Bruno Latour, in his book *Où atterrir? Comment s'orienter en politique* (La Découverte 2017)/ *Down to Earth: Politics in the New Climatic Regime* (Polity Press 2018), lends us a diagnosis of the Trump era, which highlights the climate debate as a war, and all other geopolitical problems as related to this war. Donald Trump's decision to withdraw from the Paris accords 2015 and the extensive rise of protective nationalist movements, emphasize the inertness of Modernism's idea about Globalization and the need for geopolitics to look elsewhere in order to answer the question: What to do? Latour's answer is to look at man's belonging to a territory, to a 'soil', in order to, in the first place, describe how 'the earthly', the belongingness, is put together. Painstaking description necessarily precedes political action, he declares. However, what is it, exactly, that stands in need of description? From which epistemic stance can a soil be seen, and how, precisely, is the ensuing description carried out? This paper addresses these questions.

Latour argues that any effort to sustain life in the critical zone of our planet must leave behind the modern epistemologies, which both reify and partition nature and science. In order to clear the ground for a proper descriptive stance, he dismisses 'the view from nowhere', 'a view from out there' and corresponding epistemic notions like 'naturalism', 'scientism', 'rationalism' and 'Galileism'.[1]

I argue that Latour's fight against the scientific-epistemological stances he calls 'Galileism' and 'the view from nowhere' is misguided and wrong in the details. Also, at best, it is largely irrelevant for the constructive use of science in the guidance of political action. At worst it risks to impede reaching the ultimate goal he has in mind through redescribing the earthly conditions for Mankind – the goal of landing on Earth, and, perhaps, saving our planet.

The premises

I take Latour's premise, that a geopolitical change would be powerless considered as a philosophical idea, to be true. Indeed, isn't this a mere truism? Ideas need to be contextualized in order to get hold of people. They need transformation in order to be recognizable as ideas important to their own particular life. A number of ideas aren't useful anymore (if they ever were) for helping us out, or so Latour thinks. Thus, there are several respects in which we are conceptually unprepared for the present situation, according to him. As he already argued for in *Facing Gaia* (2017)[2], we are unprepared politically,

ethically and epistemologically for the challenge of the New Climate Regime. I'd like to add 'educationally' as a fourth dimension of our life, along which we might not be properly prepared for this challenge. Interestingly, Latour is indeed quite dismissive with respect to a potential for the educational system to contribute in a positive way (*Down to Earth*, p.25), although he does not justify this claim. I have a few remarks on the educational dimension, following my analysis of Latour's critique of the scientific-epistemological stance. I leave the political and ethical dimensions pretty much untouched.

What is it then precisely Latour criticizes in *Down to Earth*, when it comes to epistemology and science? Latour's earlier critiques of a number of classical perspectives in theory of science are well known. There is a long history going back to what the 1990s witnessed as the so-called 'science wars' between 'realists', who held that facts were objective, isolable and freestanding, and 'social constructionists', such as Latour, who argued that such facts were created by the scientific research.

These issues, however, are not at stake in *Down to Earth*. With respect to epistemology and science, Latour's stance has now changed. The hot wars of science have indeed come to an end. No winners, just casualties. Latour for his part would probably say that history has proved, that he and researchers of his ilk in science and technology studies were right: With respect to, say, the new climate regime, scientific facts appear to remain robust only when supported by a culture which is trustworthy, by reliable media, and by a decent public. And nowadays there is indeed a strong acknowledgement from research communities and politicians of the social dimensions of science: dissemination of knowledge, the peer-review systems, bibliometric concerns, the importance of 'research management', etc.. But at the same time, most natural science pretty much unaffected tugs on in a traditional way: by endorsing realism in the belief that it carves nature at its joints, little by little accumulating facts and thus contributing to the extension of the set of true propositions.

