the great divides to the sensitive experience

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EDITOR'S NOTE

This English translation has not been published in printed form/Cette traduction anglaise n'a pas été publiée sous forme imprimée.

- 1 The starting point for this article is the observation that industrialized societies, their mode of development and the knowledge derived from the rationality of the Moderns have failed to preserve an inhabitable world¹. Despite scientific knowledge, all the information available on the risks linked to the environmental crisis and international policies in favour of the conservation and patrimonialization of nature, we have continually failed to produce a mode of development which respects natural environments. Symmetrically, the romantic conception of nature as totally untouched by a human presence prevents us from successfully politically managing territories which are generally inhabited, have landscaping traces, agricultural, pastoral, cultural and religious usages and are inhabited by stories of the past, knowledge and forms of secular attachment. This vision led to the evacuation of indigenous populations when the national parks were created in the United States (Spence, 1999) from 1872 onwards and then to the 1964 *Wilderness Act* which made law of the principle of a wilderness where humans are seen as visitors who do not remain². It was also in the XIXth century that the French Empire and then the Republic became concerned about the desertification of North Africa which was said to have been the wheat granary of Europe during Ancient History. Scientists and colonial lobbyists attributed this decline to the negligence of nomadic Arab farmers and concluded these populations should be forced out of certain areas to plant forests and restore soil fertility. A large-scale "declinist" environmental narrative was therefore produced and disseminated to legitimate colonization (Davis, 2007) although it was historically false. The

environment is torn between nature and culture, between romantic illusions, scientific rationalism, expertise and technocracy, between economic greed and colonial cynicism and is therefore fundamentally political.

- 2 Which cosmopolitan policy should be implemented to properly ascertain the two sides of the problem namely thinking out the environment while fairly and democratically integrating its inhabitants? How may we go beyond the great divide between nature and culture? This was the starting point for the questions and concerns which incited me to get involved in research into the socio-anthropology of the environment³. This is also the point I have reached in my fields of study. In the framework of the study of several systems and territories dedicated to the conservation and patrimonialization of nature in Latin America, the Indian Ocean or in Europe, I have been faced with the profound sentiment that modern thought, practices and institutions have failed to construct a harmonious relationship between societies, knowledge, cultures, politics and natural environments. These conclusions are both disturbing and irritating, particularly as they are difficult to express in the framework of euphemization common to university rhetoric. There is always the risk of being accused of exaggerating or of lacking scientific objectivity and preferring environmental activism or radical *critiques*.
- 3 However this is the fundamental problem at hand and the unease it causes means that, even though certain ethnographic observations may be depressing in nature, salt will have to be rubbed into the wounds if we are to find effective responses to scientific demands, militant commitments and the need for an increased level of reflexivity.

A major environmental crisis

- 4 From the standpoint of scientific ecology, alarmist reports on the climate, biodiversity and pollution are continually being published. The list of risks linked to global climate change given in the sixth report by the Intergovernmental Panel on Climate Change (IPCC) – in the version for policymakers – even looks like an apocalyptic prophecy (IPCC, 2014: 13-14). A series of other ongoing disasters needs to be added to this list. Among these, there are the mass extinction occurring currently (which we know to be caused by humans) of vertebrate species (Ceballos and *al.*, 2015; Ceballos, Ehrlich, Dirzo, 2017), landscapes being sacrificed for the purposes of urbanization or industrialization and the sex-ratio among fish being disturbed by their exposure to combinations of chemicals (preservatives and oestrogens) dumped in rivers (Jobling and *al.*, 2009). We also need to take into account industrial and nuclear catastrophes, oil spills, wars and their accompanying human and environmental devastation, migration waves increasing because of climate change, the development of cases of environmental injustice, etc.
- 5 I am stressing the quasi-apocalyptic dimension of risks and disasters caused by the development of industrialized societies to make it clear that when the socio-anthropological sciences study the environment, the stakes are not the same as when they deal with other dimensions of social or cultural life. Questions on this subject are of vital global importance and involve several different aspects ranging from individual actions to the globalized space of international politics and conventions via all the different scales of public action and social movements. Temporally, these questions require us to anticipate the – hopefully positive – future to make field studies

meaningful and therefore thought about the general interest, which is inseparable from ideological positions⁴, is essential. These questions concern the whole human species, all living organisms and the abiotic sector – mountains, oceans, rivers, air, etc. – rather than just one social group or another. This is why scientific communities and networks working on these questions are faced with hitherto unknown challenges regarding the definition of their objects, epistemological *critiques*, reflexivity and interdisciplinary construction.

