

To modernize or to ecologize? That's the question*

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I. Will political ecology pass away?

This paper explores the destiny of political ecology. It is very much influenced by the French political situation and the continuing marginality of the various Green parties. It relies on three different strands. First a very interesting model to understand political disputes devised by two French sociologists, Luc Boltanski and Laurent Thévenot in a book that is not yet available in English (Boltanski & Thévenot 1991). Second, a case study by the author on the recent creation by law of what could be called “local parliaments of water” (Latour & Le Bourhis 1995).¹ Third, a long term project in philosophy to develop an alternative to the notion of modernity (Latour 1993) and to explore the political roots of the notion of nature.

* This paper is an English version of an article originally published in French Latour, B. (1995). “Moderniser ou écologiser. A la recherche de la septième Cité.” *Ecologie politique*(13): 5-27. It is part of a longer project of the Centre de sociologie de l’innovation on the novelty of political ecology. It is thus very dependant on the many case studies pursued there on water politics, waste management, history of ecology and political science. I owe a special debt to Charis Cussins and David Western who have shaped most of the arguments here presented (for which of course there are in no way responsible).

¹ All the quotations by officials and activists on water used in the present article are taken from this study. The new law of 1992 on water requires catchment of sensible rivers to be represented in “Commissions locales de l’eau” (CLE) which are a very original experiment in the French context since they aim in part to make politically visible the river’s health and sustainable good .

The point of the paper can be stated very simply: political ecology cannot be inserted into the various niches of modernity. On the contrary, it requires to be understood as an alternative to modernization. To do so one has to abandon the false conceit that ecology has anything to do with nature as such. It is understood here as a new way to handle all the objects of human and non-human collective life.²

For the last ten years or so, the question has arisen as to whether the ecomovement is in fact a new form of politics or a particular branch of politics. This uncertainty is reflected in the difficulty that the environmental parties have experienced in carving out a niche for themselves. On track for rapid integration into people's everyday concerns, environmentalism could well follow in the footsteps of the nineteenth century hygiene movement -- a movement with which, obvious differences notwithstanding, it has a great resemblance ³ -- with the defence and protection of the environment becoming a feature of everyday life, rules, regulations and government policy, just as as preventive vaccination, the scientific analysis of water quality and health records did. One would no more drop litter in the woods than spit on the floor, but that does not make habits of good manners and civility into an entire political project. Just as there is no 'hygienists' party' today, there will soon be no green party left. □ All political parties, all governments and all citizens will simply add this new layer of behaviour and regulations to their everyday concerns. A good indicator of this progressive normalisation of ecologism will be the creation of specialised administrative bodies, like those for Bridges and Highways or Water and Forests, which would be all the more effective since they would be cast in the mould of the well-established de-politicising tradition of public-sector administration (Lascoumes 1994)

The inverse solution consists of making ecology responsible for all of politics and all of the economy, on the basis of the argument that everything is interrelated, that humankind and nature are one and the same thing and that it is now necessary to manage a single system of nature and of society in order to avoid a moral, economic

² "Non-human" is my technical term to designate objects freed from the obligation to do politics through nature. Nature is here considered as what assembles all entities into one whole. It is thus a political definition that is sometimes opposed to human politics or, as is the case here, merged with politics. On the genealogy of this bizarre way of doing politics through the notion of a nature cast away from all human politics, see Latour 1997.

³ For a comparison of health and ecology see D. S. Barnes (1994), W. Coleman (1982) and R. J. Evans (1987). The anthropocentrism of the 19th-century health movement clearly distinguishes it from ecology. Nobody championed the cause of miasmas and microbes .

and ecological disaster. But this ‘globalisation’ of environmentalism, even if it constitutes the common ground of numerous militant activities and of the public imaginary at large, still doesn’t seem to replace the normal domain of political action.

As convinced as its adherents might be, this submersion of all politics and all of society into nature seems unrealistic. It would appear to lack political sense and plausibility, for at least two reasons that are easily understood.⁴ In the first place, the nature whole into which politics and human society would supposedly have to merge transcends the horizons of ordinary citizens. For this Whole is not human, as is readily seen in the Gaia hypothesis (Lovelock 1979) Second, the only people who would be capable of defining these connections and revealing the infinitely complex architecture of this totality, would be specialists whose knowledge and breadth of view would remove them from the lot of common humanity (Lafaye and Thévenot 1993). In any case, these scientific demigods would not belong to the ordinary rank and file of county councils, administrative boards and local organisations. Accepting that ecology bears on every type of connection would be thus to lose sight of humanity twice: first to the advantage of a unity superior to humankind, and second to the advantage of a technocracy of brains that would be superior to poor, ordinary humans.

Consequently, on the one hand, ecology integrates itself into everyday life without being able to become the platform for a specific party and, on the other, it becomes inflated to the point of assuming responsibility for the agendas of all the other parties, while handing the pen to men and women who do not belong to the world of politics and who speak of a global unity which no longer has the political domain as its horizon.

However, practical experience does not confirm either of these two extreme hypotheses.⁵ Militant action remains both far more radical than one would believe if the hypothesis of ecology becoming a fact of everyday life was correct -- nothing to do, in this respect, with hygiene which was always the concern of a few prominent

⁴ Apart from the many reasons specific to France developed in A. Roger and F. Guéry (1991). France is interesting because the idea of a nature untouched by human hands does not have the evocative strenght of what it has in the United States or Germany.

⁵ Bryan Wynne in England, Charis Cussins in the United States, Camille Limoges and Alberto Cambrosio in Quebec, Rémi Barbier in France, and several others, have begun to collect detailed analyses on the practical work of militant ecologists. It would be interesting to make a systematic comparison which, to my knowledge, has not be attempted. But see Western et al. (1994) for the case of “community based conservation”.

administrators -- and far more partial than it should be if one were to accept the hypothesis of globalisation. It is always this invertebrate, this branch of a river, this rubbish dump or this land-use plan which finds itself the subject of concern, protection, criticism or demonstration.

In practice, therefore, ecological politics is much less integrable than it fears, but a lot more marginal than it would like. To express this paradox of totality in the future and present marginality, there is no shortage of formulae which enable it to get out of the problem: 'think globally, act locally,' integrated management, new alliance, sustainable development, and so on. According to political ecology, it should not be judged by its modest electoral results.⁶ It begins with individual cases, but it will soon, slowly but surely, incorporate them all into a general movement that will end up embracing the whole earth. According to political ecology, the courage to address itself to small causes rightly comes from the certain knowledge that it will soon have to assume responsibility for all the major issues.