In addition to the de facto, but not declared ceasefire in the science wars, a number of particular concerns has for Latour's part also mitigated his bellicosity and made him change direction. Hence, for the purpose of clarifying the premises for his particular critique in *Down to Earth*, it is useful to look into the 2004 paper 'Why has critique run out of steam? From matters of fact to matters of concern'. In this paper the reasons for Latour's change are made clear. Latour expresses deep concerns and worries about the threat of an

equivocation between constructivism's sceptical attitude towards the existence of 'pure, objective, scientific facts' and a strong, rampant, tendency to systematically distrust matters of scientific fact for ideological reasons: "*[…] dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives.*"[3]

Latour's concern is about the argumentative pattern, which says that since evidence is never complete, we would have to distrust scientists, even when an overwhelming majority of them tell us, that, say, largely man-made pollutants cause global warming. In the light of this danger of equivocation, Latour distinguishes between 'matters of fact' and 'matters of concern'. The purpose is to demonstrate the possibility of cultivating a critical, realistic stance, which doesn't fight with empiricism (like old days' constructivism), but instead indeed seeks to renew it, by dealing with matters of concern, not matters of freestanding facts (cf. 2004, p.231). He asks for a new powerful descriptive tool, looking back at the long tradition from Enlightenment preoccupied with matters of fact, and, on the other hand, the recent, debunking critical attitude against 'matters of fact-realism' so prominent during the science wars. Latour instead wants a critique which turns around and engage with 'matters of fact' in order 'to protect and to care' about those facts which really are of our concern. By adopting and developing the Ding/Gegenstand bifurcation from Martin Heidegger[4], he attempts at pointing in a new direction for a critical thinking: "What would happen, I wonder, if we tried to talk about the object of science and technology, the Gegenstand, as if it had the rich and complicated qualities of the celebrated Thing?"[5]

Although Latour in the 2004 paper is dissatisfied with Heidegger's strict bifurcation between Gegenstände (objects) and Dinge (things) – and at one point even re-digs the war hatchet by expressing the strong anti-realistic claim that all matters of fact, in order to exist, require a bewildering variety of matters of concern[6] – Latour implicitly admits 'matter of fact' an independent meaning. He now worries about 'an excessive distrust of good matters of fact disguised as bad ideological biases' (2004, p.227). Hence, Latour suggests that matters of fact are considered as processes of entangled concern instead of being debunked as fictitious. In the words of Puig de la Bellacasa, who has further developed Latour's suggestion:

The purpose of showing how things are assembled is not to dismantle things, nor undermine the reality of matters of fact with critical suspicion about the powerful (human) interests

they might reflect and convey. Instead, to exhibit the concerns that attach and hold together matters of fact is to enrich and affirm their reality by adding further articulations.[7]

These considerations are part of the premises for the critique launched in *Down to Earth*. Thus, the very real concern for Latour in *Down to Earth* is of course our home, Planet Earth. This home is of primary concern when we acknowledge what we have done to it. The climate crisis now threatens the conditions for our life 'at home'. And what is of a very real concern to Latour is the denial of the existence of a climate change, one of the phenomena he sees as a symptom of a new, historical situation: The dawning awareness, that there is not any longer any common world for Human Mankind to share (*Down to Earth*, pp.1-2). The bankruptcy of the idea of Globalization, the huge amounts of refugees, the rise of nationalism, the flee towards the Local, towards colonization of Mars, towards gated communities, and the idea about self-sufficient, bio-dynamical farming, are all either symptoms of this situation or exemplifications of it.

On the one hand, then, Latour in *Down to Earth* puts the theoretical discussions of the science wars at rest; he leaves them in epoché, because his concerns are much more pressing. As a matter of fact, we are facing a serious climate crisis, threatening to end our lives on Earth. On the other hand, he also has reservations with respect to the adequate scientific-epistemological stance along which our concerns can and should be addressed, since the tools pertaining to our Planet Earth are of a peculiar kind. The reason for this is that the very object of research is peculiar. Our conception of 'nature' is wrong: "We need to be able to count on *the full power of the sciences,* but *without the ideology of "nature"* that has been attached to that power. We have to be materialist and rational, but we have to shift these qualities onto the right grounds."[8]

The dichotomies between nature and culture, necessity and freedom, objective and subjective block the way to describe and understand the Terrestrial. The problem is, that in order to mold a politics, you need agents, but agents are not objects, external to society, which, according to Latour, they keep appearing as if we continue doing science from the epistemological stance which dictates that 'to know is to know from the outside' (*Down to Earth*, p.68). Thus, Latour's main objection is against the conception of science where we gain objective knowledge by adopting, ideally, the 'view from nowhere' perspective.