An epistemological crisis

- 6 The United Nations Educational, Scientific and Cultural Organization (Unesco) and the International Union for Conservation of Nature (IUCN)⁵ today support the idea that indigenous peoples have become a model to be followed when reconsidering our relations with nature. Also the Convention on Biological Diversity (1992: 7)⁶ declares that "indigenous and local communities [embody] traditional lifestyles relevant for the conservation and sustainable use of biological diversity" and the signatories of this convention committed to promoting "their wider application with the approval and involvement of the holders of such knowledge, innovations and practices" (*ibid.*)⁷.
- 7 And yet these indigenous peoples were not helped in any way by the major sharing of the benefits of modernity (Latour, 1983; Lenclud, 1996), contemporary science or state organizations to develop without destroying their living environments. Also, despite the claims put forward by modern preconceptions, even during the pre-colonial eras, these communities did not live in conditions of precarity which would today be considered archaic or unbearable⁸. The observation that indigenous peoples actually had a more effective relationship with nature and development suggests that their material, political, economical organization of their societies coupled with their knowledge would have been more adapted to the environmental crisis than the ideas and systems of thought out by the Moderns. This is deeply troubling and means we urgently need to ask ourselves questions about the ongoing knowledge-based arguments and also question scientific practices in all disciplines. Actually, one of the most important characteristics of the socio-anthropologies of the environment is that they bring together ideas on knowledge in all its diversity in the same space for thought and study as well as ideas on different environments and the way in which societies live in them. This questioning of knowledge is accompanied by demands concerning the renewal of epistemologies (Blanc, Demeulenaere, Feuerhahn, 2017: 15-17). As far as public opinion is concerned, the idea of a link between scientific progress and social well-being no longer has any meaning (Boy, 1999). The rationality of the Moderns seems to be in a state of crisis because it has produced a world in which nature and culture are thought about separately and this dualism seems redundant and totally ineffective as regards the survival of humanity.
- 8 The challenges faced by the socio-anthropologies of the environment have led to critical and reflective questioning – how to continue scientific work when we have become certain (this is my own position) that "scientific work" based on great divides which now appear problematical is at least in part the cause of the environmental crisis threatening our species and indeed all living species? How can we continue our work, including in the humanities and social sciences, when faced with this kind of contradiction? Should we, rather like the musicians on the *Titanic*, continue playing

during the shipwreck while changing nothing as far as our practices and habits are concerned?

- 9 I have no simple answer to this. However I consider that the question needs to be asked and faced up to collectively. From this point of view, I consider myself to be in the tradition of the mathematician Alexandre Grothendieck who was famous for his Fields Medal awarded in 1966 and founded the ecologist and pacifist movement "Survivre" in 1970⁹. In his speeches at conferences he aimed to shake up the apathy of his academic colleagues regarding the military and industrial applications of science and asked: "Why continue to do scientific research?"¹⁰. He was stunned to never get any answer from those colleagues and perhaps things are still exactly the same 50 years later¹¹.
- 10 I should now like to discuss the question of the great dualist divides of modernity in which science is a factor that causes a break between nature and culture and then the paths taken by those challenging these dualisms. These points far from cover all the ongoing debates in the socio-anthropologies of the environment. However they are of interest because they raise the main environmental questions in a problematized manner rather than through a disciplinary survey and overview. Finally, I shall put forward a draft political response to the aporia of modernity by shifting the question of the "parliament of things"¹².
- 11 Before doing so, I would like to make clear that the authors of the articles in this issue do not claim to belong to any particular school of thought and that the issue's aim is not to open up yet another field within the socio-anthropologies of the environment. However the articles all fundamentally refer to the question of knowledge, to disputes about knowledge and to the legitimization of knowledge – Claudio Broitman analyzes a socio-environmental controversy surrounding a hydroelectric dam project in Chile; Émilie Kohlmann discusses the communication management of the theme of biodiversity in the Pilat Regional Natural Park in the Rhône-Alpes region of south-eastern France; Joëlle Le Marec questions the empirical experiments with animals constructed by visitors to the Jardin des Plantes (Paris); Aurelie Zwang studies knowledge on sustainable development and its mediation by museums while finally William R. Catton Jr and Riley E. Dunlap propose a new paradigm for environmental sociology. I would particularly like to draw readers' attention to this latter text which is the translation of one of the founding articles in the field of environmental sociology and had never previously been published in France. This text is included in all the serious bibliographies in the field. After a discussion with one of the authors (Riley E. Dunlap – William R. Catton has passed away) then a series of exchanges between the author and the Translation Unit at the Institute for Scientific and Technical Information (Inist, an institute of the French National Center for Scientific Research), it seems to me that we managed to sort out all the translation difficulties and are thus able to offer French-speaking readers a text which is coherent as far as their scientific culture is concerned¹³. Finally in this issue the question of sensitivity also appears even if it is not cross-disciplinary. This concept can be found in the work of Claudio Broitman (who considers that in the case of controversies, argumentation is also a matter of emotion), Émilie Kohlmann (who discusses the tension between the love and management of nature) and Joëlle Le Marec (who discusses the question of the divide of the inner characters of humans and animals in the heart of modern society and the tension between this matter and scientific changes).

