

# **Will Non-humans be Saved? An Argument in Ecotheology**

The Henry Myers Lecture\*

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Abstract: The growing interest for ecology has the unexpected effect of granting new relevance to a theology not so much interested in the salvation of humans as in the salvation of the whole creation –non-humans included. Since science studies has probed for many years several alternatives to the modernist divide between subject and object, it is interesting to cross the tools of science studies and theology to elicit a new contrast between nature and creation. Using tools from an anthropological inquiry of the moderns, the paper draws a different connection between religion and science that bypasses the notion of nature.

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*“Does it not happen that, when you now admit the salvation of only the soul you ascribe it to men at the cost of half their nature? What is the good of believing in the resurrection, unless your faith embrace the whole of it?”*

*Tertullian, On the Resurrection of the Flesh, chap. LVII*

Since I have been known for some years, rather infamously, for showing too much interest in non humans, for having given them pride of place in social theory, for having even pretended that they should sit in a “parliament of things”, instead of retreating to safer humanist grounds, I have decided to seize the occasion and the honour bestowed on me by the Henry Myers lecture on religion to push the argument even further, by asking the following improbable question: Will non humans benefit, like humans, from the promise of salvation? In other words, will non humans be resurrected too? Odd as it might sound, this question has suddenly become very contemporary because of the increasing intensity of the ecological crisis and the development of what is called “ecotheology” —a strange field I want to probe in this paper.

I recently realized how poor an ethnographer of contemporary cultures I am, when I learned from no less an informant than Simon Schaffer, that at the end of many Labour demonstrations, the assembly is in the habit of singing Blake’s messianic poem “JERUSALEM”. I had always (and quite wrongly, it now appears) considered England as the most secular of countries, given the total lack of interest in religious questions of my many British academic friends. Yet, here was a telling sign that the farther they were to the Left, the more happily they considered themselves as part of the Chosen People, mysteriously transplanted here among the “satanic mills”. Of course, the fact that militants chant

*“Nor shall my sword sleep in my hand,  
Till we have built Jerusalem,  
In England’s green & pleasant Land.”*

does not prove that they are deeply messianic, no more than French singers of the MARSEILLAISE are ready to take up arms and spill “foreigner’s impure blood”... And yet, the very presence of that hymn, confirms that no anthropology of the modern can be carried out without taking religion seriously.

What I mean by taking religion “seriously” is to take it *religiously*.<sup>i</sup>

If you are willing to accept me as an honorary anthropologist (which I assume you do), I have to make somewhat clearer the anthropological project out of which I will tackle the horrendously difficult question of ecology and theology I have chosen, rather foolishly, as a topic. To start, as I have, from the point of view that we (meaning the European tradition loosely construed) have never been modern is no longer enough, even though it has offered a new footing for comparing this tradition to those of the so called “others”. If Europeans have recently stopped having been modern (if I may use the past tense twice), the “others”, by contrast, have also stopped having been “other” in the culturalist way modernism had imposed on them.<sup>ii</sup> We are all now witnessing the immensely

complex renegotiation of values and features that the end of modernization has made possible and that the word “globalization” covers rather clumsily. But one thing is certain: the planet will no longer be modernized. Something radically different is going on.

And yet, in this huge geopolitics of differences which is going on globally, a great uncertainty has been cast on the former source of the modernist Great Narrative, namely Europe. My own formulation “We have never been modern” remains entirely negative and thus it would be quite fair for someone to raise a further question: “Fine, but *what* have we been, then?”. To produce an alternative Great Narrative of what European cultures (which means, of course, natures also) have been, in order to re-enter the vast global diplomatic renegotiation with more than negative, self-critical, or let’s say post-modern claims, would of course be too big for me. A more modest proposition would consist in defining the various *contrasting traits* that have been elaborated in the course of European history, traits that define the former moderns in such a way that they may now answer the radical question of who we are, who we have been, in the following way: “Here is our treasure, here is our heart, if you deprive us of one of these contrasts, we are no longer humans, we die, we disappear”. To be an anthropologist of the moderns requires the ability to speak in tongues, that is to be sensitive to each of the original ways of speaking truthfully which have been developed and nurtured: scientific, yes, to be sure, legal, political, yes, yes, but also religious. Of all people, anthropologists will have no difficulty in recognizing in this question the dramatic encounter between the anthropologists' gaze and the various cultures (natures) they have discovered, studied, helped destroy, helped repair, helped reinvent, across the long and painful history of their discipline. If we submit the former moderns to the same somewhat cruel questioning, they will reveal a certain number of rather contradictory contrasts among various traits (or *values* if you wish to use this rather outdated term, but if so, then you should give it a very strong sense: a value is what one is ready to die for, or, less militaristically, what makes life not worth living if one is deprived of it). This seems to me a somewhat roundabout way to take the former moderns seriously and to allow them to have a voice again (or rather a voice *at last*, their real voice, not the modernist ventriloquism that has spoken for them) and thus to establish the comparative anthropology of contemporary (not modern) cultures on a slightly surer footing. In undertaking this "positive" anthropology of the moderns, the number of these defining contrasts should not distract us here (in the last quarter of century, I have been able to characterize twelve or fourteen of them). What is important is to be able to let each trait (or value) shine, so to speak, with its own light. If we want to speak of science, for instance (and there is no doubt that much European history is tied to the elaboration of science as a value), it will not do to try to account for it by something else entirely such as apodictic truth or social construction.<sup>iii</sup> Same thing with law (law and the rule of law is an even more ancient and more important contrast for European cultures): if you want to elicit its precise value, it will not do to explain it by taking it as something else, for instance, power and rhetoric barely disguised.<sup>iv</sup> And so on. (Some readers might be familiar with the *sociological* version of this argument, which is called Actor Network Theory: there is

no social explanation to provide, because the social is the name of what is assembled (associated) when scientific ties, legal ties, political ties, etc are all taken into account.<sup>v</sup> But in this piece I am interested in the anthropological (or rather the philosophical anthropology) consequence of the theory).