This perspective is traced back to Galilei, who gave a mechanistic description of movement conforming to the model of falling bodies. The application of this epistemological perspective through the mechanical model of the whole universe treated the earth as just one planet among other planets in an infinite universe. In natural science, this is the outcome of a radical transition from a perspective on our closed world to one on the infinite universe.[9] Although the success of the mechanical model is undeniable, Latour thinks that it isn't of much use as a tool in the description of the rich variety of processes taking place at our planet. He is not alone with this critique. A strong tradition in epistemology and theory of science going back to Edmund Husserl has vehemently argued against the idea that natural science gives us the ultimate basis for epistemology and the norms from which the understanding of our lifeworld must be taken. This critique against a 'one-eyed view from nowhere' and the invention of abstract 'Galiean objects', also briefly alluded to by Latour[10], found an extensive expression in Husserl's late work *Die Krisis der europäischen Wissenschaften und die transzendentale Phänomenologie*[11] and it has been a standard theme in orthodox phenomenology ever since.

In politics, Latour argues, we have seen a move away from the Terrestrial toward a problematic ideal of 'Globalization', to the extent that a one-eyed, single vision, conceived by a small elite, representing only a small number of interests, has replaced (the idea of) multiplying viewpoints 'registering a greater number of varieties, taking into account a larger number of beings, cultures, phenomena, organisms, and people' (*Down to Earth*, pp.12-13).

Latour's worry is of a very similar sort when it comes to the scientific tools and the underlying epistemological perspective necessary to describe the Terrestrial in order to begin anew. Instead of moving away from the earth and adopt what he calls a perspective where 'everything has to be viewed as if from Sirius', we must adopt a much closer view, which makes it possible to see, register and acknowledge the varieties of Terrestrial life. It isn't as if Latour does not admit the existence of the ecological movements and parties and their attempt to raise people's interest in and concern for 'nature'. But as long as their concept of 'nature' really is the 'nature-universe', seen from nowhere, a conception which puts neutron stars on the same level as cells of a body, it can't seriously motivate people and mobilize any politics, he believes:

There is no point looking any further for the slow pace of mobilizations in favor of nature-as-universe. It is completely incapable of churning anything political. To make that type of beings – the Galilean objects – the model for what is going to mobilize us in geo-social conflicts is to court failure.[12]

The flipside of this critique of science and epistemology is Latour's defense of the Actor-Network Theory (ANT). Only through this particular scientific approach, we shall be able to achieve a secure scientific understanding of Planet Earth that in the end can help us out, and give us a basis for a new politics, he seems to think.[13] ANT doesn't take up much space in *Down to Earth*, and it is not my intention to go into a discussion of ANT here. I am only interested in putting forth the basis for Latour's critical remarks on epistemology and science. A number of valuable remarks and considerations in *Down to Earth* of an ANT kind should, however, in fairness to Latour, be mentioned in order to round off my exposition of the premises of his critique of 'the view from nowhere' and its preoccupation with 'Galilean objects'. Three things related to ANT stand out.

Firstly, it is important for Latour to stress, that the only relevant sciences for dealing with a new description of Planet Earth are those that fully acknowledge that the Earth system is not a system of production, but a self-regulating system of actors reacting against other actors, including against human beings, because it suffers from the actions of these. It is a question about coming to consciousness about a much richer, varied set of objects for science by adopting a new epistemic stance towards 'nature': "[…] if we take the model of falling bodies as the yardstick for movement in general, all the other movements, agitations, transformations, initiatives, combinations, metamorphoses, processes, entanglements, and overlaps are going to appear bizarre."[14]

The important – and difficult – thing is to understand the role of living beings, their power to act, their agency. The overlap of themes from Latour's earlier book *Facing Gaia,* his inspiration from John Lovelock's Gaia theory, is evident. Still, however, it should be noticed, that Latour also remarks that there is no need for adopting Lovelock's approach as such (*Down to Earth*, p.76). The important point is rather the possibility of a political revitalization through the reorientation of the natural sciences if (and only if) these were 'encompassing all the activities necessary to our existence' (*Down to Earth*, p.77).