Science at the heart of great divides

- 12 Michel Foucault (1966: 140-144) reiterated the fact that naturalist knowledge was constituted during the classical period by a separation between words and things. Until the classical era, describing a living being required a presentation of the being's organs, any likenesses which could be found, the legends, stories and the coats of arms in which the being appeared, the medication which was made out of the being and how it could be cooked, etc. Subsequently, again according to Michel Foucault, natural history separated facts about things from facts concerning words about things. *Litteralia* were therefore banished to the margins of naturalist discourse as if they were superfluous terms which were to soon disappear with the emergence of modern empiricism. This was therefore the first separation between the words of culture and things of nature. Next, the English empiricists theorized about and then institutionalized experimentalism in a practice of intersubjectivity which was limited to the sociability of aristocrats during this era. This led to just collectively observable facts being noted in reports on experiments. When Robert Boyle described how his air pump produced a vacuum, the objective was to enable his learned colleagues to reproduce his experiments and therefore his drawings and texts were circulated. This helped produce a consensus about the reality of observations through the multiplication of virtual accounts derived from the findings having been publicized (Shapin, 1991). Objectification thus requires the elision of the perceiving subject in favour of the collective of academics in a critical dialogue and the multiplication of spectators for the experiments. Thus, it was no longer just Robert Boyle who spoke but rather facts which were approved by a circle of observers. The "Republic of *Savants*" was to push the pole of culture (individual affective reactions, people's different commercial interests, errors of appreciation, etc.) even further away from the pole of nature which was to be spoken of eventually using the contemporary procedures of mechanized inscription from the XIXth century onwards. In scientific text, the elision of the subject in favour of the use of the collective *we* sanctuarizes the idea initiated by English experimentalism on the rhetorical level. However this enunciative objectivism poorly conceals the agonistic processes which derive from competitive and authority-based relations with scientific fields. Bruno Latour and Paolo Fabbri (1977) showed that a scientific document could be both the trace and the actor of a text policy in which ideas are disqualified, rejected, suggested, allied with and paid tribute to – to sum up, a policy in which subjectivity is expressed despite the collective *we*. Whatever the case, even if the Moderns do not do what they claim to do because, according to Bruno Latour, (1991), the separation of the subject and the object in science was accompanied by multiple mediations and networks intended to link subjects and objects (I shall not refer to the sociology of translation herein), the principles of the rationality of science are based on the institutionalization and theorization of a series of great divides between subject and object, between reason and opinion, between words and things or, more generally, between culture and nature. The philosophical principles developed by Emmanuel Kant (1784) and the *Lumières* thinkers also contributed to this construction of an autonomous subject with emancipation resulting from the public use of reason against religious and political dogmatism (also see Habermas, 1962). Finally, the premises of ethnology in the XVIIIth century, placed a distance between "them" and "us", thus adding to this break between nature and culture. Thus ethnology was to deal with "traditional" or "primitive" peoples (considered to be "without" a History, a State, etc.)

while history dealt with "civilized" societies able to write and credited with a form of rationality which was close to our own. A moralizing form of evolutionism was thus to question the origins of humanity from the observatory of scientific rationality and French republican universalism (Lenclud, 1996).

- 13 Another type of great divide which is just as radical as the divide between "them" and "us", makes a distinction between human and animals. We all recall René Descartes's "animal machine" which was devoid of sensibility, language and therefore reason. According to Éric Baratay (1986: 6), the theory of the animal-machine was advocated by the clergy

"at a time when the position of Man in Creation was also being challenged by Galilean science; it was an attempt to consolidate human pre-eminence by demeaning other creatures. The separation of the spiritual soul and the material body, the depreciation of this body in comparison with thought (Descartes's "'I think, therefore I am") which was reserved for Man, the only species endowed with language, led to the decline of animals who were classified alongside matter while Man, defined by thought alone, entered the field of pure spirits, of angels and also of God".

- 14 This conception of the place of animals was to justify brutal behaviour towards them (*ibid.*: 8) and a parallel can be made between the behavioural impact of this mechanistic theory and the impact of evolutionism on the way colonial powers treated "savages". The question of the primacy of language attributed to Western Man and denied to all the other living species is of fundamental importance here – without symbolic language and written expression, no reason would be attributed to animals and indeed "the others". Thus everything can be controlled, exploited and made servile with no moral restraint, everything including both nature and peoples considered as being "without". In other words, the great divides are not just philosophical concepts – they have pragmatic effects, legitimize attitudes and create or reinforce forms of domination. The dualist conceptualization of Western Man as superior to the animal-machine and to "them", this dual break between ideological poles (nature, tradition, orality, the lack of social differentiation, societies without States on one side and, progress, writing, social complexity and States) helped organize the relationship of brutal domination by "us" over "them" and over nature. Even though, the 1550 Valladolid conference attributed souls to American Indians thanks to the arguments put forward by Bartolomé de Las Casas¹⁴, this then led to the justification of African slavery and to this continent being turned into a reserve of human labour.

- 15 However, in the controversy opposing Bartolomé de Las Casas and Juan Ginés de Sepúlveda in Valladolid, the question of the souls of Indians – who Charles Quint and Pope Jules III were not sure whether to consider as humans or animals – was not so simple to resolve. As Daniel Fabre (2006: 6) explains,

"the question "do Indians have souls?" lacks precision. According to Aristotle, Sepúlveda's master, even animals have a soul. The soul is the shape of a body and all of its functions. In all the living species, there is a hierarchy of souls – the nutritive, sensitive, desiring, locomotor and knowing souls. Animals do have souls but not the soul of reason and there may be beings that look human but lack the deliberative and intellectual part of the soul".

- 16 Therefore the conceptual tensions which affected the man-animal dichotomy should not be neglected. Two centuries before the *Discourse on the Method*, Michel de Montaigne (1588: 334-465) devoted many pages of his "Apology for Raymond Sebond" arguing in favour of the intelligence and sensitivity of animals. These pages also questioned the

primacy in terms of language attributed to Man and are today of renewed importance in the context of the profound reform of anthropological thought and the confrontation of the latter with the question of the nature. I shall come back to these important issues later.