As my allusion to the hymn JERUSALEM made clear from the beginning, there is no doubt that religion is one of those contrasts that define, in a very complicated and contradictory way, part of the modernist history. Even in England “the Countenance Divine/ Shines forth upon our clouded hills”. And yet, it remains extremely difficult to apply to religion the same principle that has been applied to the other contrasts, that is, to treat it on its own ground so as not to speak “of” religion but instead to speak “in” a religious tone, or, using the adverbial form, religiously. Speaking scientifically is not a problem, especially for a scholarly profession like ours. Speaking legally, is taught very efficiently at law schools—and God knows how specific is this way of speaking. But enunciating something religiously is terribly difficult because of the ease with which it is explained or accounted for by other types of explanation, especially social explanations. The precise truth conditions (or felicity conditions) that allow someone to speak religiously (and not “about” religion in another tone of voice) have almost vanished (the same is true, by the way, of political enunciation for reasons which we might want to come back to at the end). And yet we could not complete a positive anthropology of the moderns without adding to the composition of the collective they form the exact type of truth production and the specific explanatory powers of religion. If you say, “no, I don’t want to take that contrast into account any more”, you return to a very different project, you become modernist again and try to stifle one contrast by insisting that another one should shine more brightly than all the others. You engage in the conflict of values that has characterized modernist history, instead of disentangling the *entire* set of values that constitutes your rightful inheritance. You renounce its specific form of ontological pluralism. You obscure the key existential question: “If we have never been modern, what has happened to us? What treasure have we inherited? How can we reclaim it?” It might be useful to answer those questions since, in our globalized world, many others (the former “others) are busy answering it for us — and most probably *without* us.

I hope I have said enough to sketch the launching pad, so to speak, of my argument. Now I will turn to the subject matter.

It has now almost become common sense that we were able to think we were modern only as long as the various ecological crises could be denied or delayed. As I ventured to put it, a few years back, “To modernize or to ecologize? that is the question”.<sup>vi</sup> The course of events has settled the matter quite firmly: modernizing will not do. What is not clear, however, is what ecologizing will mean exactly. The range of attitudes, prescriptions, warnings, restrictions, summons, sermons and threats, that go with ecology seems to be strangely out of sync with the magnitude of the changes expected from all of us, the demands that appear to impinge on each and every detail of our material existence. It is as if the rather apocalyptic injunction “your entire way of life must be modified or else you will disappear as a

civilization” has overwhelmed the narrow set of passions and calculations that go under the name of “ecological consciousness”. The camel seems to stand no chance of going through the eye of this needle. When the first tremors of the Apocalypse are heard, it would seem that preparations for the end should require something more than simply using a different kind of light bulb ...

In addition to this lack of fit between the implied threats and the proposed solutions, there is something deeply troubling in many ecological demands to suddenly restrict ourselves and to try to leave no more foot prints on a planet we have nevertheless already modified through and through. It appears totally implausible to ask the heirs of the emancipatory tradition to convert suddenly to an attitude of abstinence, caution and asceticism —especially when billions of other people still aspire to a minimum of decent existence and comfort. As has been so valiantly argued by Nordhaus and Shellenberger in their post-environmentalist manifesto, *BREAKTHROUGH*, it might not be the time to sound the retreat and to betray the progressivist ethos of modernism by suddenly becoming ascetics.<sup>vii</sup> If modernism was Promethean, the massive acceleration of a green economy and clean technologies they argue is needed would be Prometheus squared. As I wrote in a review of their book, they have redefined environmentalism by “breaking through the limitations of the notion of limits”.<sup>viii</sup> And yet, it is still unquestionable that there is something deeply flawed in the hubristic tone of so much hype about technological solutions to ecological crises. Is there a way to explore a positive, energetic, innovative set of passions to repair and pursue the modernist experience at a more fundamental level? Can we imagine a Doctor Frankenstein who would not flee in horror at the creature he bungled at first —a Frankenstein who goes *back* to his laboratory? Can Prometheus be reconciled with the seemingly antithetical notions of care and caution?

If it is true according to the French proverb that it is “always safer to direct one’s request to the Good Lord than to His saints”, it is probably also true that when people use “apocalyptic terms” it is safer to go straight to religion instead of using them metaphorically. You will forgive me, I hope, if I concentrate of the religion I know best. There is no question: religion, in the various traditions elaborated around Christianity, is all about a radical change in the make up of daily existence. “Let the Holy Spirit renew the face of the Earth” the monks chant eight times a day and, if I have not been misled by my informant, so do the devout of the Left at their meetings (“Bring me my chariot of fire”).

Not only does religion demand a level of radical transformation compared to which the ecological gospel looks like a timid appeal to buy new garbage cans, but it also has-- and this will be even more important for the future-- a very assured confidence in the *artificial* remaking of earthly goods. As the Metropolitan John of Permagon points out (as a rule, Eastern orthodox theology is very much at the forefront on these questions), the Eucharist is not a presentation of grains and grapes but of the actively, artificially, technically (and I would add scientifically) transformed grains in bread and grapes in wine.<sup>ix</sup> Before the transubstantiation of bread and wine into flesh and blood, there is another indisputable transubstantiation of grain into bread and of grapes into wine that is no less mysterious than the other (and being a Catholic from a wine Burgundy family

who has in addition spent many years studying Louis Pasteur, you may take my word for it...). So, because of these two features (radical transformation and full confidence in artificial transformations in this world, or in other words, Incarnation), religion, in its Christian instantiation at least, presents itself as a rather plausible alternative to an ecological consciousness whose ethical and emotional drives don't seem to have enough petrol (or soybeans) to carry us through the tasks it has burdened upon us. In this respect, nothing is less conservative, and nothing is more down to Earth than religion. The sad histories of the Christian churches should not mislead us here. Even if they were unable to digest the shock of Science in the 17<sup>th</sup> century, we should not forget that the appeal to renewing everything, here and now, and in this world, is first of all a religious passion —and a Passion it is... Whereas ecological consciousness has been unable to move us, the religious drive to renew the face of the Earth just might.

Naturally, this connection between ecology and theology, or ecological consciousness and Christian spirituality is not my invention. Ever since Hans Jonas brought his immense knowledge of the Apocalyptic and Gnostic tradition to bear upon the ecological threat, a thriving field of eco-theology has been developing in many quarters of the various Churches. That it is still a marginal movement is due to the modernist history of the Church (in its Western Protestant and Catholic versions) which has never stopped restricting religion to an ever more shrinking domain.<sup>x</sup> Everything happens as if, the farther forward you move in time, the more the Churches have resigned themselves to save only humans, and in humans, only their disembodied souls. But what about non humans? What about Creation itself? Moralistic, spiritualist, psychological and I would argue scientific definitions of religion have led theology, rituals and prayers to turn away from the world, the cosmos, and to see nothing objectionable in the quote: "What good would it be to possess the world, if you forfeit your soul?" without realizing that because of the urgency of the ecological crisis, the opposite is now far truer: "What use is it to save your soul, if you forfeit the world"? Do you by any chance have another Earth to go to? Are you going to upload yourself to another planet?