Secondly, it is important 'to try to single out the sciences that bear upon what some researchers call 'the Critical Zone''. This refers to a minuscule zone a few kilometers thick between the atmosphere and bedrock, of central and sine qua non concern and interest for understanding the Terrestrial and ultimately for survival – 'a biofilm, a varnish, a skin, a few infinitely folded layers' (*Down to Earth*, p.78).:

It is Earth's permeable near-surface layer […] It is a living, breathing, constantly evolving boundary layer, where rock, soil, water, air, and living organisms interact. These complex interactions regulate the natural habitat and determine the availability of life-sustaining resources, including our food production and water quality.[15]

Thirdly, a new libido sciendi is required. 'Earthseeking emancipation' calls for other virtues than 'weightless emancipation', Latour claims. This means another psychological mindset, another sensitivity required for the different, scientific task and the new politics. Latour doesn't say much about this issue, but it is interesting in itself, and I deal with it below in relation to my critical points.

Critical remarks

The central problem with Latour's critique of science is his ambiguity in his own reliance on science and scientific results. On the one hand, he appears to endorse the results of science, and on the other denounces the epistemological stance, which is constitutive for the scientific approach, that lends him those very results.

Let me be precise. What I have in mind here is not the epistemological outlook of 'the new sciences' (say ANT), and the results gained from them. Not in the first place. It is rather the 'good old science' (let me refer to it as 'GOOSE'), which 'pretty much unaffected tugs on in a traditional way: by endorsing realism in the belief that it carves nature at its joints, little by little accumulating facts and thus contributing to the extension of the set of true propositions', as I described it above. Thus, Latour acknowledges the facts about the climate condition, all the accumulating results from statistics achieved by geophysics, meteorology, biology and so on and so forth. By means like satellite-photos, ice core samples and much else besides he indirectly acknowledges GOOSE, which brings forth these facts. Facts, that are neither more nor less than examples of 'hard-won evidence that could save our lives'.

Matters of fact – of concern. Latour undoubtedly would respond to this by pointing out, that he certainly approves the obtained GOOSE facts which helped to draw our attention to the climate crisis and which justified the assumption, that it is a man-made crisis. But he would not approve these sciences as helpful when it comes to the task of doing research in the critical zone or describing the Terrestrial conditions for human life.

If the choice is between GOOSE and ANT as the scientific approach to the actors on Planet Earth, ANT wins.

But let us look more closely at the differences between the denounced 'view from nowhere' and the replacing stance toward the Terrestrial, Latour is arguing for.

'A view from nowhere' is for all practical purposes a contradiction in terms, but occurs as a useful abstract conception of the ideally, disinterested objective description of an entity. I shall return to this purely abstract notion below. But Latour also denounces concrete points of view far away from Planet Earth. He indeed transforms the abstract idea into something very concrete: The perspective of the infinite univers – 'from Sirius'. And from that observation site, there is pretty much about the Terrestrial, the life on Earth, you cannot see and which therefore is of no concern whatsoever. Latour is of course right about that, and makes a vivid point out of the absurdity of our interest in far-away objects in an infinite space compared to the critical condition of Planet Earth, at home, right here. But if you move from Sirius towards Planet Earth, you reach an orbit of observation sites which should be of utmost importance to Latour: This is the geostationary orbit, some 35.786 kilometers above Earth's equator, and following the direction of Earth's rotation, from where the critical zone and much besides on our planet can be observed by satellites. Thus, favorable observation points appear in a good distance from where earthly actors live their lives; as a matter of fact observation points for those of the earthly actors we call 'human beings'. Whereas Heidegger could allow himself to be shocked when he saw the first pictures of the earth taken from space[16], Latour cannot and should not. Mediated by satellites we gain valuable information about the critical zone, the important stratum for the 'proper sciences' dealing with the Terrestrial. Latour at one point passes by this favorability of observation points from space (*Down to Earth*, p.78), without noticing the mild irony of our having this important orbit of outer observation posts, considered his occupation with a Terrestrial point of view. This at least demonstrates, I believe, that it is not an easy task to draw a line

between the importance and unimportance of adopting a point of view distant from the Terrestrial. It also shows that facts from GOOSE might blend in and become very useful – indeed essential – for ANT or other non-GOOSE type of sciences doing research in the critical zone. Latour would perhaps admit these points, and argue, that a view from nowhere considered as an abstract ideal makes us blind in the real world to what we experience and consequently turn actors into objects, which implies mis-describing and devaluating them:

If we swallow the usual epistemology whole, we shall find ourselves again prisoners of a conception of "nature" that is impossible to politicize since it has been invented precisely to limit human action thanks to an appeal to the laws of objective nature that cannot be questioned. […] Every time we want to count on the power to act of other actors, we're going to encounter the same objection: "Don't even think about it, these are mere objects, they cannot react," the way Descartes said of animals that they cannot suffer.[17]