- 17 The great divides constructed between the classical era and the era of the *Lumières* and furthered and institutionalized in science embedded themselves in the industrialized countries in the form of the ideologies of progress and universalism which affected the extraction of resources and of colonization. They made up the breeding-ground for a conception of nature as exterior to humans and as a raw material for economic development. This creation of distance no longer has any relevance in the framework of the environmental crisis and was also accompanied by an equally distanced epistemology – theorizing is increased generalization on the basis of the enunciation of concepts subsuming the diversity of sensitivity. One does not go without the other and the nature/culture dualism has its epistemological counterpart in the dualism existing between theoretical conceptualization and sensitive forms of attachment. It is impossible to call one into question without deconstructing the other. This is probably what is at stake today in the epistemological crisis accompanying the emergence of the environment.

Dualisms which are a profound part of institutions

- 18 Despite the emergence of the environment as public and political problem, nature and culture remain disassociated in institutional practices. This is why the works of Bernard Kalaora (2010) and his colleagues (Charles, Kalaora, 2001, 2008; Kalaora, Vlassopoulos, 2013) highlight certain singular features in the French administrative and political cultures in comparison with their equivalents in other countries. The strong historical roots and legitimacy of high level State engineers and administrators (the *Mines*, *Ponts*, Water and Forests, the National Institute of Statistics and Economic Studies, *polytechniciens*, the administrative elite or *enarques*, etc.) are said to have structured strongly dualist representations of nature. For example, Lionel Charles and Bernard Kalaora (2008: 10) write the following about the weak support from the French elite for the Natura 2000 Habitats Directive¹⁵:

"We would like to highlight the particularly weak environmental acculturation of the French elite which is embedded in a culturalist tradition with strong social roots and which carries the heavy weight of French agricultural and rural heritage. The representations related to this permeate the social universe, discourse and political practices. The institutional structure of the *Sénat*, its rural funds and the unresolved question of its reform are all examples of this. These representations make up a powerful obstacle to the dissemination of other visions particularly issues linked to scientific development – from Darwinian ideas to the contemporary approach to the environment – which call into question the very idea of the “natural” appropriation of nature by Man for once and for all in favour of a more complex approach which does not exclude retroactions and consequences likely to requalify this appropriation. This approach no longer sees nature as an endless material, aesthetic and symbolic reservoir and as an intangible means of support for humans and things ”.

- 19 Regarding the management of a French national park, I myself have explained how the tangible effects of the 2006 reform of the law on French national parks – which sets them cultural heritage protection objectives – were actually in direct opposition to the

naturalist culture of these parks, their organization charts and recruitment policies (Babou, 2015). The 2006 law on national parks and article 8j of the Convention on biological diversity show that institutional frameworks are certainly shifting but changes occur very slowly and are faced by structural resistance.

- 20 French institutional culture is perhaps the problem but if practices and representations were so different in English-speaking countries thanks to the influence of pragmatic thought (as is the hypothesis of Lionel Charles and Bernard Kalaora) then surely pragmatic philosophy would have had more influence on the *Wilderness Act*? This Act institutionalizes the break between nature and culture without there being a trace of a thought about the complexity of the issue? Also, how may we explain the fact that William R. Catton and Riley E. Dunlap's *New Environmental Paradigm* was only published towards the end of the 1970s? How should we interpret the resistance to this paradigmatic renewal of sociology in the United States as shown in the debates it provoked¹⁶? For that matter, François Duban (2000: 46) explains that, although environmentalism became rapidly institutionalized in the United States in the 1960s,

"the proximity of power inevitably once again led to compromises even on matters of principle which were made easier by the reformist nature of dominant environmentalism which above all calls for quick solutions rather than solving fundamental problems such as pollution, the rapid reduction of biological diversity and other threats to the planetary ecosystem. The institutionalization and professionalization of the movement could explain why American citizens think environmental problems are being dealt with by specialist agencies and organizations and that there is no need to take any action themselves".

- 21 The researcher also analyzes the rise in movements for environmental justice which gradually replaced conventional environmentalism from the 1990s onwards, adding a strong link with ethnic minorities. He notes that, at the 1991 First National People of Color Environmental Leadership Summit in Washington,

"even in the most radical form of opposition to the white establishment and WASP history namely the movement for environmental justice for ethnic minorities, the environment is part of the heritage of the nation. Highly paradoxically, the Washington People of Color summit is a declaration of independence in the national tradition - the movement refuses all white interference but positions itself in the WASP tradition. [...] Just as the Declaration of Independence asserted the existence of fundamental and unalienable natural rights for all peoples [...], the principles of environmental justice assert the universal right to a healthy environment" (*ibid.*: 139).

- 22 The great dualist divides are integrated into nature-based institutions and policies in France but the same is true of WASP ideologies which frame the place of the environment in movements and institutions in the United States. The environment has become a worldwide cause but the adoption of that cause institutionally or in social struggles depends on local political or cultural characteristics. This involves discursive, organizational and social mediations which modulate these ideological frameworks and need to be accurately described.

