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Katrien Van Poeck, Gert Goeminne, Joke Vandenaabeele

**Institutions:** Katholieke Universiteit Leuven, Free University of Brussels

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## **Revisiting the democratic paradox of environmental and sustainability education: sustainability issues as matters of concern.**

In this article we address the democratic paradox in environmental and sustainability education (ESE) by drawing on Bruno Latour's conceptual distinction between 'matters of fact' and 'matters of concern' and the notion of attachments that goes with it. We present an analysis of three cases (nature excursions, workshops that promote ecological behavioural change and making documentary films) focusing on how diverse educational practices deal with sustainability issues as matters of fact, matters of value and/or matters of concern. We examine how these Latourian concepts incite an analysis of educational practices that enriches the discussion about the democratic paradox in ESE. This finally brings us to point out how a concern-oriented ESE might take shape.

Keywords: environmental and sustainability education; democracy; pluralism; Latour

### **Introduction: The democratic paradox of ESE**

Contemporary ecological issues such as climate change, nuclear waste, GMOs, overpopulation and decreasing biodiversity are characterised by diverging and often irreconcilable values, interests and knowledge claims and therefore open to uncertainty and contestation. As will become clear throughout this article, we embrace the idea that controversy is an indispensable ingredient of environmental and sustainability education (ESE). Researchers in the field of ESE emphasise that there are many ideas about what is 'sustainable' (Wals 2010a). Yet, none of them can be authoritatively prescribed because we do not and cannot know for sure what the most sustainable way of living is. This observation has tremendous implications for education, Wals argues.

'In fact it puts into question the whole notion of "teaching". After all, there is no longer something to be taught that is universally agreed upon or that can be universally applied. There are too many realities out there and, to make things worse, these realities shift and transform constantly.' (Wals 2010a: 144)

Wals (2010a) and Læssøe (2007) argue that we face here a paradox between, on the one hand, the sense of urgency emerging from a deep concern about the far-reaching implications of many sustainability issues and the injustices they often bring about and, on the other hand, restraints – based on pluralistic values – against education as an instrument to foster predetermined ways of thinking and acting. This paradox brings about an ambiguous relation between democracy and sustainable development and nourishes a long-lasting debate in the field of ESE about the tension between a normative and pluralistic approach (e.g. Jickling 1994; Sauvé 1999; Wals and Jickling 2002; Vare and Scott 2007; Wals 2010). Whereas this debate is characterised by a variety of nuanced positions, its contours are nevertheless defined by a sharp opposition between two extremes: on the one hand, an instrumental approach that sees the factual account of the state of the planet as a non-negotiable basis for normative guidelines on how to think and act and, on the other hand, a pluralistic approach that understands pluralism as a sheer fact of plurality, resulting in a relativistic tolerance that grants every opinion equal value.

In this article we examine how three educational practices are struggling with the democratic paradox and the ambiguities it brings about and how they are searching for ways to deal with it. As a theoretical framework we draw on Bruno Latour's distinction between 'matters of fact' and 'matters of concern'. In this respect, our analysis contributes to the search for how, in the face of sustainability issues, a 'concern-oriented pedagogy' can be conceptualised and given shape.

### **Theoretical framework: Matters of fact, matters of value and matters of concern**

In our view the democratic paradox in ESE, is deeply rooted in the metaphysical and ontological options that are dominant in our Western society and that are based on a

frame of thought in which subjectivity and objectivity are seen as mutually exclusive. It is this strict ontological division between the non-human object and the human subject and its corresponding epistemology of represented facts and values that Latour has called the 'Modern Constitution'. Indeed, the democratic paradox that we see present in ESE closely echoes Latour's observation that the political order of the Modern Constitution has

'(...) two chambers, the first one, called Science capital S, that is said not to do politics but which takes all of the important decisions, and the other, called Politics, that is said to make the decisions but that is left with nothing but passions and interests.' (Latour 1998: 104)

Latour (2004a, 2005, 2010) uses the term matters of fact to refer to approaches to reality in terms of facts that 'speak by themselves' and are beyond dispute, 'embedded in a *res extensa* devoid of any meaning, except that of being the ultimate reality' (Latour 2010: 6). Such facts tend to serve as a standard to distinguish between what can be and what cannot be discussed, between on the one hand 'the truth', captured in undisputable facts which some enlightened people have unmediated access to and on the other hand disputable human assertions, opinions and values (see also Decuyper et al. 2011; Goeminne and François 2010).