Whether or not Latour is right in his historical consideration about the motifs for inventing the conception of 'objective nature', I believe that 'the view from nowhere' is not only highly useful (in addition to being potentially demeaning), but indeed an inevitable epistemological element of any thinking endeavor. The ability to form conceptions towards a view from nowhere is constitutive for being able to think. I take the liberty to include Latour here. 'Towards', but without ultimately succeeding. We are apparently able to put our respective subjective points of view in epoché in our attempts to reach a more objective understanding in a variety of human endeavors, including science, philosophy and education. But it is our fate that we never succeed in escaping ourselves completely when reaching towards an objective understanding, and we certainly know a number of examples from the history of philosophy and science, where claims about successful 'escapes' are made, but eventually end up as classical, prominent examples of mistaken reductions. Some of these are certainly grandiose and keep attracting us; (probably) mistaken they nevertheless are.[18] Thomas Nagel in his book *The View from Nowhere* from 1986[19] has argued in detail for this epistemological 'fate' of human beings – a kind of 'double vision', since we can transcend our subjective selves – although not fully so: "Double vision is the fate of creatures with a glimpse of the view sub specie aeternitatis."[20]

Somewhat surprisingly, Latour neither refers to Nagel nor to this influential book in *Facing Gaia* and *Down to Earth*.[21]

With respect to a strive towards objectivity, I believe that it is an essential part of our pursuits of truth – that we are able to attempt at putting ourselves to a side, including being able to acknowledge another subject's point of view. This is neither to say that we are ever able to fully succeed, nor to say that scepticism in any easy way can be rejected.

Latour's discussion of the genesis of the conception of 'the view from nowhere' through the invention of 'Galilean objects', gives rise to another critical point, we need to take into consideration in order to understand his use of the notions 'point of view' and 'vantage point' :

From the fact that one can, from the vantage point of the earth, grasp the planet as a falling body among other falling bodies in the infinite universe, some thinkers go on to conclude that it is necessary to occupy, virtually, the vantage point of the universe to understand what is happening on this planet. The fact that one can gain access to remote sites from the earth becomes the duty to gain access to the earth from remote sites.[22]

I do not know whom the thinkers Latour is referring to here are, and I don't understand what he means by a duty to gain access to the earth from remote sites. But notice that Latour is very concrete here in his use of 'vantage point'. He is not thinking of vantage point in an abstract way like when we disregard the sensible properties of a physical object in order to conceive it ideally for the purpose of explaining and predicting its behavior from the laws of mechanics. However, he also remarks that: "[…] this vision from the vantage point of the universe – "the view from nowhere" – has become the new common sense to which the terms "rational" and even "scientific" find themselves durably attached."[23]

Thus, he apparently mixes up the existence of concrete vantage points with the abstract, ideal notion of 'a view from nowhere'. This is a mistake. He might be right, that there are points in space – e.g. the view from Sirius – that it doesn't make sense to occupy in order to see anything of concern at Planet Earth. But the existence of an abstract view from nowhere is something differently, qua abstract – whether or not it is constitutive for our ability to think and do science. Latour thinks concretely about the vantage points, and is therefore only in a banal sense right when he claims, that even when it becomes a duty to gain access to the earth from remote sites, it will always in practice remain a contradiction in terms. Offices, labs, instruments, the entire production and validation of knowledge etc. etc. has

never left the old terrestrial soil (*Down to Earth*, pp.67-68). Put differently, Latour's discussion of 'vantage points' is not addressing the question about the genesis, power and possible constitutive role of adopting an abstract 'view from nowhere'. He refers to Husserl as the source of the notion 'Galilean objects', but his discussion of these issues is consistent with the view, that Husserl's critique of the scientific-epistemological stance 'Galileism' and 'the view from nowhere' implies a total dismissal of this stance. This is not correct, however. Husserl's objections in *Krisis* were not directed against natural science adopting 'a view from nowhere' and the possibility of describing and explaining natural phenomena as 'Galilean objects', but instead and *only* against natural science if this is taken as *the true and only* epistemological basis for understanding our world and ourselves in this world.