If this were indeed the case, we should be witnessing the rise, perhaps hesitant but certainly irreversible, of a political ecology taking up, day after day, the whole task of political life. Yet the scenario of ecology becoming a synonym for politics seem increasingly improbable. This is certainly the case in France where, although the number of environmental parties is increasing, they still do not account for more than five per cent of the votes, and even this total appears to be declining. In spite of the presence of three candidates in the 1995 French presidential elections, green parties could well go out as they came in, like any other passing trend. For a party that must take responsibility for Mother Earth herself, there is more than one problem in this continuing marginalisation. It is a challenge that is making it necessary to rethink the very basis of its aspiration to become global.

In this paper, I would like to advance the hypothesis that the rise in power of political ecology is hindered by the definition it gives itself, as both politics and ecology! As a result of this self-definition, the practical wisdom acquired after years of militant action is incapable of expression by a principle of classification and ordering -- about which I'll say more below -- that would be politically effective. □

⁶ I have used the term "political ecology" patterned out of the very well know term "political economy" to designate not the science of ecosystems -ecology-, nor the day to day political struggle - Green parties-, but the whole interesection of political philosophy of human and non-humans. In the course of this paper the meaning is going to shift from a concern for nature to a concern for a certain way of handling associations of human and non-humans that would be an alternative to modernization. Hence the rather idiosyncratic sense of the expression. For two militant but directly opposed classifications, see M. W. Lewis (1992) and C. Merchant (1992).

As the prophet Jonah said of the Hebrew people, “it can’t tell its left from its right.” Without this principle of ordering, political ecology makes little impact upon the electorate and does not manage, using all the arguments that it nevertheless so effectively reveals, to develop lasting and consistent political viability.

II. Is political ecology an original type of justification?

In their pioneering work, Boltanski and Thévenot have offered us the ideal acid test to see whether or not political ecology can survive as an original form of politics, or if, on the contrary, it can easily be dissolved into very ordinary regimes which have been put in place during the last century or so.

By studying in details how ordinary people engaged in disputes over right and wrong justify their action, these authors have been able to identify six different regimes of justification (which they call ‘Cités’ in French). The novelty of their approach is to have proven that each of those regimes is complete although utterly contradictory with the others. In other words, it is possible to demonstrate that in contemporary French society, people engaged into disputes, may ascend to six different overarching principles (‘principe supérieur commun’), each of them engaging a full-fledged and coherent definition of what humanity should be (‘principe de commune humanité’). Each regime is the result of a long history of political philosophy, and has now become an everyday competence activated easily by every member of the society. Each of them defines through trials a scale of right and wrong (‘grandeur’ et ‘petitesse’), that allows one to pass judgement and to settle disputes. Each of them, and that is the great strength of the model, allows to denounce the others because they lack morality or virtue.⁷

We do not need to go into the details of this majestic theory. For the present paper, the great interest of this model is that it allows to test whether or not political ecology offers a new principle of justification, or if it can be reduced to the six other

⁷ The book offers thus a general “grammar of indignations” that accounts for one of the most puzzling features of contemporary societies: the intensity of moral disputes, the absence of one overarching principle that would include all the others, the ease with which, nonetheless, every member passes judgment as if there existed one such unique principle. The work of Boltanski and Thévenot is the first in sociology to take seriously the work of justification that is a central part of social action. But they do not simply add moral and political considerations to the study of social forces. They have found a very original and productive way to compare moral and political actions.

which have been sedimented through the course of time. Is political ecology old wine in new bottles, or, on the contrary, new wine in old bottles?⁸□

At first glance, the answer is clear. There can be no ‘ecological regime’ since it is very easy to show how any of the empirical sites tackled by green politics borrows its principle of justification to one of the six Cities already in place --in fact we will limit ourselves here to the Domestic, Civic, Industrial and Commercial regimes of justification.

The majority of issues considered -- in the case of the landscape, water and waste, natural parks etc. -- can be related easily to what Boltanski and Thévenot call the ‘domestic regime’, the principle of which is to justify the worth of a human by the quality of his lineage and the solidity of his roots. And it is true that many practical disputes in ecology are always a question of defending a particular territory, a particular aspect of national heritage, a particular tradition or a territory against the de-sensitised, de-territorialised, stateless, monstrous character of an economic or technical enterprise. Starting from these principles of justification, one can denounce the ‘industrial regime’ and, more recently, the ‘civic regime’ without scruple. This is probably why political ecology appeared so original in the beginning. In short, it gave back value to the ‘domestic regime’ which two centuries of republican and revolutionary spirit had reduced to a mere ‘domesticity,’ to the domain of the home. Thanks to ecology the domestic domain became once more what it was before the Revolutionary ethos.

The curious alliance between conservatives, conservationists of heritage and nature conservationists would thus be easily explained. Against the ‘civic’ and ‘industrial regimes,’ another justification has been revived after centuries of pitiless denunciation. By attacking a bullet-train line, by protecting a garden, a rare bird’s nest or a valley spared by the suburbs, one could finally be simultaneously reactionary and modern. In short, the originality of ecology would only last long enough to partially rehabilitate the quality of the private domain. Nature, it is easy to see, is becoming as ‘domestic’ in the Vallée de Chevreuse as among the Achuars.⁹□ In this revamped ‘domestic regime’ the state of highness is achieved by

⁸ I was inspired by similar attempts to use the same model, by Barbier (op.cit), Lafaye & Thévenot (op. cit.) and O. Godard (1990)

⁹ Philippe Descola (1986 english translation 1993) and all the work carried out by the author since 1986 on the appropriation of the social world, especially his article on the non-domestication of the peccary in Latour and Lemonnier (1994) and Descola and Pallson (1996).

ancientness, by durability and by familiarity; the state of smallness, by the anonymity of people without roots nor attachments.□¹⁰

If many burning issues of political ecology can be reduced to the “domestic regime”, other issues can be reduced even faster within the ‘industrial regime’ (Barbier 1996)□. This is the case notably in all the battles over waste, pollution and the like.□¹¹ Here again, the originality of ecology disappears rapidly in favour of equipment and regulations designed to end waste and reduce pollution. After the initial cries of horror at the accounts to be balanced, the costs to be met and the equipment to be installed, it is ‘business as usual’ for ecology in the ‘industrial regime.’ Domestic waste is becoming a raw material that is managed like any other raw material by simply extending the production process. Pollution rights are traded on a market in environmental goods which is fast ceasing to be exotic. The health of rivers is now monitored like the health of the workforce. It is not worth treating

¹⁰ It should be remembered that the regimes model makes it possible to classify human beings, from the most lowly to the most elevated, according to a principle that is constant inside each “Cités” but which varies from one regime to the text. “Smallness” and “highness” (“petitesse” and “grandeur”) are thus at once both ordered and multiple. Someone “small” in one regime maybe “high” in another. This is the source of most denunciations and what allows the grammar of indignations to be mapped out.