Catholics and Protestants killed each other for a century over the rather limited question of how many of them would be saved and whether this should be by grace alone or also by deeds, without noticing that, while they were busy trying to expand or restrict the numbers of the blessed, they were abandoning the huge masses of non humans, that is, "the whole Creation" which, as Paul so powerfully bore witness to, still "groans and labors with birth pangs" even now. We always forget that what modernism did to religion is even worse than what it did to science. It deprived it of its energy, restricting it, as Whitehead said, to mere furniture of the soul.<sup>xi</sup> It is painfully clear that this ever shrinking religious ethos will do nothing for ecologizing our world, and if we take what is preached in most sermons around the planet for religion, it would be better to prepare for the Apocalypse which is fast upon us by changing a few light bulbs and buying a Terra Pass to pay for our pollution.

Yet perhaps we can postpone this seemingly inevitable Apocalypse: religion could become a powerful alternative to modernizing and a powerful help for ecologizing, provided that a connection can be established (or rather re-established) between religion *and Creation* instead of religion *and nature*.

I say “re-established” because the pre-modern Christian theology, especially that of the Fathers, was well aware that it was the whole of Creation that was in the throes of salvation, not only the poor floating souls of spiritually disembodied humans. Non humans had a central place in theology, in spirituality, in rituals and of course in art which they now have almost totally lost.<sup>xiii</sup> But this was before modernism and before its politicization of science: thus it remains immensely difficult for us (and for me at any rate because of my ignorance of the Greek Fathers) to retrieve these resources which have been covered by so many layers of modernism that they seem as lost as the bones of our pre-human ancestors. Can they be resurrected? Can those dry bones in the Valley of the Dead be assembled again? Such is the subject matter of my lecture — a perfectly impossible topic to dispatch in such a short time, I am well aware of that.

Be assured, I am not going to tackle the most boring question known to man (just after the so called Mind/Body problem, that is) namely the *pont aux ânes*, as we say in French, of Science and Religion. Nothing ever comes out of these disquisitions, and for a reason that you can easily appreciate from what I have already said about my project: instead of speaking of science scientifically, a scientific “world view” is deployed; instead of speaking of religion religiously, a vague assemblage of pious moral vacuities is taken as an “alternative world view”. The fights, reconciliations, ceasefires between those two “world views” are as instructive as a boxing match in a pitch black tunnel. Even if there are winners and losers (there do seem to be some from the cries of victory and screams of pain you can still hear), the winners and losers are ultimately indistinguishable anyway, since they both accept an unscientific science and an irreligious religion.

And yet, I do have to touch on this *topos* very lightly by reminding you of an important distinction that becomes, on the contrary, very visible once you shift your attention to the two contrasts: science, or rather to use my technical terms, *reference chains* are what allow access to the far away while religion (or rather *presence* to use again my terminology) is what allows access to the near, to the neighbour, to what French, for once richer than English, calls *le prochain*. This distinction (which I have outlined elsewhere in greater detail) has the advantage of quickly dissolving a lot of the nonsense that accrues as soon as one opposes “knowledge” and “belief” —the two concepts that should get the Olympic gold medal for modernist obscurity. It is definitely not the case that science is about the concrete, worldly, matter of fact, present at hand, domain of knowledge in addition to which another vehicle called “religious belief” would lead you to a “supernatural” domain of spiritual entities. If anything, it is science which is an excellent vehicle to transport you to otherworldly domains which would be utterly inaccessible without the carefully arrayed chains of reference allowed by its more and more complex instrumentarium (and I hasten to add, to make sure I am not misunderstood, that these sets of mediations are made more and more accurate,

sturdy, safe and fully trustable every day); it is religion that attempts to access the this-worldly in its most radical presence, that is you, now, here transformed into the person who cares about the transformation of the indifferent other into a close neighbour, into the near by, into *le prochain*.<sup>xiii</sup>

As for the “concrete” world of common sense, it is just as much radically transformed by the extension of reference to the far away as it is by the religious attempt to reach the close and the near-by. In this respect (and I think I have accumulated enough proofs elsewhere of what I can state here only briefly) the transcendence and transubstantiation of science have nothing to envy in the transcendence and transubstantiation of religion. The far away is just as foreign, just as risky, just as difficult to reach, just as unrealistic, and I would add just as unreasonable as the nearby. And the best proof of what I say, is that they are equally ignored by common sense, by the banal concreteness of what we take “reasonably” to be the “real world” — a world that is scientifically and religiously unreal as well as unreasonable. No need to add that they are both equally rational, providing you agree to define *reason* as that which allows each contrast to be taken at its own truth value, by following the thread of its specific felicity conditions without lapsing into category mistakes. (I hope that you can start to discern here one the advantages of this positive anthropology of the moderns: you can safely forget the double gold medalled notions of “knowledge” and “belief”, and yet keep the reference chains of science and the truthful speech of religious safely outlined side by side).

“Side by side” is just the question, however. If I wanted to play it safe, I would leave things at that and continue to clarify the interplay of these two contrasts. But then I would neglect the subject matter of my talk and not tackle the question of whether non humans too will benefit from Salvation. This is why I now have to make a much more difficult move and add a *third* mode to the two I have briefly refreshed. I will no doubt be a rather clumsy acrobat who, not content to throw two balls into the air, is now trying to throw three at once without letting them fall. I am sure to fail, but it is worth a try since, in case you have forgotten, it is nothing less than the fate of the Earth that is in question! And anyway, maybe with some practice, I might learn to juggle a little better... So let’s see how it goes.

Religion (and I still mean by that term what has been elaborated by Christian theologies and rituals) never had much luck with *nature*. Where nature enters, religion has to leave. And when it leaves, it leaves for good because it has only two equally fatal exit strategies: one is to limit itself to the inner sanctum of the soul; the other to flee into the supernatural. These two solutions mean that the world of nature is abandoned to itself: in the first one a disembodied human soul will be what is left to the care of ever shrinking spiritual concerns; as for the second exit, it is even more counter-productive since it means that religion will try in vain to imitate scientific instruments, the very efficient vehicles that have been arrayed to access the far away and the invisible (we might think of “belief” as the imitation of an instrument to access that which is far away-- but without the instrument!). In both cases, it is really the end of the play: *Exit* religion. Of course, it can still chatter, and pray, and sermonize, but it will have lost any pretence of influencing

the course of events. Its impact will only be decorative. This is, I think, a cruel but rather accurate description, of the encounters of Christian religion with nature during modernism (and I am leaving aside the rather shameful episodes of “natural theology” and the proofs of the existence of God drawn from the exquisite beauty of the cosmic order—even though these too might be salvaged, but only after a detour).