With these remarks I have indicated where I believe Latour is mistaken with respect to his fight against certain scientific-epistemological stances. He has valuable points about our conceptions of 'nature', but does not succeed with the demonstration that the epistemic notion of 'the view from nowhere' is neither unsound nor useless. I have tentatively argued for the possibility along Nagelian lines, that the ability to form conceptions towards a view from nowhere is constitutive for being able to think and fortiori for doing science – be it GOOSE-, ANT-, or otherwise. Still, the risks of our exploitative and disparaging behavior towards nature would not be less imminent, even if my critical remarks are correct. Latour's points about the dangers of treating actors as objects still stands.

This is where his idea about a new libido sciendi is to the point. I am not sure what he precisely means by the virtues 'weightless emancipation' – needed for heading toward the Global – and 'earthseeking emancipation', which is required if we decide to turn toward the Terrestrial. (*Down to Earth*, p.81) Latour probably believes, that what is needed is a different sensitivity towards those actors which before were treated as mere objects. It is a question about taking the Earth's reactions to our actions into account (*Down to Earth*, ibid.). But even if we for the sake of argument grant Latour, that a redistribution of agency/actors is required, and new 'positive bodies of knowledge' is sought for, why should this situation involve different laboratories, instruments, and researchers (Ibid.)? What are the reasons for that? After all Latour sometimes also writes much more liberally as if many different sciences could be involved. 'We must count on the full power of the sciences – but get rid of the ideology about 'nature'; and 'we have to be materialist and rational, but we have to shift these qualities onto the right grounds.' (*Down to Earth*, p.65). So GOOSE and

ANT can work together after all? It seems all too adventurous to call in new sciences, instruments, researchers and labs in order to address our 'new Earth' scientifically.

Consider a small thought experiment, in line with the idea about a redistribution of actors: Assume that plants are phenomenally conscious. Certainly, that would have an enormous effect on the discussion about the attribution of rights to them, just as much as the acknowledgement of animals' capability for suffering and having experiences of pain had on the discussions of animal rights back in 1970s. If plants indeed have pain qualia and are capable of being consciously aware of their immediate surroundings, we will probably think very differently about what we experienced, when we went for a walk in the forest or 'into the wild'.[24] We would think and act differently when it came to producing and consuming plant-based food and cloth, about bringing cut flowers into our sitting room etc., etc. But should we really stand in need for whole new sciences, researchers, instruments and labs? I don't see any reasons for that.

Preparing for landing

Latour in *Down to Earth* is deliberately vague about what 'an Eartly stance' comes to. One thing is his inclinations towards ANT and the role of sciences in general. But he also, in parallel, hints at a required, new description of the multifarious ways we inhabit our soil, the conditions for the Terrestrial, for life, for living at our Earth. Latour's tentative gesture is partially due to his invitation to the reader to co-develop this stance; to contribute in the positive, if Latour's geopolitical diagnosis is sound. He indeed suggests the initiation of a massive, new descriptive task: "What to do? First of all, *generate alternative descriptions.* How could we act politically without having inventoried, surveyed, measured, centimeter by centimeter, being by being, person by person, the stuff that makes up the Earth for us?"[25]

Latour reminds the reader of an episode in the history of France, between January and May 1789, where a ledger of complaints was constructed, at the request of the king.[26] The purpose was to let the corporations, cities and estates all have a voice, all have a chance to describe their environments, conditions for living a live, their privileges, taxes etc. Latour's idea now is that all actors in a similar way should be granted the opportunity to (in principle) define their dwelling place:

To define a dwelling place, for a terrestrial, is to list what it needs for its subsistence, and, consequently, what it is ready to defend, with its own life if need be. This holds as true for a wolf as for a bacterium, for a business enterprise as for a forest, for a divinity as for a family. What must be documented are the properties of a terrestrial – in all the senses of the word property – by which it is possessed and on which it depends, to the extent that if it were deprived of them, it would disappear.[27]

Surprisingly, Latour himself cannot refrain from coming up with his own defence of and effusive tribute to EU's Europe as the best place, by his lights, to live right now at Planet Earth (*Down to Earth*, pp.100ff). This is surprising, since landing somewhere on Earth is supposed to follow *after* the description of the properties of an environment, the conditions for living a live, has taken place. But no attempt at drawing such a list is presented. Certainly, Latour points at moral reasons for choosing Europe as a (his?) landing site:

It is as though Europe had made a centennial pact with the potential migrants: we went to your lands without asking your permission; you will come to ours without asking. Give and take. There is no way out of this. Europe has invaded all peoples; all peoples are coming to Europe in their turn.[28]

But whether or not Europe and the European Union for historical reasons has a special moral obligation towards refugees and migrants, this is not a description of basic needs and properties of an individual actor, or of a type of actor, it is not 'to list what it needs for its subsistence, and, consequently, what it is ready to defend, with its own life if need be' (*Down to Earth*, p.95). Pointing towards EU and Europe harmonizes poorly with Latour's conviction, that a redescription of a dwelling place unlikely coincides 'with a classic legal, spatial, administrative, or geographic entity' (Ibid.). His pointing appears more like a geopolitical manifestation, the first draft of a political programme – what he himself warns against: "Any politics that failed to propose redescribing the dwelling places that have become invisible would be dishonest. We cannot allow ourselves to skip the stage of description. No political lie is more brazen than proposing a program."[29]

Another surprising fact is, that just as much Latour invites the reader to think and act, he airs a pessimism with respect to any role whatsoever for education toward raising a consciousness about the climate crisis and the motivation for a new geopolitics (cf. *Down to*

Earth, p.25) . This is surprising, because it is very difficult to see a direction from which collective, massive mobilization should come, if not the educational system. I believe that Latour's pessimism in this regard is locally grounded in the problems with the French school system (L'Éducation Nationale).[30] Be that as it may, he is also inconsistent in his attitude towards education. He notices a strong and long lasting tendency to see other peoples' attitudes, myths and rituals as 'mere vestiges of old forms of subjectivity, of archaic cultures irreversibly outstripped by the modernization front'. Accordingly, such cultural remains have been seen as belonging at the ethnographic museums. But he also remarks, that: 'it is only today that all these practices have become precious models for learning how to survive in the future'. (*Down to Earth*, p.75) Learning about other ways to live Terrestrially takes place. If practices have become models for learning, there is no principled hindrance to educational institutions for transforming these models into *their* practices. And after all: When it comes to Latour's critique of 'the view from nowhere', of 'the Galilean objects', of 'the nature-as-universe' – what else is this but an attempt in the direction of a new heuristics, a pedagogy for doing science in new ways? Perhaps Latour is right in his critique of science and epistemology. Or perhaps a massive, buildup of GOOSE, invariably addressing the climate crisis, really is what is needed.

Either way education will have a mandatory role to play through the concrete pedagogical tasks of reflecting and informing on our situation, developing models for how to address the climate situation in the classroom and for motivating geopolitical action in order to save our home, Planet Earth. Education lends us hope.

Whether or not the current global corona pandemic extinguishes this hope due to recession and ensuing depression – or on the contrary leaves us with a window that is open for a very short period, enabling Global or even Terrestrial reflection and political action – remains to be seen.

References

Heidegger, M. (1976). 'Nur noch ein Gott kann uns retten', (Ein Spiegel-Gespräch mit Rudolf Augstein und Georg Wolff geführt im 1966), *Der Spiegel*, 23, 193-219.

Heidegger, M. (2000). 'Das Ding', in *Gesamtausgabe, 1. Abteilung: Veröffentlichte Schriften*

1910-1976. Band 7, Vorträge und Aufsätze. Vittorio Klostermann GmbH, Frankfurt am Main.

Husserl, E. (1976). *Die Krisis der europäischen Wissenschaften und die Transzendentale Phänomenologie. Eine Einleitung in die phänomenologische Philosophie*. Hrsg. von Walter Biemel. Martinus Nijhoff, Haag. (Husserliana, bd. 6).

Koyré, A. (1957). *From the Closed World to the Infinite Universe*. The John Hopkins Press, Baltimore.

Latour, B. (1987). *Science in Action: How to Follow Scientists and Engineers Through Society*. Harvard University Press, Cambridge, Mass.

Latour, B. (1996). 'On actor-network theory. A few clarifications', *Soziale Welt*, 47, 369-381.

Latour, B. (2004). 'Why has critique run out of steam? From matters of fact to matters of concern', *Critical Inquiry*, 30, 225-248.

Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press, Oxford.

Latour, B. (2017). *Facing Gaia. Eight Lectures on the New Climate regime*. Polity Press, Cambridge, Medford, 2017.