The great divides at the heart of the survey

- 23 It is not easy to free oneself from the dualist frameworks which organize scientific thought, social representations and institutional frameworks. Any field study of the relations between a society and its environment runs the risk of following existing

pathways which see nature as a simple contextual backdrop to human representations and actions. Symmetrization is said to be impossible on the methodological pretext that it is impossible to ask monkeys or whales questions. Only humans could be asked questions, leaving the rest of the living species and all abiotic dimensions to the naturalists who are the only people qualified to speak for monkeys, forests or cliffs. The pitfall is that more is needed than mere words. The increased generalization of theoretical discourse *via* a review of the literature would solve the problem of the aspects that have not been empirically involved in the study namely materiality, territorial space and non-human species. Alternatively, language metaphors are used - Saint-Jacques scallops are said to "speak" or to have found a "spokesperson" according to Michel Callon (1986)¹⁷.

- 24 I do not believe that there is a standardized method to carry out a symmetrical survey in which nature and culture would be interwoven. Nevertheless, during one of my field studies I tested a method which convinced me that it was not impossible to go beyond the great divide in a survey (Babou, 2009, 2011). Here is a rough summary. I was studying an Argentinian national park selected as a Unesco national heritage site in collaboration with conservation biologists specializing in whales and sea birds. I used the movements of the southern right whale as one of the relevant dimensions to describe a whole set of ecosystem, historical and social relationships in a territory whose topography means such movements are statistically measurable and significant. Of course, I did not hold a mike up to the whales' baleens. Instead I described the diachronic stages of the movements of human and animal populations within the territory and between this territory and the rest of the continent using life stories and archives (for the purely sociological part) and statistics or observations found in conservation biology. These two datasets enabled me to highlight a complex movement of human and animal populations. The whales and certain social actors had converged on the territory at the same time as seagulls - whose population was developing in the park - began to attack the whales to benefit from the windfalls linked to their journeys between their nesting and feeding sites. Without the migration of whales and attacks by seagulls which in turn were at their origin, ecotourism would not have been able to develop in the park which would have lost all its inhabitants through a lack of economic resources. Of course, this is not a case of determinism with the biological sphere influencing the social sphere. Instead a complex set of people, social groups and animals interact to use the territory. To confer agency on animals while describing the territorial space as significant, one needs to exploit conservation biology collaborate with teams of biologists and go beyond the "*Durkheim*austrien"¹⁸ principle that social matters can only be explained using social information. This is where William R. Catton and Riley E. Dunlap's *New Environmental Paradigm* translated in this issue is so important even though I had not read this text when I carried out my study.
- 25 Thus we can see a possible space for interdisciplinarity developing involving producing an approach like the analysis of "movements" which can be shared by both social anthropologists and naturalists. A movement is both qualifiable and measurable (length, speed, duration, etc.), it defines a territory and organizes legitimacies, it can be related as a story to make sense for those involved and would benefit diverse epistemologies (biological, sociological, literary, geographical, communicational, etc.)¹⁹. Moreover I am not alone in studying territorial constructions of this type based on the analysis of movements. The work of Marie Roué (2009) on the circulation of Canada geese between

the north of the United States and Canada enabled her to describe social and scientific dynamics.

- 26 A symmetrization of researchers' views on society and nature can therefore be envisaged so as to give nature agency once more while avoiding language metaphors. This would invest our studies with an interest for the environment which would go further than a simple contextualization of human action.

Moving beyond the great divides in theory

- 27 The contemporary period has brought a profound renewal of questioning, at least in the socio-anthropologies of the environment. The work of William R. Catton and Riley E. Dunlap (1978a, 1978b, 1980), Riley E. Dunlap (2002), Philippe Descola (1986, 2005, 2011), Tim Ingold (2000, 2013), Eduardo Viveiros de Castro (2009), David Abram (1996) and Eduardo Kohn (2013) have greatly reshuffled the founding dualisms of our disciplines and aimed to weave new links between nature and culture in their epistemologies. In 1978 the *New Environmental Paradigm* cited earlier advocated that sociology of environmental questions should go beyond anthropocentrism and be reoriented towards an environmental sociology which was to develop through study of "relationships between social and environmental variables (such as characteristics of buildings, levels of pollution, and rates of energy use), thus violating the traditional taboo against including non-social variables in sociological analyses" (Catton, Dunlap, in this issue). As for the anthropology of nature, and particularly the anthropology of American Indian societies, these came to an ontological turning point with Philippe Descola who replaced the modern naturalist in a kind of square made of the ontologies of "others" - totemism, animism and analogism. Each of these ontologies is based on a vast collection of ethnographical data and expresses a condensed vision of the world covering practices, representations and social relationships. In the case of both the *New Environmental Paradigm* and the ontological turning point mentioned above, the stakes are similar - to bring modern ethnocentrism with the overriding view which undermines Western thought to an end by making it accept its historical relationship with nature and knowledge as the only possible form of rationality, namely a rationality which aims to be universal. The pathway of this *critique* is ontological for Philippe Descola and more methodological for William R. Catton and Riley E. Dunlap although the background of an analysis of the post-abundance society goes much further than just the methodological issue for the two latter authors. For Tim Ingold, the aim of conceptualization is to establish a link between human action and the materiality of the environment which should thus be "lived in" rather than thinking of nature as outside society. His work discusses the importance of describing the co-evolutions of Man in his environment also found in Serge Moscovici's work (1972, 1977) but avoids the latter's incursions into history and the epistemology of science. Survey work is put first and concepts or centres of interest are deliberately modest ("living", "building", "points and lines", "weaving", etc.) whereas epistemology had got us used to great ethereal flights of fancy into the history of ideas. Like Serge Moscovici before him, Tim Ingold (2013: 29) stresses the need to re-historicize the environment:

"The distinction between environment and nature corresponds to the difference in perspective between seeing ourselves as beings within a world and as beings without it. Moreover we tend to think of nature as external not only to humanity [...] but also to history, as though the natural world provided an enduring backdrop

to the conduct of human affairs. Yet environments, since they continually come into being in the process of our lives – since we shape them as they shape us – are themselves fundamentally historical. We have, then, to be wary of such a simple expression as ‘the natural environment’, for in thus conflating the two terms we already imagine ourselves to be somehow beyond the world, and therefore in a position to intervene in its processes”.