The key question is to decide whether or not nature is the *only thing* that Christian religion can encounter when it tries to reach back to the world it has been forced to exit too fast. The answer strikes at the cutting edge of anthropological theory. It becomes clearer and clearer, as anthropology moves on, spurred both by my own field (science studies) and by ecological crises and globalization more generally, that nature has never been the unified material medium in which modernism has unfolded. Under scrutiny, “naturalism” reveals itself as a queer bundle of many contradictory traits which do not form enough of a homogeneous domain even to be defined in contrast to the domain of the soul or even less the realm of the supernatural. In the work of Philippe Descola (whose fundamental book *BEYOND NATURE AND CULTURE*, to the great shame of British and American anthropology and their academic publishing industries is not yet translated into your language), naturalism is only *one* of four ways in which connections between humans and non humans can be established—and it is the most anthropocentric of the four!<sup>xiv</sup> Whereas for its first century, anthropology could multiply “cultures” while nature remained the non-coded category in contrast to which cultures could be defined, it is fair to say that, in this century, anthropology will go on multiplying the ways in which former cultures and former natures (now in the plural) become coded categories. It is a direct consequence of the fact that we have never been modern that the very notions of cultures (in the plural) and nature (in the singular) have been slowly dissolving (actually nature and culture could also compete for the Olympic medals of modernist obfuscation...). “Anthropology of nature” (the name of Descola’s chair at the Collège de France) has very quickly passed from an oxymoron to a pleonasm.

This is now so well known and is carried forth by anthropologists and anthropologically minded historians who are so much better endowed with ethnographic knowledge than myself, that I don’t want to belabour the point any further. What I want instead is to draw from this a slightly more radical conclusion made directly possible by the work done in science studies (or at least by its more philosophical version). This will allow me, following Whitehead, to extract from the ill-formed notion of nature, the third contrast I need for my acrobatic demonstration.

Remember that the key question is how to allow religion to encounter something other than “nature”. That this is possible (if not easy) becomes clearer when one begins to realize that what is called “nature”—or, what has been taken for the same thing, “the material world”, the world of “matter”, is made of at least two entirely different layers of meaning: one consists of the ways in which reference chains need to be arrayed so as to work, by giving us knowledge of far away entities and processes of all kinds; but the other is provided by a completely different type of mode, and that is the ways in which the entities themselves

manage to remain in existence.<sup>xv</sup> Having called the first Reference, I will call this second *Reproduction* (for a reason that will become clear in a minute). These two contrasts, or, to call them by a more ontological term, these two *modes of existence*, have been constantly confused by modernism, but this confusion does not need to continue with ecology. To reach something far away through long arrays of instruments, you need to make sure that necessities and constants are transported with as little transformation as possible (this is why I call them *immutable mobiles*). But that such a path is necessary to *reach* those entities which could not be grasped otherwise, does not mean that those entities use the same subterfuges to remain in existence, to persist and endure. Geometry, mathematical entities and inscriptions of all sorts, are powerful ways to carry heavy-duty immutable mobiles through long reference chains, but it would be extraordinary (and quite improbable) if entities such as atoms, photons or particles needed mathematics and geometry to subsist. As Whitehead so forcefully showed, the concept of matter confuses the ways entities persist with the ways we try to know them. Though *res extensa* is an extraordinary powerful way to establish knowledge, no entity has ever resided “in” *res extensa* —except on paper when you have to show, that is, to know it. At the very least, the concept of matter has thus mixed together in the same bag two entirely different sets of practices: Reproduction is not Reference (no more than Reference is Religion).

This is why it is always so difficult to be a real materialist: matter, mistaken for the transportation of undisputable necessities through chains of cause and effect, is not the obvious, given background of the world but instead a highly elaborated, historically dated and anthropologically situated hybrid which combines the reference chains necessary to access the far away with the surprising inventions entities themselves have to go through in order to subsist. I hope you understand that I am not indulging here in the 19<sup>th</sup> century game of pretending to *add* to matter some spiritual dimension (and even less am I flirting with the bogus Mind/Body conundrum). I have, on the contrary, simply (and I’d say politely!) *withdrawn* from the confusing bag of matter, *one* of its confusing elements, the most spiritual (or intellectual) one by the way: namely, the processes and the chains of inscription necessary to travel back and forth safely (that is, by maintaining necessities and constants all along the chain in both directions) from the knower to what is to be known. What is left in the bag? Entities which endures by running the risk of reproduction and repetition. Such is the third trait, the third mode of existence I wished to introduce.

I said earlier that when nature comes on the scene, religion has to exit. Well, now the scene has shifted quite a lot: first it was nature which had to exit; then, Reference has been clearly contrasted with Reproduction. And now, you might ask, what will happen if religion is called back on stage, not to encounter nature (it is gone for good) but a world consisting of entities undertaking the risky business of sustaining and perpetuating themselves? Suspense, suspense. Or no suspense at all because I have most probably lost you... Well, I will wake you up, with one two syllable word: Darwin!

It is not by coincidence that the protagonists of the Science and Religion debate always converge on Saint Darwin, this Father of the Church —and here I am well aware that I am treading on dangerous territory, especially in England.

The confusion between Reproduction and Reference was less noticeable when we were dealing with so called “inert” entities which, in addition, were always considered in bulk and never individually. With falling bodies, planets, billiard balls and games of chance, the ways we access them and the ways they are supposed to reproduce themselves are so similar that the collage or hybrid character of the notion of matter was hardly noticeable. There seemed to be nothing wrong in considering matter as a transportation of necessities through chains of causes and effects: The crude stitches of this category mistake could not be detected. The ways we know the world and the ways in which the world behaves seemed to be simply the same thing twice to the eyes of the physicist (though this was already less the case to the eyes of the chemist and not at all to the eyes of the engineer, even if these discrepancies could somehow be papered over with tortured distinctions like that between pure and applied sciences or science and engineering).<sup>xvi</sup> However, the hybrid character of the notion of matter was unavoidably obvious to the eyes of evolutionary biologists. Here, billions of entities undergo the risks of repetition across gaps and discontinuities in time and descent that no transportation of undisputable necessities could cover up. They face lots of causes and lots of effects to be sure but at every point there are masses of invention that intervene, so that causes and consequences don’t match one another so well.<sup>xvii</sup> Creativity, seeping in at every juncture, jumped out at the naturalists. What could still be plausible for physics and engineering, namely that *res extensa* was a description of the ways entities endure and persist in the world as well as the ways we grasp them from far away, could no longer be entertained once naturalists began to reckon with biological evolution. To be sure, they could draw up tables, trees and build reference chains to attempt to grasp these processes, but this knowledge could no longer be confused with the ways in which the organisms themselves behaved. No snail, no earthworm, no virus, no acorn ever lived in the *res extensa* which is so necessary nonetheless for us to access their peculiar mode of existence.