Latour, B. (2017). *Où atterrir? Comment s'orienter en politique.* La Découverte, Paris.

Latour, B. (2018). *Down to Earth: Politics in the New Climatic Regime*. Polity Press, Cambridge.

Nagel, T. (1986). *The View from Nowhere*. Oxford University Press, Oxford.

Puig de la Bellacasa, M (2011).'Matters of care in Technoscience: Assembling neglected things', *Social Studies of Science*, 41(1), 85-106.

Shapiro, G. & Markoff, J. (With contributions by Timothy Tackett and Philip Dawson) (1998).

Revolutionary Demands. A Content Analysis of the Cahiers de Doléances of 1789. Stanford University Press, Stanford, CA.

Endnotes

[1] These themes are *legio* in Latour's writings. In the present book, particularly chapter 14 deals with these issues.

[2] Latour, B. *Facing Gaia. Eight Lectures on the New Climate regime*. Polity Press, Cambridge, Medford, 2017.

[3] Latour, B. (2004): 'Why has critique run out of steam? From matters of fact to matters of concern', *Critical Inquiry*, 30, 225-248, p. 227.

[4] The inspiration for Latour comes in particular from Martin Heidegger's paper 'Das Ding', in *Gesamtausgabe, 1. Abteilung: Veröffentlichte Schriften 1910-1976. Band 7, Vorträge und Aufsätze*. Vittorio Klostermann GmbH, Frankfurt am Main, 2000.

[5] Latour 2004, p.233.

[6] *Op.cit.*, p. 247.

[7] Puig de la Bellacasa, M. (2011): 'Matters of care in Technoscience: Assembling neglected things', *Social Studies of Science*, 41(1), 85-106, p. 89.

[8] *Down to Earth*, p.65.

[9] Latour refers the reader to Alexandre Koyré's book *From the Closed World to the Infinite Universe* in which this transition is described.

[10] *Down to Earth*, p.67, see also note 64.

[11] Husserl, E. *Die Krisis der europäischen Wissenschaften und die transzendentale Phänomenologie. Eine Einleitung in die phänomenologische Philosophie* (Husserliana, bd.

6).

[12] *Down to Earth*, p.73.

[13] For a recent formulation of the theory, see Latour, B. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford University Press, Oxford, 2005. Latour, B. (1996): 'On actor-network theory. A few clarifications', *Soziale Welt*, 47, 369-381 is an attempt to clarify the basic elements of ANT and respond to objections. An early influential presentation of ANT is Latour, B. *Science in Action: How to Follow Scientists and Engineers Through Society*. Harvard University Press, Cambridge, Mass., 1987.

[14] *Down to Earth*, p.76.

[15] Critical Zone Observatories/ US NSF National Program https://criticalzone.org/national/research/the-critical-zone-1national/ (retrieved April 12th, 2020).

[16] Cf. The interview with Heidegger 'Nur noch ein Gott kann uns retten' from 1966.

[17] *Down to Earth*, p.65.

[18] Psychologism and biologism are examples.

[19] Nagel, T. *The View from Nowhere*. Oxford University Press, Oxford, 1986.

[20] *The View from Nowhere*, p.88.

[21] A curiously fact is, that Nagel and Latour have chosen the same cover illustration for *Facing Gaia* and *The View from Nowhere*: Caspar David Fridrich's 'The Large Enclosure near Dresden', a painting from 1832.

[22] *Down to Earth*, p.67.

[23] *Op. cit.*, p.68.

[24] This might sound a bit more adventurous, than it perhaps is. See e.g. this call for papers from *Journal of Consciousness Studies* on plant sentience and consciousness: https://philevents.org/event/show/80510 (retrieved April 21th, 2020).

[25] *Op. cit.*, p.94.

[26] *Cahiers de Doléances*. See e.g. Shapiro, G. & Markoff, J. *Revolutionary Demands. A Content Analysis of the Cahiers de Doléances of 1789*. Stanford University Press, Stanford, CA, 1998.

[27] *Down to Earth*, p.95.

[28] *Op. cit.*, p.103.

[29] *Op. cit.*, p.94.

[30] I thank the audience at École des Arts de la Sorbonne, Université Paris 1 Pantheon-Sorbonne, on March 31st, 2019, for sharing valuable information with me on this issue.