Yet, Latour argues, within a context of the proliferation of scientific controversies transparent, unmediated, undisputable facts have become rarer and rarer.

'[W]hat allowed historians, philosophers, humanists, and critics to trace *the* difference between modern and premodern, namely, the sudden and somewhat miraculous appearance of matters of fact, is now thrown into doubt with the merging of matters of fact into highly complex, historically situated, richly diverse matters of concern.' (Latour 2004a: 237)

Especially in the context of sustainability, the issues at stake do not fit one particular concept of the common good but are, on the contrary, open to divergent understandings of morality. Neither do they correspond with one particular Truth but, as Wals argued, there are many different realities out there shifting and transforming constantly. At this point, Latour introduces the concept of matters of concern to refer to these highly complex, uncertain, contested, historically situated, far reaching, risky and richly diverse states of affairs in which human and nonhuman entities are intimately entangled. Yet, he emphasises, matters of concern never occupy the two positions left for them within the Modern Constitution's two-tiered world of matters of fact and matters of value (Latour 2004a). We face a proliferation of states of affairs that neither fit in the list of 'mere' values, opinions, preferences, etc. nor in the list of undisputable facts. Thus, he proposes: 'To the fact position, to the fairy position, why not add a third position, a *fair* position?' (Latour 2004a: 243). It is at this fair position, which will take central stage in our further analysis, that Latour situates the notion of matters of concern. Not to direct attention away from facts, he emphasises, but rather as an attempt to get closer to them, 'to see through them the reality that request[s] a new respectful realist attitude' (Latour 2004a: 244). Not to fight empiricism but to renew it by cultivating 'a stubbornly realist attitude'<sup>1</sup> (Latour 2004a: 231) dealing with matters of concern instead of matters of fact. After all, Latour argues, reality is not defined by matters of fact. Matters of fact are only very partial renderings of matters of concern. In this respect, it is important to see that in playing with the notions of matter of fact and matter of concern, Latour has a double effect in mind. As argued, he uses the concept of matter of concern (in parallel with the notion of 'hybrid') to point towards the complex interdependencies between nature and society that make up current sustainability and other contested issues (Latour 2010b: 23-25). However, Latour also uses the concept to

underline his constructivist stance vis-à-vis science, claiming that scientific matters of fact are always also matters of concern, that is to say compositions, gatherings, assemblies, issues of some sort (Latour 2010b: 72-84). 'A matter of concern', he writes, 'is what happens to a matter of fact when you add to it its whole scenography, much like you would do by shifting your attention from the stage to the whole machinery of a theatre' (Latour 2008: 39). And he adds that this is precisely what happened to science when the latter was seized by the constructivist field of Science and Technology Studies (STS). Viewing science as a socially and culturally situated set of practices, STS has indeed shown that scientific 'facts' do not enter the social world fully formed; rather they are produced in the course of working out other kinds of political and social arguments and bypassing distinctions between the social and the material (Latour and Woolgar 1979/1986; Daston and Galison 2007). Crucial to Latour's argument is that both modes of using his notion of matter of concern are ultimately connected through a question of concern that addresses the quality of the construction at stake: 'what is it that we should be concerned about?' In this way it also substitutes the dichotomous question whether something is constructed or not with the more apt and nuanced consideration whether something is 'well or badly constructed' (Latour 2010: 4). Both in the societal sphere, as well as within the disciplinary contours of science, the notion of matter of concern points towards the particular ways in which people are concerned with an issue or topic of consideration.

The notion of concern, Latour further argues, should be understood in terms of 'attachment'. Our globalised world is characterised by the intimate entanglement of a variety of actors that are, willingly or unwillingly, connected by the expansion of all kinds of 'makeshift assemblies' such as markets, technologies, science, ecological crises, wars and terrorist networks (Latour 2005: 27). Those many differing

assemblages are *already* connecting people no matter how much they don't feel assembled by any common dome. Noortje Marres (2005) explains the notion of attachment as a special relation between human and nonhuman entities, a mode of 'being affected by' whereby actors are both *actively committed* to an object of passion and *dependent* on it. She argues how these actors must do a lot of work so as to create the situation in which they can be overtaken by the object while, at the same time, the object binds them in the sense that their pleasure, way of life and perhaps even the meaningfulness of their world is conditioned by it.