¹¹ In the industrial regime highness is achieved by efficiency, and smallness by waste. Here is a typical comment by a Department of Agriculture representative concerning the treatment of the River Gardon: “The river has been completely destroyed by flood channels, which were cleared with the approval of government departments. This complete destruction serves no purpose in the event of flooding, and destabilises the river -- to the point that ground sills have had to be constructed -- by causing part of the water table to disappear: this is an absurd system.’ This high official does not pit the river *per se* and its interest, against the human needs for order and efficiency. On the contrary, he takes the new respect for the river’s own impetus as one way to gain a faster, less expensive and less wasteful leverage on the other agents. The appeal to the river, is here clearly reducible to the ancient industrial order as in this excerpt with another high official --a polytechnician in charge of one of the water bassin: “Engineers only think about the anthropic aspect of things; they can’t realize that on the long range the respect for Nature will be beneficial; it does not cost more to be soft or to be hard, except that the soft approach requires much more work and attention at the beginning before the companies are fully trained.” This engineer adds an automat to all the automats that make up the world as in this sentence where he explains why he has been converted to the softer sustainable development approach: “I have been converted by the aesthetic aspect of things, by the protection of the landscape, then by ecology; in term of long term management, it is better with a river that self-regulates itself itself than with a river that is degradating itself all the time”.

ecology as a separate concern; it is more a question of using it to explore new and profitable business opportunities. There was a waste problem. We put an end to it. There was a pollution problem. We put an end to it. It is now only a question of controlling, monitoring and managing. That's all there is to it. *Exit* the bearded and hairy ecologists: they've become obsolete.

Are the ecological issues that cannot be reduced to the "domestic" or "industrial" regime, a proof that there is something original in political ecology? No, because they can appear --although it is slightly less straightforward-- reducible to a third regime, the one that Boltanski and Thévenot call the "civic regime" and that is defined by "general will". In this regime, worth is defined by the ability of one agent to disentangle oneself from particular and local interests so as to envision only the General good. In its aspirations to globality, ecology encounters in the definition of the general will an opponent which is all the more formidable since it has the support of almost all mainstream political institutions since the mid XVIIIth century.

Here again, it seems, ecologists do not manage to establish their justifications for long and cannot claim to represent more than one lobby among many. Although some Green party may speak in the name of the common good, it is always the elected mayor who signs the land-use plan and not the association that is defending, often for its own petty reasons, some end of a garden, some bird, some snail or other (Barbier 1992); it is the local government who closes a polluting factory and not the manufacturer who, in the name of efficiency, is exploiting employees; it is the Water Board who protects resource for everyone and not the angling association which has its own fish to fry. Rehabilitating domestic traditions and extending efficiency to include natural cycles is one thing; directly opposing the general will on such terrain is quite another and an extremely delicate issue. □¹²

The new compromise that enables the 'civic regime,' without modifying itself in any lasting way, to absorb most ecological issues consists in extending the electorate deemed to participate in the expression of the general will to include future

¹² □ Two opposite points of view are clearly expressed, the first by a staunchly militant ecologist, and the second by an elected -- communist -- representative and teacher: 'Elected representatives protect their electors, we are protecting a population in its environment, in its totality, everyone else is protecting their own interests, their own particular clique, even fishermen protect their fish, only ecologists are disinterested.' The other replies: 'When you create facilities, you automatically make enemies, it's part of being a statesman, it's what politics is all about. I am not an enemy of the ecologists, but there is a collective interest that must come before individual interests.'

generations of citizens. □¹³ Future generations are indeed mute, but no more so than the minors who have just been born, the ancestors who are already dead, the abstainers who are said to “vote with their feet”, or the incompetents which have rights through various sorts of stewardships. At the cost of a slight enlargement in the number of electors, the ‘civic regime’ can absorb most of the issues pending. At the cost of a delicate compromise with the ‘domestic regime,’ it could even reconstruct this “community of the dead and the living”, which would permit it to be of both on the Right and on the Left, thus casting its net wide and thereby diluting the green vote even further.

On the basis of these various reductions, there would therefore be no ‘ecological regime’ since the issues that it raises can all be resolved in the ‘domestic,’ ‘industrial’ and ‘civic regimes’. What is left could easily be pigeonned-holed into the ‘commerce regime,’ as can be witnessed in the unashamed processing of the numerous ‘green products,’ ‘green labels’ and other ‘natural’ products. □¹⁴ With this hypothesis one could account for the necessarily ephemeral vogue for ecology.

If we follow this not very charitable reduction, we could say that there is no durable originality in the political philosophy of ecology. To be sure on seeing the irruption in debates of waterways, landscapes, noise, dustbins, the ozone layer and unborn children, it was some time before civil society recognised its ancient

¹³ This is the solution explored by Godard (op. cit.). See also the classic work of E. Weiss-Brown (1989). Witness the increase in generality on the part of the mayor of a tiny village in the Côte d'Or region of France who is addressing a local meeting on water. He turns to a Cistercian monk --who is present in the local parliament of water because his monastery has been diverting water from the river since the XIIth century!-- to call him to witness: ‘Be fruitful, and multiply and control the Earth.’ That’s in the Bible! Father Frédéric will not say otherwise, it is essential for our grandchildren to have clean water.’ (We can note in passing that the theological theme of the Creation is interpreted here in a somewhat contradictory manner since, in giving freedom to his creature, God gave man a level of control that he denies himself to his fellow creatures. We only have to treat nature as our Creator treated us, to completely overturn the supposed link between Christianity and control over nature.)

¹⁴ Witness this remark by one of the few French elected representatives who is an ecologist, and who boldly combines a concern for nature with civic concern for the region and concern for the market economy: ‘Upstream the region Limousin wants the most natural river water and environment possible, not for itself but for economic development. The preserved part of the environment is our trump card, we cannot make up for thirty years of heavy industry, we must not oppose ecology and economy, we are not yet polluted, we have 700,000 inhabitants, we can play the quality-of-life card.’

preoccupations.¹⁵ □ This is why for several years, many have believed in the originality of this new social movement before realising that it did not, underneath it all, pose any real threat. We remains humans, after all, despite taking nature into account. Consequently, as the old regimes regain their importance, the originality of ecology is being gradually eroded and its electoral favour dwindles with each election.