- 28 Eduardo Viveiros de Castro (2016: 39) goes further into the deconstruction of the great divides and suggests that native Amazonian concepts should be taken seriously particularly perspectivism. He concludes that a profound transformation of the question of the relationships between nature and culture is required:

"Cultural relativism, a form of multiculturalism, presumes there is a diversity of subjective and partial representations which affect an external nature, which is as one and total and indifferent to representation. American Indians propose the opposite - firstly a purely pronominal representative unity – all beings who shall occupy the position of cosmological subject are human; anything that exists can be thought of as thinking (it exists therefore it thinks) or “active” or possessing “agency” because of a point of view; secondly a real or objective radical diversity. Perspectivism is a form of multinaturalism because a perspective is not a representation. A perspective is not a representation because representations are properties of the mind whereas *point of views are in the body*" (the author underlines this last point).

- 29 Finally, in my opinion Eduardo Kohn's work represents the most significant progress. He focuses on Charles S. Peirce's phenomenology (1978) and his surveys are centred on the theme of communication between humans and animals and more broadly among all living species. He questions the language-based primacy attributed to Man at least in its symbolic version - only articulated forms of speech and writing should be considered language. The author interprets Charles S. Peirce in the same way as myself (Babou, 1999, 2010) or as Joëlle Le Marec and myself in other contexts (Le Marec, Babou, 2003; Babou, Le Marec, 2008) and focuses on the question of the pre-existent signification of the human presence. All living beings, especially animals, are capable of developing habits based on inferences and particularly those of the indexical kind . Footprints in the soil indicate the path to follow for a predator to find its prey. This is neither a mechanical act nor through instinct; it involves using the clues layer of signification which is part of the capacity to make errors – a sign of intelligence – and also to develop habits and signification beyond an experiential given fact using inferences about the future. Here contemporary anthropology follows the arguments of Michel de Montaigne (1588: 346), when he lists in a long paragraph all that a hand can "say" without speaking or when he explores the meanings animals can transmit beyond the symbolic dimension (*ibid.*: 345):

"In one kind of barking of a dog the horse knows there is anger, of another sort of bark he is not afraid. Even in the very beasts that have no voice at all, we easily conclude, from the society of offices we observe amongst them, some other sort of communication: their very motions discover it".

- 30 From Michel de Montaigne to Eduardo Kohn, through Charles S. Peirce, a whole non-modern school of thought unfolds which refuses the temptation of dualisms and taking the higher ground in which the Moderns imprisoned themselves. As Eduardo Kohn (2013: 163) explains,

"we could say that the person of the animal is the model of the universe for animists while for us the model is the machine. Ontologically speaking, each being possesses its own truth – an animal is a person and there are things in the world

which do resemble machines which can be dismantled (this is why reductionism in science has so much success). My aim here is not to decide which is correct or to show who is wrong out of the two. It is rather to examine how certain sorts of interactions based on certain presuppositions themselves take root in these interactions and amplify the unexpected but real properties of the world which we can beneficially use to think beyond the human dimension as we know it".

- 31 For both Eduardo Kohn and Charles S. Peirce, the world has true meaning whether Man lives in it or not. Meaning comes first and defines what life and thought in the world actually are. Living thinking beings are all those capable of expressing meaning, constructing habits and making mistakes including non-humans without language. This is the reason why Eduardo Kohn (*ibid.*: 71, 132-133) criticizes the sociology of translation because it only asks the question of signification insofar as this involved articulated language. Seashells would talk, "spokespeople" would proliferate and it is indeed a "parliament of things" which Bruno Latour (1994) hopes for according to the model of political argumentation. May we only hope to found a form of cosmopolitics by mobilizing the symbolic, conventional, standardized forms of representation? By basing our thought on Charles S. Peirce's semiotic and pragmatist theory, representation can be opened up – in all senses of the term – to many other phenomena than just the symbolic level of language. It is firstly a theoretical necessity if we wish to go beyond the Moderns' aporia because representation's semiological and structuralist inspiration undermines the theoretical coherency of the sociology of translation²⁰. Secondly it is an ethical and political necessity in the framework of thought about the deliberative systems and access to these. Not everyone uniformly masters argumentation in all situations particularly those involving a strong asymmetry of power and knowledge (Babou, 2016). Finally, if the aim is indeed to open politics to non-humans and materiality, why attempt this solely in the conditions – argumentation, advocacy, definition of a "spokesperson", etc. – which led to the failure of the Moderns in their relations with non-humans and "others"?