With Darwin, living entities were at last allowed to subsist and thrive but only provided they were no longer cultivated, so to speak, in the highly artificial medium of the *res extensa* —and it is not by coincidence either that one of the most daring naturalists, Von Uexkull, invented the word *Umwelt* to describe the alternative medium in which biological organisms were allowed to reproduce, this *Umwelt* which now envelops the world under the name of “environment” and environmental crisis.<sup>xviii</sup> To modernize or to ecologize has also always been a question for biologists. No one can deny the complete sea change that has occurred in the last thirty years: yet the major effect of ecology is not, as I have shown at length, that nature has made a comeback, but that we are finally “out of nature”.<sup>xix</sup> So where are we? It is not clear, but once we are out of Nature we have to realize that we all reside in some *Umwelt*. (The only thinker who has absorbed this new situation is of course the German philosopher, Peter Sloterdijk, with his theory of Spheres-- a radically original alternative to nature and to society).<sup>xx</sup> And

where is the *res extensa*? It has not disappeared, on the contrary, but it is safely located inside the reference chains and is no longer allowed to float dreamily in some nowhere land. (This, by the way, seems to me to have been the major contribution of science studies to anthropology).

No doubt, some of you will object that by bringing in evolution and by waving the red flag of Darwin's name, I am falling straight into the same obscure Science and Religion debate I had earlier promised to avoid... True, unless we put to good use the three modes I have outlined. It is safe to say that one hundred and fifty years after his discoveries, the full originality of Darwin's thought has still not been absorbed by public consciousness. I am not alluding here to the masses of results and models obtained by evolutionary biologists, but to the metaphysical consequences of evolutionary theory. The problem is that the full originality of Darwin's understanding of the world is obfuscated not only by so called creationists but in part also by neo-Darwinians.

To their credit, creationists sensed that there was something deeply wrong in the way in which evolution was sold to the public: it was transformed into an ideology of nature, understood as the bearer of indisputable necessities — that is, as exactly what we have seen a minute ago to be a mixed bag of category mistakes.<sup>xxi</sup> Unfortunately, creationists, after having recognized that there was something fishy in the nature of nature, were unable to diagnose the reason for their malaise. No wonder: they had abandoned religion even more than they had misinterpreted science. They began to look at the Bible as if it were a geology book! No deeper misunderstanding of religion was ever committed than when the call to convert and renew the face of the Earth, that is, to put oneself in the living presence of the *ego, hic et nunc*, was kidnapped in order to divine within the venerable sacred texts some trace of a lost knowledge giving access to the far away, like the distant origin of the Grand Canyon. Creationism depends on a mistaken etymology for the word *geo*-logy: the science of the salvation of the Earth is not the same thing as the science of the conservation of fossils... As if the prophets were a bunch of failed PhDs in molecular biology who, instead of Jerusalem, had their eyes set on “evo-devo”. To call such a reading of Scripture a “literalist” interpretation is to commit quite a blasphemy against the meaning of the Letter — not to mention the Spirit... Creationism is neither literal nor even especially religious: it is most of all a thorn in the side of the neo-Darwinians. But I am mischievous enough to think that it is a well placed and, on the whole, a useful thorn...

I am tempted at this point to rub this thorn in a bit, not to tickle biologists further but to spur them to turn their attention more closely to Darwin. One is not Darwinian simply because one deals with rats, corals, horses and bacteria. To be a Darwinian, you have to abandon the notion that all of those organisms rest in “nature” (as I have just defined it, that is, as a hybrid of Reproduction and Reference). On this score, the record of much neo-Darwinism has not been so good — and this explains why they have been such an easy target for creationists. I am not thinking now of social Darwinism which is too easy to criticize, but of the widespread ideology that has substituted the mere transportation of undisputable necessities for the risks taken by individual organisms to perpetuate, sustain and

reproduce themselves. The “Blind Watch Maker” made popular by writers like Dawkins, is still a *Maker*, and a *Watch Maker* at that, blind to be sure (sorry, I should say “visually challenged”) but, on the whole, almost indistinguishable from the “intelligent designer” of recently revamped creationism.<sup>xxii</sup> You will notice how both metaphors are firmly grounded in the ideology of *making* and mechanism. They have not left the *res extensa*: for both of them the organism remains “in nature”, not in its *Umwelt*. One is a blind cause acting from behind and reaching the optimum haphazardly; the other an intelligence dragging organisms toward the optimum by some predefined plans: But they are still two engineers who *master* what they do. Watchmakers they were, watchmakers they remain.

To be sure, the difference between a force *a tergo* and a final cause is important, but this difference pales in comparison with the fact that in the two arguments organisms are erased as individual actors and are transformed into the carriers of indisputable necessities. The creativity which seeps in at the gaps and discontinuities faced by each organism as it sustains, perpetuates and reproduces itself has all but disappeared. What was so radical in Darwin’s discovery, that each individual organism, *without* a Blind or Intelligent Watchmaker, *without* an optimum, *without* a plan, *without* a cause (final or efficient), *without* any Providence of any sort (religious or rational), had to face the vertiginous risks of reproduction, has been thoroughly lost in the fight between Science and Religion (a fight where both protagonists operate under false pretences, since neither is speaking scientifically or religiously). Neither neo-Darwinians nor creationists have digested the radical news that organisms themselves make up their own meanings. Both tried to save individual organisms from their apparent meaninglessness by adding to them an overarching narrative recited by an otherworldly divinity (a visually challenged Watchmaker or an intelligent Designer, there's not much difference). This is understandable: it is a reassuring solution in the face of the relentless, innovative chaos of life, but it is certainly not what was fathomed by Darwin, for whom there is no overall narrative, no controlling divinity: each individual organism is alone with its own risk, goes nowhere, comes from nowhere: it is creativity all the way down. To be sure, each organism has antecedents and consequents, but between the causes and the consequences, there is always a little gap, a little hiatus: evolution is this hiatus. It can't be papered over by importing "necessity".