Another reason would make the failure of the environmental parties inevitable. Outside the ‘civic regime,’ a party has no chance of situating itself within the classic framework of the Left--Right scenography. Trying to define a super-will is at once accepting the classic framework of political life, but hurtling toward defeat if one can only oppose the habitual spokespersons and electors with mute entities -- birds, plants, ecosystems, catchment areas and biotopes -- or specialists -- scientists, fanatics, experts, activists -- speaking in their name but on their own authority. Without a new type of spokespersons, natural entities have no voice or are only represented by a specialist knowledge that is incommensurable with public life. □¹⁶ By becoming a party, political ecology was forging ahead. But by rejecting party life, it would run the risk of becoming either a branch of the associated movements for domestic community or else a specific sector of industrial or market production.

III. Should we abandon the principle of common humanity?

To escape this horrible fate it would seem that there is but one solution, and that is to depart from the model of Boltanski and Thévenot by abandoning its principal axiom, that of common humanity. All the regimes developed by the six types of

¹⁵ How long will it be before the self-interest anthropocentrism behind this phrase will be recognized: “The river Gardon is an umbilical cord, we are all very much attached to it, in the final analysis we have neither the right to pollute it, nor to harness it, so as not to deprive others of an element that they need, we will inevitably have to work out a way of sharing”? Or behind this other phrase that gives the river free rein while at the same time draining European Community funds: “On the lower river Doubs farmers wanted to keep the river in check with stone pitching, but the policy was blocked in favor of creating a free meandering section of the river, where farmers change their crops in order to receive subsidies under the European Community article 19 on agro-environmental measures”?

¹⁶ Scientific knowledge continues to remain, with extremely rare exceptions, a blackbox in the ecomovements, where the social sciences rarely serve as a point of reference for opening controversies between experts. See Latour, Schwartz and Charvolin (1991).

political philosophy have humanity as their measure. They disagree on how to rank humanity and about the yardstick that allows to order smallness and highness in each of the six “Cités”, but they all agree that “humanity is the measure of all things”. This is what make these six principle of justification, no matter how contradictory with one another, all completely incompatible with the racist or eugenic or social darwinist reactionary politics developped during the last century. How is it possible to abandon the notion of common humanity, without immediately falling into the danger of “biopolitics”? The standard answer is that ecology is not no longer about humans -- even extended to include future generations -- but about nature, a higher unity which would include humans among other components associated with other ecosystems.

We saw above the political incoherence of this solution. How can political life be mixed up with a total unity -- nature -- which is only known by the science of complex systems? At best, one would arrive at a sort of super-Saint-Simonism, a government of experts, of engineers and of scientists who would abolish the difference between the ‘civic regime’ and ‘industrial regime’ by the controlled management of natural cycles. At worst, it would lead to an organicism which would abolish the difference between the ‘domestic regime’ and all the other regimes, and which would be prepared to sacrifice ‘mere humans’ to maintain the only truly worthy object: Mother Earth. Perish humanity so long as elephants, lions, snails, ferns and tropical rainforests recover their ‘equilibrium’ of yesteryear: the permanently disequilibrating state of intense natural selection. □¹⁷

It is difficult, one would imagine, to present oneself in front of one’s electorate with a programme that envisages the possibility of making them disappear in favour of a “congress of animals” who don’t even vote or pay taxes! As for abandoning the framework of elections altogether, one could certainly do that, but it would be in the name of a fundamentalism that would abandon democracy once and for all. And to whose advantage? Leaders directly inspired by nature? Or mad scientists versed in the sciences of complexity? Faced with such an alternative, the reaction of the ordinary citizen is understandable: ‘I would rather live a shorter life in a democracy than sacrifice my life today -- and that of my descendants -- to protect a mute nature represented by such people.’ One can see the difficulty of discovering the ‘seventh regime,’ which now resembles those cities, lost in the jungle, that the ‘raiders of the lost ark’ hoped to find.

¹⁷ □ For a detailed criticism of the theory of natural balance, see D. B. Botkin (1990). For its history, see J-M. Drouin (1991).

Either one accepts the principle of common humanity, and then there is no longer the slightest originality in political ecology which reduces, with more or less difficulty, to the three (or six) other regimes. Alternatively, by retaining the originality of political ecology, i.e. its equal concern for non-humans and humans, one departs from the framework of the most elementary morality and the healthiest of democracies. Faced with such intellectual dilemmas, one can understand why the environmental parties have considerable difficulty explaining to themselves, to their members and to their electors the meaning of their fight

IV. What if ecology did not concern itself with nature?

Perhaps we've taken the wrong route. Perhaps we have misunderstood the model that has guided us thus far. Perhaps we have too slavishly followed what political ecology says about itself without paying enough attention to its practice which, happily, differs greatly from its explanations of itself. It seems, in fact, that the originality of political ecology is a lot more subtle than we have so far imagined it to be.

Let us reconsider things by measuring the distance that separates practice from self-representation by setting up two contrasting lists: the first states what political ecology believes it ought to do without really managing to do; and the second sets out the advantages of not following the ideals that it flaunts with so much obstinately.

What ecology believes it ought to do without managing to do

Political ecology claims to talk about nature, but it actually talks about endless imbroglis which always involve some level of human participation:

-- It claims to protect nature and shelter it from humans but, in all the empirical cases that we have read or studied, this actually amounts to greater human involvement and more frequent, increasingly subtle and more intimate interventions using increasingly invasive scientific equipment (Chase 1987; Western and Pearl 1989; Western et al. 1994)

-- It claims to protect nature for its own sake -- not as a substitute for human egoism -- but at every turn the mission it has set itself is undertaken by men and women who see it through, and it is for the welfare, pleasure or conscience of a small number of carefully selected human beings that one manages to justify it.

-- It claims to think with systems known by the laws of science, but every time it proposes to include everything in a higher cause, it finds itself drawn into a scientific controversy in which the experts are incapable of coming to agreement.¹⁸□

-- It claims to take its scientific models from hierarchies regulated by cybernetic control systems, but it is always displaying surprising heterarchic assemblages whose reaction times and scales always catch off balance those who think they are talking of fragility or of solidity, of the vast size or of the smallness of nature.

-- It claims to talk about everything, but only succeeds in shaking up opinion and modifying power relations by attaching itself to particular places, biotopes, situations and events: two whales trapped in the ice, one hundred elephants in the Amboseli National Park (Cussins 199-) or thirty platane trees on the Place du Tertre in Paris.

-- It claims to be becoming more powerful and to embody the political life of the future, but it is everywhere reduced to the smallest share of the electoral ejector and jump seats. Even in countries where it is a little more powerful, like Germany, it only brings to bear a secondary force.

One could despair at this severe appraisal. But one can also seize all the advantages that there would be if political ecology were to disabuse itself of its own illusions. Its practice is worth infinitely more than its utopian ideals of a natural super-regime, managed by scientists for the exclusive benefit of a Mother Earth who could at any moment become a cruel or unnatural mother.