Conclusion

- 32 I shall conclude with an invitation to distance ourselves from the *Lumières* whose troublesome universalism imprisoned us in a deadly sense of superiority. Without wishing to question the importance of the *Lumières* in terms of emancipation as this remains a source of inspiration to counter the sound of marching boots, their philosophical, logocentric and overly dominant tropism causes too many problems for the distances they have constructed within our societies, with nature and with "others" not to require an *aggiornamento*. Links therefore need to be rewoven. We discussed the theoretical ways of achieving this earlier but how can these be converted into practices, institutions and systems? This could hardly be more difficult when we consider the extent to which universalism and its great divides are now part of our daily life and our institutions. No gesture of epistemological refoundation, however innovative, would suffice.
- 33 We therefore should take seriously the *Latourian* project of a "parliament of things" which, after all, has been one of the rare tangible academic proposals regarding nature policies in recent decades. We should also take seriously the question its author asks in an interview in the journal *Écologie et politique* - "What would it take to equip the State so that it became a learning State from my own pragmatist standpoint?" (Latour, 2010:

90) - and imagine how we could push the State to its limits and out of its continually logocentric and rather conservative orbit. According to Bruno Latour (1999, 2001), the parliament of things would depend at least in part on scientists being the "spokespeople" for things. They are invited to produce perplexity – while making full use of their knowhow – and to extend the planet of experimentation spaces starting from laboratories benches. Human and non-human 'guinea pigs' will appreciate the change. Politicians are classically requested to manage power relations. Economists would get involved but would this be the critical heterodox kind or rather orthodox liberals? We will not find out but the world of academics is invited to get involved. Finally, moralists would complete the roundtable to speak in the name of the people. In other words, not much would be new in the world of political philosophy - decision-makers decide and academics know everything²¹.

- 34 We need to accept that, in the framework of the thought experiment I am proposing, we cannot radically change all the institutions and political habits of State-based societies overnight but that these at least all be reoriented. Therefore, let us imagine that we would remain in a classic parliamentary framework. If the ethical and political stakes are directed as presented above by the objective of a common interest which goes beyond humans alone, if meaning does not emerge from words alone but also from the being in the world (Ingold), from sensitivity and relations (Kohn) and finally if we replace the universalism of the reason of academics alone with particularism, surveys and the experiences of the public (Charles S. Peirce and John Dewey's pragmatism), then we need to set up a *parliament of the sensitive experience of relationships* rather than just a *parliament of things*. A parliament in which parliamentarians would be obliged to live with the people actually concerned by a public policy decision over a set period before taking that decision. They would need to experience the tangible relationships (attachments, indifference or conflicts) and also the practical meanings and reflexive investments these people establish with different beings and things in their environment²². This tangible experience of the experiences and environments of "others" via sharing work, daily life, a leisure pursuit or any other possible sphere would thus become the source of the decision in place of just academics' knowledge, the intuition of moralists or economic theories. Opinions, consensus and conflicts would be forged by induction and practical experience rather than by dominant conceptualization from on high. The very notion of "parliament" as a central locus of debate and law-making would thus become obsolete and would need to be replaced by a set of distributed and peripheral sites where people would learn using the more pragmatic, humble and down-to-earth model of *companionship* as a mentored learning process rather than the universalist model of schools or universities. *Mentoring* is learning together based on long-term daily experience rather than theory. In other words, we may imagine "companions" in a natural politics Workshop learning from others - their knowledge and their sensory relations with the world, their journeys between the parliament and homes and places they experience - being with the actors in a conflict and thus experiencing their commitments as these are experienced in an ethnographic survey before returning to debate. These companions would legislate on the basis of tangible experience which could therefore be shared and discussed beyond just the level of language, in a more incorporated manner which would be better understood than if decisions were just based on experts' reports, Internet *benchmarking* or scientists' lectures. Scientists could also take part but not in the way proposed by Bruno Latour - a kind of overriding return of the Republic of *Savants* which informs

politics. Scientific laboratories themselves would be among the places for tangible experience in which the companions would be asked to spend time before taking part in collective decisions.

- 35 This model may seem eccentric but it is not very far from the model used by the French Parliamentary Office for Scientific and Technological Assessment (a joint body of the French *Assemblée nationale* and *Sénat*) which sometimes bases its work on interviews with experts or local politicians and whose members travel throughout France to attain experience which nonetheless is only based on actors' opinions rather than an actual incorporated life experience. This kind of natural politics Workshop would also have the immense advantage of slowing down the decision-making process and basing it on the variable temporality of the experiences of the actors concerned before any reforms are proposed. It would also have the advantage of reversing the Latourian position which sees the planet as an immense field for scientific experimentation. Here, politics would be the field for experimentation based on the experience and knowledge of people, "others" and the significant relations between things and people. Representation would be moved beyond the purely human dimension and tested by the senses and tangible experience before being worked on by the discursive mediations of politics and would thus lose its overriding dominant power. This would also enable the false pretences of participative politics to be bypassed as these are too often dominated by logocentrism and the asymmetries of power and knowledge. Finally this would avoid the procedural standardization of modelling aimed at managing participation which is inattentive to specific local political, cultural, social and environmental features. What would we have to lose?

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NOTES

1. As I will explain later, the term *Modern Philosophy* is used here to refer to the construction of an over-dominant subject - the "master and possessor of nature" - in the framework of the emergence of experimental science and then the philosophy of the *Lumières*.