In this respect, and in line with Latour's double use of 'matters of concern', the numerous laboratory studies within the field of STS can be regarded as so many illustrations of scientists being actively involved in a continuous interplay between problem framing and solution framing. This interplay is driven by scientists' active commitment to the 'makeshift assembly' that is their object of study; at the same time it is conditioned on the meaningfulness of an emerging paradigmatic world. The history of climate modelling, for instance, shows how particular contextually bound concerns such as globalism, prediction and simulation gave rise to a 'state of affectedness' between the makeshift issue of a 'global climate' on the one hand and a bunch of 'climate modellers' on the other hand. This state of affectedness gradually led to the current scientific understanding of climate change as a global scale problem caused by the universal physical properties of greenhouse gasses (Goeminne 2013).

In turn, and traversing again the disciplinary contours of science into the public sphere, global climate change became a matter of societal concern as it brought a public into existence through various kinds of attachments ranging from the economic interests of the automobile industry over Western consumers' association of materialism with the idea of the good life to Maldivians' fear of losing their habitat to rising sea levels. This

‘co-production’ of an issue and a public (Jasanoff 2004), that is to say the intricately interwoven ways in which a very particular public and a very particularly framed issue simultaneously take shape, shows how ‘this state of “affectedness” cannot be adequately understood in factual terms only but also refers to the affective states of being touched, implicated, and indeed moved in the sense of being mobilised by public affairs’ (Marres 2010: 201-202).

A focus on attachments helps us to understand how actors are not only jointly but also *antagonistically* implicated in matters of concern: they have divergent attachments and are thus bound together by mutual exclusivities between these various attachments. ‘The great merit of controversy’, Marres says accordingly, ‘is that it provides an occasion to enact the irreconcilability of actors’ attachments’ (Marres 2005: 127). Thus, such a positively understood role of contestation – more particularly of the enactment, exploration, and confrontation of mutually exclusive attachments – enables to put the democratic paradox in ESE in a different light. As we will show, the concepts of ‘matter of concern’ and ‘attachment’ allow us to articulate how educational practices can move beyond the dichotomy between the naïve objectivism underpinning instrumental education (teaching matters of fact about sustainability issues) and the naïve subjectivism that often goes with a pluralistic approach (the cultivation of a sheer plurality of values, opinions, and preferences).

### **Case study: Sustainability issues as matters of concern?**

In this section, we present an analysis of three cases focusing on how these diverse educational practices deal with the ecological issues they address. The central aim of our analysis is to deepen our understanding of what it might mean to address sustainability issues as matters of concern within educational processes and to examine how such a ‘concern-oriented’ ESE could take shape.



We selected three Belgian cases that varied with regard to the kind of educational practices they developed (nature excursions, workshops and documentary films) as well as the issues they addressed (biodiversity, climate change, ecological footprint, sustainable fishery, waste, sustainable forestry, energy saving, etc.)<sup>2</sup>.

The first case we studied consists of workshops organised by Ecolife, an environmental organisation that aims to promote ecological behaviour change by offering tools and coaching for diverse target groups. We interviewed Ecolife's director and an educational staff member and observed five workshops.

The second case is an environmental education centre 'De Bourgoyen' attached to a nature reserve of 230 hectares in the city of Ghent. The centre offers guided nature excursions for primary and secondary school pupils and college- and university students (walks in the reserve and activities to study the biotope). We interviewed the centre's director and an educational staff member and observed three excursions.

The third case we analysed is 't Uilekot, an organisation in a rural area of Belgium that describes itself as a 'regional centre for action, culture, and youth'<sup>3</sup>. The centre made three documentary films about sustainability issues: 'Climaxi' (about climate change), 'Sustainable on Paper' (about sustainable forestry) and 'Fish and Run' (about sustainable fishery). We interviewed the coordinator of the centre and observed four educational activities related to the films: two film performances followed by a debate, a political action and a day at the set. The scripts of the three documentaries were analysed as documents.