Let's return to the list of its misconstruals, now considering the 'defects' of its practice as just so many positive advantages. The encrypted message which permits the discovery of the lost city is immediately illuminated by a new meaning.

What ecology (happily) does extremely well

-- Political ecology does not and has never attempted to talk about nature. It bears on complicated forms of associations between beings: regulations, equipment, consumers, institutions, habits, calves, cows, pigs and broods that it is completely superfluous to include in an inhuman and ahistorical nature. Nature is not in question in ecology; on the contrary, ecology dissolves boundaries and redistributes agents and thus resembles premodern anthropology much more than it thinks.¹⁹□

¹⁸ For a caricature of an appeal to scientism that is nonetheless unable to eliminate scientific controversies, see Ehrlich and Ehrlich (1997)

¹⁹ See P. Descola op. cit. and, for a recent analysis, M. Strathern (1995). See also Western et al. (1994) on 'community based conservation' and the recent work of Charis Cussins (op.cit.).

-- Political ecology does not seek and has never sought to protect nature. On the contrary, it wants to take control in a manner yet more complete, even more extensive, of an even greater diversity of entities and destinies. To the modernism of world domination, it adds modernism squared.²⁰ □

-- Political ecology has never claimed to serve nature for its own good, since it is totally incapable of defining the common good of a dehumanised Nature. It does better than protect nature (either for its own sake or for the good of future generations). It suspends our certainties with regard to the sovereign good of human and non-human beings, of ends and means.

-- Political ecology does not know what an eco-political system is and does not rest on the insights of a complex science whose model and methods would, anyway, if it existed, totally escape the reach of poor thinking and (re)searching humanity. This is its great virtue. It doesn't know what makes and doesn't make up a system. It doesn't know what is and isn't connected. The scientific controversies in which it becomes embroiled are precisely what distinguish it from all the other politico-scientific movements of the past. It is the only one that can benefit from another politics of science. Neither cybernetics nor hierarchy make it possible to understand the agents that are out of equilibrium, chaotic, Darwinian, as often as they are global, sometimes rapid, sometimes slow, that it brings into play via a multitude of original experimental devices whose mixed unity precisely does not -- and this is the point -- form an exact and definitive science.

-- Political ecology is unable and has never sought to integrate all its very meticulous and particular actions into a complete and hierarchised unity. This ignorance with regard to totality is precisely its saving grace since it can never rank small human beings and vast ozone layers, or small elephants and middle-sized ostriches, into a single hierarchy. The smallest can become the largest. 'The stone that was cast aside has become the corner stone.'

Political ecology has, fortunately remained marginal until now because it has not yet grasped either its politics or its ecology. It believes it is speaking about nature, the system, a hierarchised totality, a world without human beings, a certain science, and it is precisely these too well-ordered statements that marginalises it, while the hesitant statements of its practice would perhaps permit it finally to attain political maturity if only it could grasp their meaning.

²⁰ □ A position which is particularly clear in Lewis (1992). See also Latour (1994b) on this constant involvement.

By comparing those two lists, one can see the new solution towards which we can now turn. If we leave aside the over-lucid explanations that ecology gives of itself, and focus solely upon its embroiled practical application, it becomes a completely different movement, a wholly other destiny. Political ecology makes no mention of Nature, it does not know the System, it buries itself in controversies, it plunges into socio-technical imbroglios, it takes control of more and more entities with more and more diverse destinies, and it knows less with any certainty what they all have in common.

V. What is common in the expression “common humanity”?

Before crying paradox, an attempt should be made to explore this new avenue. Messages, even decoded, can have a double meaning.. Now, if we return to the regimes model, we can see that, at the price of a fundamental but minuscule reinterpretation of the central axiom, the ‘seventh regime,’ which had escapes our looking for so long, suddenly emerges like Merlin’s castle.

What in fact is ‘common’ humanity? Boltanski and Thévenot were content with the usual reading offered by the canonical commentators of political philosophy they chose to consider. They took for granted the detached human offered to them by the humanist tradition, the human whose ultimate risk would be to be confused with a-human nature.²¹ But non-human is not inhuman. If ecology has nature as its goal and not humans, it follows that there can be no regime of ecology. But if the aim of ecology is to open up the question of humanity, it conversely follows that there is a ‘seventh regime.’²² The meaning of the adjective ‘common’ in the expression ‘common humanity’ changes totally if the non-humans are not ‘nature.’²³

²¹ This is what Luc Ferry did with great efficacy, successfully killing much of the French intellectuals’ interest in ecology (Ferry 1992) (English translation I think).

²² As we will see below, deep ecology is no more part of ecology than the cartesian forms of humanism because it does close off the question that was just reopened, by stating unequivocally that “humanity is obviously part of nature”.

²³ In fact ‘nature’ is merely the uncoded category that modernists oppose to ‘culture’, in the same way that, prior to feminism, ‘man’ was the uncoded category opposed to ‘woman’. By coding the category of ‘natural object’, anthropological science loses the former nature/culture dichotomy. Here, there is obviously a close link with feminism. See D. Haraway (1991). Nothing more can be done with nature than with the older notion of Man.

The question opened up by the ‘seventh regime’ is to know what would a human be without elephants, plants, lions, cereals, oceans, ozone or plankton? A human alone, much more alone even than Robinson Crusoe on his island. Less than a human. Certainly not a human. The regime of ecology does not at all say that we should shift our allegiance from the human realm to nature. That is why it has taken so long to find it, for that requirement appeared too absurd. The regime of ecology simply says that we do not know what makes the common humanity of human beings and that, yes, maybe, without the elephants of the Amboseli, without the meandering waters of the Drôme, without the bears of the Pyrenees, without the doves of the Lot or without the water table of the Beauce they would not be human.