2. The *Wilderness Act* signed in 1964 defines "wilderness" as *an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain*". Access: http://www.wilderness.net/nwps/legis/nwps_act.cfm. Consulted on 13/09/2017.

3. For want of a better alternative, I shall use the syntagma *socio-anthropology of the environment* to refer to all the disciplinary sectors in the fields of literature, humanities and social sciences which study the relations between societies and environments without prejudging the disciplines concerned or reducing them to just sociology or anthropology. I shall often use the plural *socio-anthropologies of the environment* to avoid giving the impression that a well-defined field might exist with its own doctrinal unity. The term *environmental humanities* exists but reference to the classical "humanities" is questionable for a field which claims to study objects beyond the purely

human dimension. There is no generic name which would identify a question derived from intra- or interdisciplinary territorial rivalries.

4. Science does not exist in an ideology-free vacuum particularly when it may influence thought about the conditions for the survival of humanity in relation with its environment. On this point, I distance myself to a certain extent from G. Guille-Escuret's book (2014). Although his thoughts are always of interest, herein he attempts to draw a strict demarcation line between the scientific and political forms of ecology.

5. The IUCN is the main world non-governmental organization dedicated to the protection of the environment.

6. The Convention on Biological Diversity is an international treaty adopted in 1992 at the Earth Summit in Rio de Janeiro (Brazil). By the end of 1993, 168 States had signed it. Its objectives as stated in its first Article are "the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources".

7. Concerning the IUCN, see for example G. Borrini-Feyerabend *et al.* (2010). This document is not a programmatic text or a convention and instead presents itself more as a guide for best practices based on numerous examples of indigenous territories.

8. In the field of economic anthropology, M. Sahlins (1976) has disproved this ideological preconception.

9. The "Survivre" movement published a journal entitled *Survivre* and then *Survivre... et vivre* which was the first French ecologist periodical. For further information please see the digital versions of the journal, which was first published two years before *La Gueule ouverte* and three years before *Le Sauvage*, and the introduction to the journal by M. Quet which is available on the *Science & société* portal which I administer. Access: <http://science-societe.fr/survivre/>. Also see C. Pessis (2014).

10. One of A. Grothendieck's public conference speeches at the Cern in 1972 was recorded and is available online. Access: <https://www.youtube.com/watch?v=ZW9JpZXwGXc>. A. Grothendieck retired from mathematics research and resigned from the *Institut des Hautes Études Scientifiques* which was partially funded by the arms industry.

11. As a contemporary example, I would like to point out that since 2009 Total has funded a chair at the Collège de France on "Sustainable Development – environment, energy and society". Access: <https://lettre-cdf.revues.org/520>.

12. B. Latour (1994, 1999, 2001) believes that the contemporary stakes in science, techniques and the environment would require there to be new political systems which integrate "causes" which are the subject of debate in society, particularly causes concerning 'non-humans'. This would require a "parliament of things" to be set up composed of spokespeople for the climate, atmosphere, trees, animals, etc.).

13. I would like to thank Jean-François Nominé and Marc Rubio of the Translation Unit at the Inist in Vandœuvre-lès-Nancy, France. The fact that certain concepts required the translator to carry out bibliographic research to find effectively equivalent terminology and discussion between the author, the translator and myself is in itself an interesting phenomenon. It shows that translation is not self-evident and that it is a good thing for this kind of serious work to be carried out rather than contenting oneself with approximate readings of the original on the pretext that French-speaking researchers should be able to understand scientific English. A North American sociology text in English is not as easy to read as one might imagine even with the help of a bilingual dictionary. I would finally also like to point out that the first version of *New Environmental Paradigm* by W. R. Catton and R. E. Dunlap was published in 1978, but that R. E. Dunlap preferred that we translate a later version of the text published in 1980 which had been rewritten and was more satisfactory for the authors.

14. Please see N. Capdevila (1998) on B. de Las Casas and his invention of what we would today call "humanitarian lobbying".

15. Commonly named "Natura 2000", the Council Directive 92/43/EEC dated May 21st 1992 on the conservation of natural habitats and of wild fauna and flora aims to survey, protect and manage "sites of community importance" within the European Union. These sites have been brought together into the Natura 2000 network which was specially created for the purpose.

16. Apart from the text translated for this issue, please also see the retrospective analysis of debate about the *New Environmental Paradigm* by R. E. Dunlap (2002).

17. For a more developed *critique* of the sociology of translation, please see I. Babou (2010, 2016).

18. I borrowed this expression from the environment sociologist S. Juan (2006) who published my book in his collection (Babou, 2009) but nevertheless lengthily explained to me that he fundamentally disagreed with my theoretical approach based on a non-exclusively sociological explanation of social matters.

Translator's note: It is a term coined by S. Juan to combine the names of Émile Durkheim and Marcel Mauss.

19. For a more detailed explanation of this approach to the analysis of movements, please see I. Babou (2016).

20. With its "actors", "allies" and "tests", the sociology of translation is directly inspired by Greimasian semiotics. Please see my remarks on this subject (Babou, 2016).

21. B. Latour includes none of the social sciences in his model apart from economics as if the definition of socio-technical et environmental problems remains the prerogative of natural science or the economic order.

22. We should not consider the time spent by parliamentarians in a given context as a survey in the ethnographic sense of the term but as a sensitive experience of the public's attachments. Of course the political sphere could obtain information from socio-anthropologic works before they began.

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