Where does this recognition of the originality of Darwin lead us? Well, it is certainly a great pity that the only religious minds that neo-Darwinians ever encounter come from creationism. This exactly confirms their view that religion is dead, or at least irrelevant. And yet, creationists at least have the virtue of not having abandoned the project of connecting religion with the world.<sup>xxiii</sup> As far as I know, other Christian churches try to avoid entanglement with Science by abandoning nature altogether and restricting their message either to the inner soul or to the supernatural —a realm even less realistically built than the natural. This is a safe but not terribly courageous solution, since a religion that has abandoned the cosmos has made itself irrelevant from the start. Such avoidance strategies are a form of obscurantism even deeper than trying vainly to compete with

palaeontology and molecular biology, equipped only with a worn out and misused Bible. On the other hand, it is true that religion, in its modernist instantiations, has burnt its fingers so many times in its dealings with nature (from Galileo's trial to contraception) that its sudden timidity is as understandable as its flight into the safe haven, sorry, Heaven, of the supernatural. But what would have happened, had biologists encountered a religion that would have helped them *protect* evolution from being re-packaged into a spurious transcendence, a spurious spirituality of designers (Blind or Intelligent)? My contention is that religion could have been the best way to protect evolution (or more generally Reproduction) against any kidnapping (any search for overarching meaning or optimum), providing we expand a little further what we mean by the creativity of organisms.<sup>xxiv</sup> Between creativity and Creation, a connection can be made that was impossible with nature. It is in this sense that I think of Darwin as a Father of the Church (which no doubt, had she known of this distinction bestowed upon him, would have assuaged the scruples of his overly pious wife...). But to do so we have to make another move, not this time with regard evolution but instead with regard to the strange idea that religion could address itself another world —instead of the *same* world seized *otherwise*. (This, I promise, will be the last detour in a lecture for whose strange twists I apologize greatly: the slope is rather steep here —though I will leave it up to you to decide whether we are going up or down.

Of all the scholars who have tried to highlight the emergence of the contrast that I have called Religion, it is certainly Jan Assmann, in our day, who has done the most. Before he identified and explained what he has called the “Mosaic division”, there was a great confusion between the appeal to multiple divinities and the radical departure we associate with the mythical name of Moses (and also Akhenaton, but this will lead us too far astray). The main point of his, by now, well known and admirably defended argument on the PRICE OF MONOTHEISM, is that monotheistic religion (which he confusingly for us tonight calls “counter religion”) introduced into the relations between people and gods a radically new question: that of their truth and falsity.<sup>xxv</sup> Divinities had never been asked before whether or not they were the “true” ones. They could be added to one another, translated into one another, piled on top of one another for additional safety. The Mosaic division cut through this sort of relaxed attitude toward truth, by contesting the claims to existence of all divinities but one. From then on there would be a connection between the question of worship and a question, irrelevant until then, of an absolute (not a relative) difference between true and false. Starting from there, Assmann has developed a complex historical anthropology of the origin of both a new form of intolerance and fanaticism and also a new appeal to rationality, the narrative he calls, after Freud, “progress in spiritual life”.

The reason I am bringing up his work here is not because of his marvellous analysis of religion's (or counter-religion's in his language) constant misunderstanding of earlier religious practices. The misdirected critique of fetishism is an old story that starts with the Mosaic division and continues to this day, even in most of the ethnographic literature. As we have collectively shown in the exhibit and the book ICONOCLASH, it is another category mistake which has

helped to paralyze the key notion of mediation and the very idea of what it is to *make* something: the fetishist's declaration, "yes, divinities are made, and that's why they are real"; to which the others the iconoclasts mistakenly retort: "If they are made, then they can't be real"-- an image war that explains a large part of the complex history of the West, in science, in religion and in art.<sup>xxvi</sup>

No, the reason I am introducing Assmann, is that he credits monotheism with one incredible feat: it has allowed humans escape from a too close adhesion to the natural world! Without the imposition of the radical Mosaic division, we would be left, according to Assmann, with a "religion of nature", with what he calls "cosmotheism". Thanks to Moses and his many descendants we have extracted ourselves from the world, stopped confusing our gods with objects: the price is high but it was necessary for "progress in spiritual life". What I find fascinating, is that a mind as astute as Assmann's, a scholar so attuned to the historical vagaries of the most cherished modernist notions, still takes, without a hint that it could be as disputable and historically contingent, the idea that without the *transcendence* of monotheism we would be left with the mere *immanence* of the natural world. Without the spirit, we would be in the world of mere objects. As if the world were really made of the stuff of *res extensa*, against which, fortunately, religious spirituality struck its sword violently enough that another world could at last be seen through the gaping holes— a sword which, in passing, was also used to cut a few throats ....

That this sword has not "slept in the hands" of those who wanted "to build Jerusalem" and not only in "England's green and pleasant lands" is clear, but where do we get this prejudice that religion is defined by a transcendence that can save us from a world of nature which otherwise would stifle us into immanence? (or, according to its mirror image, the alternative secular narrative that the stark immanence of the natural world will save us from an escapist adherence to the transcendent world of beyond?). This is where the root of all the spite against non humans and by consequence the complete implausibility of any form of ecological spirituality resides. If all "progress in spiritual life" has been accomplished by removing ourselves from "the world" (or alternatively in converting back from a spiritual dream to a "strictly naturalistic" vision of life on Earth), we will always have to abandon non humans in order to reach the spirit (or what we have to take as a merely material *res extensa* to protect us from the irrationality of religion).

I hope you can now get a sense of why the anthropology of the modern is so difficult to pursue. The moderns don't know where they live. They have no world to reside in. They are homeless. Whereas there is no question that this opposition between the natural and the supernatural, immanence and transcendence, mere objects and meaning, matter and spirit, fact and value, defines a large part of the official ideologies of the West, yet, it is just as true to say that this gigantomachy pays no justice at all to the very contrasts that the moderns have extracted, highlighted and cherished in the course of their long history. It is this duplicity between what they say they are and what they are, that I summarize by the saying borrowed from old Westerns, that "White men speak with a forked tongue". But we Westerners become immensely interesting and could become, I think, frank and reliable, once we move from the ideology to the recognition of the many

different contrasts we have lived by without granting them enough room. I ask for just a bit more of your patience, so that we can sketch out how to do this, in the case of the three contrasted domains we have called Reproduction, Reference, and Religion".

First, one commits an immense injustice by confusing the “material world” with nature. There is nothing especially “natural” in the ways entities reproduce and nothing especially material —nothing spiritual either, and, of course, nothing especially immanent. Stop imposing on one contrast (the acts and processes of entities to sustain themselves), the categories necessary to highlight another, in this case, the beauty of science. The hiatus of Reproduction, the risk taken by each individual organism in its own *Umwelt* to last a little longer, has to be defined on its own terms, with its own felicity conditions, without imposing upon it a narrative borrowed from somewhere else. There exists no material world to which some spiritual power —Blind or Intelligent— adds a superfluous meaning. Non humans have not been emerging for eons just to serve as so many props to show the mastery, intelligence and design capacities of humans or their divine creations. They have their own intelligence, their own cunning, their own design, and plenty of transcendence to go on, that is, to reproduce. I hope you understand that what I am doing here, by asking for Reproduction to stand alone as a mature mode of existence, is not a plea to “overcome the limits of a mechanistic or reductionist view of the material world”, but on the contrary to *stop* adding to it dimensions that have always been superfluous to its pursuit of its own peculiar goals. It was the ideas of nature and matter that were laced with a spurious spirituality. Let us at last secularize the world of reproduction. Saint Darwin pray for us to succeed.