Why don’t we know? Because of the uncertainty concerning the relationship between means and ends. To define ecology, it might be sufficient, strangely enough, to return to the definition that Kant gives of human morality, a definition that is so well known that people forgot to see that it is in fact wonderfully apposite for non-humans. Let us get back to this most canonical of all definitions:

“Everything in creation which he wishes and over which he has power can be used merely as a means; only man, and, with him, every rational creature, is an end in himself. He is the subject of the moral law which is holy, because of the autonomy of his freedom. Because of the latter, every will, even the private will of each person directed to himself, is restricted to the condition of agreement with the autonomy of the rational being, namely, that it be subjected to no purpose which is not possible by a law which could have its origin in the will of the subject undergoing the action. This condition requires that the subject never be used simply as a means but at the same time as an end in itself.’ (Kant 1956: 90)□²⁴

The style is abominable, but the thought is clear. In this definition of morality only the first sentence, which presupposes a creation composed of mere means presented to human ingenuity needs to be modified. Let us generalise to all the beings of the Creation the aspiration to the kingdom of ends. What do we find? An exact definition of the practical connections established by ecologists with those they are defending: rivers, animals, biotopes, forests, parks and insects. They do not at all say that we should not use, control, serve, dominate, order, distribute or study them, but that we should, as for humans, never consider them as simply means but always

²⁴ L. Ferry (1992) rightly wanted to refer to Kant, but chose the wrong critique, opting for the aesthetics of the third rather than the morality of the second.

also as ends. What doesn't hold together in Kant's definition is the truly incredible idea that simple means could exist and that the principle of autonomy and freedom would be reserved for man in isolation, i.e. for the inhuman. On the other hand, what doesn't hold together in ecology's theories is the improbable belief in the existence of a nature external to humans and threatened by the latter's domination and lack of respect.²⁵ □

Everything becomes clear if one applies this admirable Kant's sentence to elephants, biotopes and rivers: 'that [they] be subjected to no purpose which is not possible by a law which could have its origin in the will of the subject undergoing the action [let's say, the actor itself]. This condition requires that the subject [the actor] never be used simply as a means but at the same time as an end in itself.' It is this conjunction of actors who can never take each other as simple means which explains the uncertainty into which we are plunged by the 'seventh regime.' No entity is merely a mean. There are always also ends. In other words, there are only mediators.

Let's come down from the heights of moral philosophy to listen to what the actors engaged in the defence of, for example, a river have to say. 'Before, water went its own way,' says an elected representative, 'it was part of the furniture, it was part of the environment.' This paradoxical statement gives a clear indication of the status of water which, contrary to ecological myth, passes from the outside to the inside of the social world. Whereas it was a simple means, part of the furniture, it now has become the subject of political concern. To enter the realms of ecology, it must leave the environment. But the paradox is resolved by ecologists themselves: "We are defending the fulfilment of the river, the river outside any human context, the river-river," says one activist, seeming to justify the outrage of the moralists and seeming to follow to the letter the mythologies of this social movement. But then he immediately adds: "When I say the river outside of its human context, I mean the aggressive human context that treats the river solely as a tool." And here he is applying Kant's slogan to the letter. He is not defending the river for its own sake, but he doesn't want it to be treated simply as a means. □²⁶

²⁵ Since the classic work of C. D. Stone (1972) lawyers have gone much further than political philosophers in the invention of partial rights that turn simple means into partial ends, see for example M-A. Hermitte (1996) on the tainted blood scandal which is much more typical of "ecological" issues in France than anything related to "nature".

²⁶ Rivers are a wonderful source of conflict between the "civic" and "green" reegimes. Since large towns and cities are usually situated on their lower reaches, the general will rapidly reaches an agreement to sub-represent the depopulated, rural upper reaches.

By adopting this perspective, one understands that the ambiguous phrases that seemed to be easily reducible above to the ‘industrial regime’ -- because that regime does not take account of nature solely for itself but also for the good of humans -- explores in fact a “seventh” type of regime, by applying the (slightly rewritten) Kantian law:

“You have to be extremely humble when dealing with a river,” explains one water-authority engineer. “You pay for work which takes you the next thirty years to complete. In work carried out to increase productivity it’s necessary to get rid of the water, to straighten, clean and calibrate -- that was the watchword. We didn’t know that rivers took their revenge by regressive erosion that we corrected with pseudo-natural sills. It’s a slow process, there are still local agricultural authorities where a river after land consolidation appears as a drainage ditch on the map! Fortunately, there is a great deal of pressure from anglers and nature conservationists. There is a clear generation gap; they all talk about the natural environment but, in the same corridor, you can have a bloke who makes everything straight and consolidates land with a vengeance, while another puts back in meanders and “chevelus”²⁷”.

Such an analysis does not confirm either the notion of nature saved for its own sake by sacrificing human interests or that of free human beings dominating nature to promote their own freedom alone. A canalised river is seen as something bad and undesirable within the ‘seventh regime,’ not because this futile development will be seen as expensive -- taking thirty years to complete and being quickly eroded -- but because the river has been treated as merely a mean, instead of also being taken as an end. By conspiring with a “law which could have its origin in the will of the subject undergoing ther action,” according to the Kantian expression, rivers are allowed to meander again, to keep their dishevelled network of rivulets, to have their flood zone. □²⁸ In short, we leave the mediators partially to deploy the finality which is in them.²⁹ □

²⁷ “Chevelus” is the technical term used in French to describe the network of rivulets that have the shape of dischevelled hair and are visible either in flood zones, in deltas or near the sources.

²⁸ There is no anthropomorphism in the reference to the river taking its revenge, merely the sometimes painful revelation of a being in its own right with its own freedom and its own ends. A surprising remark from a water specialist, trained from his youth in the culture of the water-pipe and who admits: “Nobody imagined that their isolated actions would have repercussions, nobody thought we could dry up the river, nobody thought that removing the gravel in one place would lay bare the

VII. An alternative to modernisation

This suspension of certainty concerning ends and means defines another scale in the regime of ecology which, this time around, cannot be reduced to the other regimes of political philosophy. There is a scale though, like for all other regimes, and trials that rank very precisely smallness and highness. In the “Green city” what is small is knowing for sure that something has or, conversely, has not a connection with another, and knowing it absolutely, irreversibly, as only an expert knows something. Someone has value in the “green city”, some one is high when it leaves open the question of solidarity between ends and means. Is everything interrelated? Not necessarily. We don’t know what is interconnected and woven together. We are feeling our way, experimenting, trying things out. Nobody knows of what an environment is capable.³⁰□

One of the advantages of this definition of the scaling inside the Green regime is that it removes an obstacle that had slowed everyone down in the march towards the lost city. In spite of its claims, fundamentalist ecology, or “deep ecology”, occupies the state of Worthlessness in the ‘seventh regime.’ The more certain an ecology is that everything is interrelated, seeing humans simply as a means of achieving Gaia, the ultimate end, the more worthless that ecology. The more strident, militant and assured it is, the more wretched it is. Conversely, the state of highness peculiar to this ‘seventh regime’ presupposes a deep-rooted uncertainty as to the nature of attachments, their solidity and their distribution, since it only takes account of mediators, each of which must be treated according to its own law.

One can understand how such an outcome has, for a long time, concealed the lost regime under a thick camouflage of foliage. Political ecology can only come to fruition on condition that those who have terrorised it thus far are reduced to their rightful place. Fundamentalist ecology has, for a long time, fulfilled the same role

foundations of the bridge in the village of Crest twenty kilometres away. You have to experience extreme situations before you realize.”