The observed activities and the interviews have been video-/audio-recorded. Verbatim transcripts of the (originally Dutch-spoken) conversations were complemented with contextual information and descriptions of the observed non-verbal aspects of the setting (gestures, movements, material context, etc.) in field notes. The

excerpts used below have been translated to English by a professional translator who tried to reflect the original wording. The analytical work started with repeatedly examining the documents, field notes, recordings and transcripts so as to search for sequences containing information about, on the one hand, aspects characterising the educational setting under study (e.g. the interactions between the actors involved, the discourses on the issue at stake, didactic tools and instruments) and, on the other hand, elements related to the above elaborated theoretical framework. These sequences were then coded and further analysed using the qualitative analysis software QSR NVivo. Questions guiding this analysis were whether and how 1) the enactment of attachments can be observed, 2) mutually exclusive attachments are articulated, explored, and confronted and 3) the issues at stake are approached as matters of fact, matters of value or matters of concern. Finally, the analysis made by one of the authors was verified by the co-authors through critical examination of the findings in relation to the empirical material.

### ***Workshops***

Our analysis of documents, interviews and observations revealed different ways in which diverse attachments were enacted within this ESE practice. First, although Marres reserves the notion of attachment to refer to a relation between human and non-human entities, we want to point out the possibility of determining attachments at the level of an organisation since – as we will show – such attachments and the way these are handled largely affect how ESE practices approach the issues they address<sup>4</sup>. Ecolife described itself in its mission statement as an organisation that ‘strives for a sustainable world by means of ecological behaviour change’. As we explained, an attachment involves active commitment as well as dependency. As to the latter, the mission statement indicated that the very *raison d’être* of Ecolife is the pursuit of sustainability

and ecologically sound behaviour. The organisation's activity reflected an active commitment and showed how a lot of effort is undertaken in order to realise this mission by deploying diverse tools and coaching activities. Hence, we can conclude that Ecolife was attached to what they vaguely called 'a sustainable world' and the ecologically sound lifestyles they assumed to go with it. The way this attachment was put forward in the mission statement has been endorsed in the interviews with the director and the educational staff member who both voiced their willingness to contribute to such a sustainable world and emphasised their active engagement in pursuing as many people as possible to help realising it.

Second, during the observations, we noticed on several occasions that participants as well as free-lance educators expressed some kind of emotional involvement with the issue at stake. For instance, during an Ecological Footprint workshop, we noticed participants who appeared to be touched and moved by what they were informed of as they showed shocked and indignant (verbal and non-verbal) reactions while the educator elaborated upon the ecological footprint of an average Belgian<sup>5</sup>. Similar emotional reactions (of a participant and the educator) came to the fore with regard to the dissipation of food :

- 'Educator: If you could just see the quantities [of food] thrown away by department stores. Tremendous.
- Woman 2: That's recently been on telly, hasn't it?
- Educator: That's really sinister. And it isn't any different here in Belgium.
- Woman 2: But that's a bit the problem with luxurious countries, I think.
- Educator: Do you remember the example of the melon?
- Woman 2: Yes, melons that didn't have the right shape were simply thrown away.
- Educator: So they come off the land and are thrown away just like that.
- Woman 2: That was something, wasn't it?'

As the educator never went into such utterances at length, the attachments that might be implied in it could not come to the fore. That is, as in the excerpt above, it did not become clear whether and to which extent the expressions of being touched and moved by an issue also involved active commitment (e.g. taking care for it) as well as dependency (e.g. in that a participants' lifestyle, livelihood, meaning making, etc. depended on it).

Third, we observed the enactment of attachments when participants emphasised personal considerations, passions and concerns when confronted with concrete behaviour precepts put forward by the educator. Particularly, when participants voiced, for example, a passion for fast cars (see also below), the pursuit of a convenient life, apprehensions for the safety of their children, etc. they highlighted other – and sometimes conflicting – concerns than those underlying the suggested behavioural changes. For instance:

- 'Woman 1: One obvious improvement would be to bike or walk short distances.
- Educator: What would you consider a short distance?
- Woman 1: Going to the bakery, for instance.
- Educator: How much is that in miles?
- Woman 1: One and a half?
- Educator: No, let me help you out: in fact, we should bike any distances under 3 miles.
- Woman 2: You're kidding me! [laughter]
- Educator: Why 3 miles? Because cars consume most over short distances. [...]
- Woman 1: Then we also had to say why we found it difficult [as part of the exercise preceding this discussion]. We found it can be time-consuming at times.
- Educator: Remember the word I just used: planning?
- Woman 1: Yes, but still. Our kids, too. [...] That's why we thought it's not so convenient when you've got kids. In our view, a cart like that is more

dangerous and a delivery trike is expensive. We've agreed among ourselves to use our bikes once our kids have grown.'