Second, abandoning the awkwardly makeshift concepts of matter and nature, does not mean that you abandon science and objectivity. Quite the contrary. The worst injustice that you can do to science, is to confuse its knowledge with the common sense grasp of “medium sized dry goods”. There is nothing especially “immanent” in the reference chains that allow one to access the invisible, the hidden, the improbable, the surprising, the counter-intuitive. Even the most modest study of the humblest scientific practice, is enough to show the bewildering steps necessary to obtain reliable information through a cascade of transformations. Quite a steeple chase! Many other gaps have to be overcome, many "hiatuses" (if you will), many transcendences. If moderns are guilty of a sin, it is that of portraying one of their main achievements, namely the discovery that nothing was out of reach of reference chains, by morphing it into the lazy contemplation of a “natural world” made visible to rational minds without work, without instruments, without history. They failed to do justice to their own inventive genius and thus have kidnapped science, for political reasons I have outlined elsewhere, into a rather drab and entirely mythical drama of Light overcoming Darkness. Reference deserves greater respect than the hypocritical (I take the word etymologically) adherence to a “scientific world view”. Through its complex, cascading reference chains, science can produce an objective grasp of everything but no “scientific world view” of anything — and especially not by covering up evolution.

Third, can we respect Religion, at last, once we respect the proper transcendences of Reproduction and Reference? (And is respect not the ultimate value of the anthropological project?) At the beginning, I defined the religious tradition by its ability to operate two transformations: a radical transformation of the far away into the close and the proximate (what was dead is now alive) and a positive view of all artificial transformations (against any tendency to conserve what it is). And I suggested that this could be exactly what was needed to extend the range of concerns, passions and energy that the overly narrow “ecological consciousness” could not possess because of its unfortunate adherence to the “conservation of nature” and its ilk. When religion encounters nature, one of them has to go. If religion flees from any involvement with non humans and with science, it becomes irrelevant and will be damned for having forfeited the world to save only the souls of humans in a spiritual nowhere-land. Incarnation would have been in vain. But what happens if religion is allowed to weave its highly specific form of transcendence into the fabric of the other two modes of existence, Reproduction and Reference?

I am well aware that such encounter has never taken place, either because in modernism religion had to deal with the hybrid form of nature it never knew how to handle, or because in premodern theology there was neither science nor an ecological crisis to raise the question urgently enough (no matter how splendid seems the Fathers’ insistence that it is the whole world that is to be saved). Strangely enough, as I have argued tonight (and not without many reservations), creationism seems to be at the right place but with the wrongest tools. It wants religion to be relevant to what is said about the world (which is sound) but it takes the world to be nature (or common-sense matter) and wishes to compete, hopelessly, against the power of scientific chains of reference (which is utter nonsense). Can we do better? Can we help prepare the occasion for an encounter that has never taken place? To put it even more brutally: can the Earth be Saved? (And here the word “save” is not the one we use on our computer to “save files”, nor is it what we mean when we “save” the whales: what is at stake is Salvation).

It is good that my space is up because, having reached this point, I feel a bit like Saint Christopher standing in the middle of the river: the weight of the argument is crushing me...

Just a suggestion to conclude —and maybe to escape. The word “creation” does not need to remain forever the exclusive property of the unfortunate creationists. “Creation” does not have to be the alternative to the “natural world”, as if the only question were to choose between the Blind Watch Maker and the Intelligent Designer. “Creation” could instead be the word to designate what we get when Reproduction and Reference are seized by the religious urge to radically transform that which is given into that which has to be fully renewed. The dream of going to another world is just that: a dream, and probably also a deep sin. But to seize, or seize again this world, this same, one and only world, to grasp it *otherwise*, that’s not a dream, that’s a necessity. The term “Creativity” also designates Reproduction quite well — and it is also a fitting way to capture the immense productivity of science. Is it so absurd to think that all the alliances

among values that “nature” made impossible, might be renewed within “Creation”? Is it so far-fetched to imagine that if nature was never a place to live for long, the modernists might find a much safer and sweeter “land of milk and honey” in “Creation”? As the psalmist taught us to sing “oh Jerusalem how much I long for the safety of your walls”. I am sure I have neither bow, arrow, spear nor “chariot of fire”, but I hope I have convinced the reader that neither you nor I should “Cease from [that] Mental Fight”.

I warmly thank John Tresch for his useful comments and for kindly correcting my English. This paper was prepared for the annual Myers lecture given at the British Museum in London the 25th of September.

- <sup>i</sup> Since I am interested here in the mode of existence of religious enunciation, I am not making use of the rich ethnographic literature on Christianity. For a more developed argument, see my (2002) Jubiler ou les tourments de la parole religieuse, Paris, Les Empêcheurs de penser en rond.
- <sup>ii</sup> Latour, B. (1993). We Have Never Been Modern (translated by Cathy Porter). Cambridge, Mass, Harvard University Press.
- <sup>iii</sup> Latour, B. (1999). Pandora's Hope. Essays on the reality of science studies. Cambridge, Mass, Harvard University Press.
- <sup>iv</sup> Latour, B. (2002). La fabrique du droit. Une ethnographie du Conseil d'Etat. Paris, La Découverte.
- <sup>v</sup> Latour, B. (2005). Reassembling the Social. An Introduction to Actor-Network Theory. Oxford, Oxford University Press.
- <sup>vi</sup> Latour, B. « "To Modernize or to Ecologize, that is the Question" » in N Castree and B Willems-Braun (editors) Remaking Reality: Nature at the Millenium (London and New York: Routledge) 1998, pp. 221-242.
- <sup>vii</sup> Nordhaus, T. and M. Shellenberger (2007). Break Through. From the Death of Environmentalism to the Politics of Possibility. New York, Houghton Mifflin Company
- <sup>viii</sup> Latour, B. « It's the Development, Stupid ! » or How Can we Modernize Modernization ? » for a book of essays edited by Jim Proctor Postenvironmentalism to be published by the MIT Press, 2008, commenting upon T. Nordhaus, and M. Shellenberger, Break Through. From the Death of Environmentalism to the Politics of Possibility, New York, Houghton Mifflin Company, 2007.
- <sup>ix</sup> Zizioulas, M.J.o.P., Proprietors or Priests of Creation (Keynote adress to the 5th Symposium of Religion, Science and the Environment). 2003.
- <sup>x</sup> Hessel, D. T. and R. R. Ruether, Eds. (2000). Christianity and Ecology. Cambridge, Mass, Harvard University Press.
- <sup>xi</sup> Whitehead, Alfred North Religion in the Making, (New York, Fordham University Press, 1926).
- <sup>xii</sup> Bastaire, Hélène and Bastaire Jean (2004) Pour une écologie chrétienne, Paris, Le Cerf.
- <sup>xiii</sup> Latour, B. (2005). "Thou Shall Not Freeze-Frame" – or How not to Misunderstand the Science and Religion Debate. Science Religion and the Human Experience. J. D. Proctor. Oxford, Oxford University Press: 27-48.
- <sup>xiv</sup> Descola, P., Par delà nature et culture. 2005, Paris: Gallimard.
- <sup>xv</sup> Whitehead, A. N. (1920). Concept of Nature. Cambridge, Cambridge University Press and its commentary in Stengers, I. (2002). Penser avec Whitehead : Une libre et sauvage création de concepts. Paris, Gallimard.