²⁹ We must obviously return to the difference between necessity and freedom and invest the sciences with a role that is both more important and more anthropological. See B. Latour (1996).

³⁰ An important advantage of this regime is that it can absorb Darwinsim which, of course, has nothing to do with social-Darwinism, that is only too well acquainted with the distinction between ends and means, as well as understanding all too easily how to create a hierarchy of the strong and the weak, a ranking that is impossible when all forms of teleology are abandoned. See S-J. Gould (1989).

vis-à-vis political ecology as the Communist Party vis-à-vis socialism: a raising of the bidding so well justified that it paralysed its adversary/ally into believing it was too soft, too compromised, too much of a 'social-traitor.' And yet there is no outbidding, no gradation of virulence in the political courage or radicality of the different movements, since deep ecology simply does not have a place in the regime of ecology -- just as, conversely, there is no place for the tranquil certainty of the modernists who have, until now, released into external nature objects with no other purpose, no other risk than those they thought they knew all about it.³¹ □

One might be surprised that, to define the 'seventh regime,' it is necessary to invoke the practice of the ecological movements and set it in opposition to the theoretical justifications of their followers. Nevertheless, the reason for this shortcoming seems clear to me. To justify the regime of ecology, it is necessary to be able to speak about science and about politics in such a way as to suspend their certainties twice: with regard to subjects, on the one hand, and objects, on the other. All the other regimes clearly belong to the world of political philosophy. They are all anthropocentric. □ Only the 'seventh regime' forces us to speak about science and to plunge human beings into what makes them humans. □ But since enthusiasts of the sciences are loathe to undertake the task of justification, which would force them to throw out their epistemology, and since the partisans of the political sciences find that they need to know far too much science and need to be too interested in non-humans in order to give an account of these debates which completely escape the usual framework of public life, one cannot find authors who are interested in both. □³² In order to disentangle the 'green city', one has to deal at once with science and with politics and to disbelieve epistemology as much as political philosophy. This is why the regime of ecology is still waiting for its Rousseau, its Bossuet, its Augustin or its Hobbes.

³¹ Witness this remark by a technician: "My predecessor was very much a 'harnesser'... we were technicians, we harnessed water, full stop." He adds, to emphasise the complexity of a regime that now only has mediators and can no longer simplify life by going 'straight ahead': "now things have gone too far in the other direction and you can't do anything any more."

³² Ethics and law, on the other hand, are extremely well developed but leave the question of scientific objects intact. Even those who, like Stone (op. cit.), are interested in things, do not include the production of facts and the emergence of objects in their analyses. Only Serres has tried, in his own idiosyncratic way, to make the connection between the scientific status of objects and the legal status of people: M. Serres (English translation 1995). Ulrich Beck (op.cit.) is one of the very few thinkers of the ecological crisis to take into account the sociology of science.

In the new regime, everything is complicated and every decision demands caution and prudence. One can never go straight or fast. It is impossible to go on without circumspection and without modesty. We now know, for example, that if it is necessary to take account of everything along the length of a river, we will not succeed with a hierarchised system that might give the impression, on paper, of being a wonderful science with wonderful feedback loops but which will not generate new political life. To obtain a stirring up of politics, you have to add uncertainty so that the actors, who until now knew what a river could and could not tolerate, begin to entertain sufficient doubts. The word ‘doubt’ is in fact inadequate, since it gives the impression of scepticism, whereas it is more a case of enquiry, research and experimentation. In short, it is a collective experimentation on the possible associations between things and people without any of these entities being used, from now on, as a simple means by the others.³³

Political ecology, as we have now understood it, is not defined by taking account of nature, but by the different career now taken by all objects. A planner for the local agricultural authority, an irrigator, a fisherman or a concessionaire for drinking water used to know the needs of water. They could guarantee its form by assuming its limits and being ignorant of all the ins and outs. The big difference between the present and the previous situation does not lie in the fact that, before, we did not know about rivers and now we are concerned about them, but in the fact that we can no longer delimit the ins and outs of this river as an object. Its career as an object no longer has the same form if each stream, each meander, each source and each copse must serve both as an end and a means for those claiming to manage them.

At the risk of doing a little philosophising, we could say that the ontological forms of the river have changed. There are, literally speaking, no more things. This expression has nothing to do with a sentimentalism of Mother Earth, with the merging of the fisherman, kingfisher and fish. It only designates the uncertain, dishevelled character of the entities taken into account by the smallest river contract or the smallest management plan. Nor does the expression refer to the inevitable complexity of natural milieux and human--environment interactions, for the new relationships are no more complex than the old ones (if they were, no science, management or politics could be done on their behalf, as Florian Charvolin [1993] demonstrated so well). It solely refers to the obligation to be prepared to take

³³ This is the great interest of the work developed by the German sociologist Ulrich Beck (see for example 1995) because he extends risk very far way from “nature” and makes it a whole theory of what he calls “reflexive modernity” and that I would prefer to call “non modernity”.

account of other participants who may appear unforeseen, or disappear as if by magic, and who all aspire to take part in the 'kingdom of ends' by suddenly combining the relationships of the local and global. In order to monitor these quasi-objects, it is therefore necessary to invent new procedures capable of managing these arrivals and departures, these ends and these means -- procedures that are completely different from those used in the past to manage things.

In fact, to summarise this argument, it would have to be said that ecology has nothing to do with taking account of nature, its own interests or goals, but that it is rather another way of considering everything. 'Ecologising' a question, an object or datum, does not mean putting it back into context and giving it an ecosystem. It means setting it in opposition, term for term, to another activity, pursued for three centuries and which is known, for want of a better term, as 'modernisation.'. Everywhere we have 'modernised' we must now 'ecologise.' This slogan obviously remains ambiguous and even false, if we think of ecology as a complete system of relationships, as if it were only a matter of taking everything into account. But it becomes profoundly apposite if we use the term ecology by applying to it the principle of selection defined above and by referring it to the Kantian principle for the justification of the green regime.

'Ecologising' means creating the procedures that make it possible to follow a network of quasi-objects whose relations of subordination remain uncertain and which thus require a new form of political activity adapted to following them. One understands that this opposition of modernisation and ecologisation goes much further than putting in place a principle of precaution or prudence like that of Hans Jonas. Or rather, in defining the regime of ecology, we manage to select -- from among the arguments of the principle of precaution -- those which belong to the new political life and those which are part of the old repertoire of prudence. In ecology, it is not simply a matter of being "cautious" to avoid making mistakes. It is necessary to put in place other procedures for politico-scientific research and experimentation.³⁴□

In contrasting modernisation and 'ecologisation' (it will obviously be necessary to find another term, which is less unwieldy and more inspirational and mobilising!), one could perhaps escape the two contrary destinies with which we began. Political ecology can escape banalisation or over-inflation. It doesn't have to take account of everything and especially not nature, and in any case not nature-for-nature's-sake. Nor does it have to limit its designs to the existence of a body of administrators responsible for the environment, just as other bodies are responsible for school

³⁴□ This argument is developed in B. Latour (1994a).

health or for monitoring dangerous factories. It is very much a question of considering everything differently, but this 'everything' cannot be subsumed under the expression Nature, and this difference does not reduce to the importation of naturalistic knowledge into human quarrels. To be precise, starting from the green regime and according to the Boltanski--Thévenot method, the interplay of denunciations of the other regimes and the inevitable compromises to be agreed with them, one could perhaps drag political ecology from its present state of stagnation and make it occupy the position that the Left, in a state of implosion, has left open for too long.

REFERENCES

- Barbier, R. (1992). Une cité de l'écologie, EHESS, Mémoire de DEA.
- Barbier thèse 1996 La politique des déchets - thèse de socio-économie de l'innovation, Ecole des mines, Paris.
- Barnes, D. S. (1994). The Making of a Social Disease. Tuberculosis in 19th Century France. Berkeley, California University Press.
- Beck, U. (1995). Ecological Politics in the Age of Risk. Cambridge, Polity Press.
- Boltanski, L. and L. Thévenot (1991). De la justification. Les économies de la grandeur. Paris, Gallimard.
- Botkin, D. B. (1990). Discordant Harmonies. A New Ecology for the 20th Century. Oxford, Oxford University Press.
- Charvolin, F. (1993). L'invention de l'environnement en France (1960-1971). Les pratiques documentaires d'agrégation à l'origine du Ministère de la protection de la nature et de l'environnement, Ecole nationale supérieure des mines de Paris.
- Chase, A. (1987). Playing God in Yellowstone. The Destruction of America's First National Park. New York, Harcourt Brace.
- Coleman, W. (1982). Death is a Social Disease. Public Health and Political Economy in Early Industrial France. Madison Wisconsin, University of Madison Press.
- Evans, R. J. (1987). Death in Hamburg. Society and Politics in the Cholera Years 1830-1910. Harmondsworth, Penguin Books.
- Cussins, C. (199-). Elephants, Biodiversity and Complexity: Amboseli National Park, Kenya. ?? A.-M. Mol and J. Law.
- Descola, P. ([1986]1993). In the Society of Nature. Native Cosmology in Amazonia. Cambridge, Cambridge University Press.
- Descola, P. and G. Palsson, Eds. (1996). Nature and Society. Anthropological Perspectives. London, Routledge.

- Drouin, J.-M. (1991). Réinventer la nature. L'écologie et son histoire (préface de Michel Serres). Paris, Desclée de Brouwer.
- Ehrlich, P. R. and A. H. Ehrlich (1997). Betrayal of Science and Reason. How Anti-Environmental Rhetoric Threatens Our Future. Washington, DC, Island Press.
- Godard, O. (1990). "Environnement, modes de coordination et systèmes de légitimité : analyse de la catégorie de patrimoine naturel." Revue économique(2): 215-242.
- Gould, S. J. (1989). Wonderful Life. the Burgess Shale and the Nature of History. New York, W.W. Norton.
- Haraway, D. J. (1991). Simians, Cyborgs, and Women: The Reinvention of Nature. New York, Chapman and Hall.
- Hermitte, M.-A. (1996). Le sang et le droit. Essai sur la transfusion sanguine. Paris, Le Seuil.
- I. Kant (1956) Critique of Practical Reason, trans. L.W. Beck (place of publication? NC) The Liberal Arts Press).
- Lascoumes, P. (1994). Eco-pouvoir. Environnements et politiques. Paris, La Découverte.
- Lafaye, C. and L. Thevenot (1993). "Une justification écologique ? Conflits dans l'aménagement de la nature." Revue Française de Sociologie **34**(4): 495-524.
- Latour, B. (1993). We Have Never Been Modern. Cambridge, Mass, Harvard University Press.
- Latour, B. (1994a). "Esquisse du parlement des choses." Ecologie politique(10): 97-107.
- Latour, B. (1994b). "On Technical Mediation." Common Knowledge **3**(2): 29-64.
- Latour, B. (1996). "On Interobjectivity -with discussion by Marc Berg, Michael Lynch and Yrjo Engelström." Mind Culture and Activitu **3**(4): 228-245.
- Latour, B. (1997). "Socrates' and Callicles' Settlement or the Invention of the Impossible Body Politic." Configurations (**in press**)
- Latour, B., C. Schwartz, et al. (1991). "Crises des environnements: défis aux sciences humaines." Futur antérieur(6): 28-56.
- Latour, B. and P. Lemonnier, Eds. (1994). De la préhistoire aux missiles balistiques - l'intelligence sociale des techniques. Paris, La Découverte.
- Latour, B. and J.-P. L. Bourhis (1995). Comment faire de la bonne politique avec de la bonne eau? Rapport sur la mise en place de la nouvelle loi sur l'eau pour le compte de la Direction de l'eau. Paris, Centre de sociologie de l'innovation, miméo.

- Lovelock, J. E. (1979). Gaia A New Look at Life on Earth. Oxford, Oxford University Press.
- Lewis, M. W. (1992). Green Delusions. An Environmentalist Critique of Radical Environmentalism. Durham, Duke University Press.
- Merchant, C. (1992). Radical Ecology. The Search for a Livable World. London, Routledge.
- Roger, A. and F. Guéry, Eds. (1991). Maîtres et Protecteurs de la Nature. Le Creusot, Champ Vallon (diffusion La Découverte).
- Serres, M. (1995). The Natural Contract. Ann Arbor, The University of Michigan Press.
- Stone, C. D. (1985). "Should Trees Have Standing? Revisited : How Far Will Law and Morals Reach? A Pluralist Perspective.." Southern California Law Review **Vol.59 n°1 pp.1-154**.
- Strathern, M. (1992). After Nature. English Kinship in the Late 20th Century. Cambridge, Cambridge University Press.
- Weiss-Brown, E. (1989). In Fairness to Future Generations. New York, Transnational Publishers.
- Western, D. and Pearl, Eds. (1989). Conservation for the 21st Century. Oxford, Oxford University Press.
- Western, D., R. M. Wright, et al., Eds. (1994). Natural Connections. Perspectives in Community-based Conservation. Washington DC, Island Press.