- <sup>xvi</sup> Stengers, I. (1996). Cosmopolitiques - Tome 3: Thermodynamique: la réalité physique en crise. Paris, La Découverte.
- <sup>xvii</sup> Witness the mass of examples in Gilbert, Scott F. and Epel David (2009) Ecological Developmental Biology. Integrating Epigenetics, Medicine and Evolution, Sunderland, Mass, Sinauer Associates, Inc.
- <sup>xviii</sup> Von Uexküll, J. (1965). Mondes animaux et monde humain. Théorie de la signification. Paris, Gonthier.
- <sup>xix</sup> Latour, B. *Politics of Nature: How to Bring the Sciences into Democracy (translated by Catherine Porter)*. 2004, Cambridge, Mass: Harvard University Press.
- <sup>xx</sup> Sloterdijk, P. (2004). Sphären III- Schäume. Frankfurt, Suhrkamp.
- <sup>xxi</sup> Kitcher, P. (1983). Abusing Science: The Case Against Creationism. Cambridge, Mass, MIT Press.
- <sup>xxii</sup> Dawkins, R. (1996). The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design. New York, W. W. Norton & Company.
- <sup>xxiii</sup> Coleman, Simon and Carlin Leslie (Ed.), (2004) The Cultures of Creationism: Anti-Evolution in English-Speaking Countries, Aldershot, Ashgate Publishing.
- <sup>xxiv</sup> Creativity being the word devised by Whitehead, A. N. (1929 1978). Process and Reality. An Essay in Cosmology. New York, Free Press for his philosophy of organisms.
- <sup>xxv</sup> Assman, J., *Of God and Gods: Egypt, Israel, and the Rise of Monotheism*. 2008: University of Wisconsin Press.
- <sup>xxvi</sup> Latour, B. and P. Weibel, Eds. (2002). Iconoclasm. Beyond the Image Wars in Science, Religion and Art. Cambridge, Mass, MIT Press.

### **Bibliography :**

- Assman, J., *Of God and Gods: Egypt, Israel, and the Rise of Monotheism*. 2008: University of Wisconsin Press.
- Bastaire, H. & Bastaire J. (2004) *Pour une écologie chrétienne*, Paris, Le Cerf Descola, P., *Par delà nature et culture*. 2005, Paris: Gallimard.
- Coleman, Simon and Carlin Leslie (Ed.), (2004) The Cultures of Creationism: Anti-Evolution in English-Speaking Countries, Aldershot, Ashgate Publishing.
- Dawkins, R. (1996). The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design. New York, W. W. Norton & Company.
- Gilbert, Scott F. and Epel David (2009) Ecological Developmental Biology. Integrating Epigenetics, Medicine and Evolution, Sunderland, Mass, Sinauer Associates, Inc.
- Hessel, D. T. and R. R. Ruether, Eds. (2000). Christianity and Ecology. Cambridge, Mass, Harvard University Press.
- Latour, B. (1993). We Have Never Been Modern (translated by Cathy Porter). Cambridge, Mass, Harvard University Press.
- « "To Modernize or to Ecologize, that is the Question" » in N Castree and B Willems-Braun (editors) *Remaking Reality: Nature at the Millenium* (London and New York: Routledge) 1998, pp. 221-242.
- (1999). Pandora's Hope. Essays on the reality of science studies. Cambridge,

- Mass, Harvard University Press.
- (2002). La fabrique du droit. Une ethnographie du Conseil d'Etat. Paris, La Découverte.
- (2002). Jubiler ou les tourments de la parole religieuse, Paris, Les Empêcheurs de penser en rond.
- Latour, B. Politics of Nature: How to Bring the Sciences into Democracy (translated by Catherine Porter). 2004, Cambridge, Mass: Harvard University Press.
- (2005). Reassembling the Social. An Introduction to Actor-Network Theory. Oxford, Oxford University Press.
- (2005). "Thou Shall Not Freeze-Frame" – or How not to Misunderstand the Science and Religion Debate. Science Religion and the Human Experience. J. D. Proctor. Oxford, Oxford University Press: 27-48.
- « It's the Development, Stupid ! » or How Can we Modernize Modernization ? » for a book of essays edited by Jim Proctor Postenvironmentalism to be published by the MIT Press, 2008, commenting upon T. Nordhaus, and M. Shellenberger, Break Through. From the Death of Environmentalism to the Politics of Possibility, New York, Houghton Mifflin Company, 2007.
- Latour, B. and P. Weibel, Eds. (2002). Iconoclasm. Beyond the Image Wars in Science, Religion and Art. Cambridge, Mass, MIT Press.
- Nordhaus, T. and M. Shellenberger (2007). Break Through. From the Death of Environmentalism to the Politics of Possibility. New York, Houghton Mifflin Company
- Sloterdijk, P. (2004). Sphären III- Schäume. Frankfurt, Suhrkamp.
- Kitcher, P. (1983). Abusing Science: The Case Against Creationism.
- Stengers, I. (1996). Cosmopolitiques - Tome 3: Thermodynamique: la réalité physique en crise. Paris, La Découverte.
- Stengers, I. (2002). Penser avec Whitehead : Une libre et sauvage création de concepts. Paris, Gallimard.
- Von Uexküll, J. (1965). Mondes animaux et monde humain. Théorie de la signification. Paris, Gonthier.
- Whitehead, A. N. (1920). Concept of Nature. Cambridge, Cambridge University Press
- Whitehead, Alfred North *Religion in the Making*, (New York, Fordham University Press, 1926).
- Whitehead, A. N. (1929 1978). Process and Reality. An Essay in Cosmology. New York, Free Press for his philosophy of organisms.
- Zizioulas, M.J.o.P., *Proprietors or Priests of Creation (Keynote adress to the 5th Symposium of Religion, Science and the Environment)*. 2003.