Although, here too, neither the educator nor the participants entered at length into the issues raised, we observed how an attachment (i.c. to driving a car) came to the fore when this participant argued that the educator's claim to bike distances under 3 miles was incompatible with her way of life (e.g. a busy life combining a job with the care for young children) and concerns about her children's safety.

We thus noticed that, when confronted with the articulation of mutually exclusive attachments, the educators did not thoroughly explore the matter of disagreement. As the interviewees explained, Ecolife is reluctant towards confrontation, moralising and ideological discussions.

'Gosh, in fact I think it's no problem when people, uh, say "yes, but I've heard different stories, you know?" or "I don't believe in that". I think it's everybody's good right to act or think that way, I only think they shouldn't have a dominating effect on the group, which can be hard to avoid [...]. They can be quick to determine the atmosphere and I think that's something we should avoid [...] I think, that the educators, well, should ensure they monitor this process.'

The staff member argued that the educational settings in which they operated often lacked the time and occasion for profound discussions and that it was 'not pleasant' for people to be explicitly confronted with the 'difficult issues' Ecolife addressed. Going into controversies elaborately is at odds with the discourse embraced by Ecolife which frames sustainable development as 'a positive story' that creates opportunities for win-win situations. We found this discourse in the analysis of the observations and documents (e.g. ecological 'do's and don'ts' presented as a money-savers) as well as of the interviews. For example:

‘One thing [we] also want to make very clear, I believe, is that not having a car or not driving a car doesn't make you unhappy. I mean... you can have a perfectly good life, for instance, without all those material things that involve such a burden or without having to travel by air at least once a year. That's in fact what we're trying to convey.’

By avoiding a thorough exploration and explicit confrontation of irreconcilable attachments, Ecolife tended to approach the issues at stake as matters of value. For instance during a workshop Ecodriving:

- ‘Student 14: We are automotive students, which means we love anything that makes noise and moves forward and consumes as much as possible and preferably emits as much as possible.
- Educator: [laughs] Well, it all depends on what you think's important in life, doesn't it?

One of the students wants to give it a try.

He sits down at the wheel. After his ride, the educator and the student evaluate his report. He has consumed 5.5 gallons. He's not happy with this score. The educator says he hardly shifted gears. He decides to try again. This time consumption has dropped to 1.5 gallons.

- Educator: See what you achieve when you use your gears right? Very good, man!
- Student 14: Exemplary.
- Educator: Now you know you can do it [...]. [She hands him a leaflet] Don't forget, the idea is to apply what you've learned.
- [...]
- Student 14: I'll leave the leaflet here because it'll probably be of little use to me anyway. The thing is that... our problem... I'm only a fresh driver so I have no intention of adapting my style for environmental reasons. I'm far too young and too crazy for that. Perhaps in...
- Educator: You still want to enjoy it, don't you, enjoy accelerating?
- Student 14: Yeah, yeah, of course. We still enjoy driving. Perhaps 10 years from now we'll also be trying to minimise costs. But we haven't reached that stage yet. As automotive students, if we wouldn't be passionate... There is one of us in our class who advocates green cars. The others don't. We're 24 and one is for green cars. [...]

- Educator: But I, uh, don't forget it's you. It's you who are at the... I'm not telling you how to drive.
- Student 14: No, but to me, personally, it's irrelevant. Environmentally, it makes sense in a way.

The educator turns round and begins to help another student.

- Student 14: I can't say I can be bothered... Anyway, thanks.'

Ignoring the implications of the student's passion and considerations and, particularly, its irreconcilability with Ecolife's concern for a sustainable world, the educator reduced the issue of eco-friendly driving to a matter of mere personal choices and preferences, a question of 'what you think's important in life'. Hence, within this educational setting a plurality of concerns and opinions appeared to co-exist peacefully. Yet, the educator's statement 'I'm not telling you how to drive' contrasted sharply with the Ecodriving-simulators used during these workshops. Ecolife developed expensive devices which meticulously steer the participants' driving behaviour. The users continuously received instructions during the ride ('change gear', 'you drive too fast') as well as a detailed report on their performance afterwards.

We repeatedly observed similar attempts to steer people's behaviour in a predetermined, desirable direction whenever matter-of-factual knowledge claims were used to underpin the proposition of do's and don'ts. Such claims were repeatedly used to settle emerging contestation. For instance, when participants disagreed with the precept to bike distances up to 3 miles referring to conflicting considerations (cf. above) the educator drew on taken-for-granted technical and quantified criteria to settle the discussion ('No, let me help you out: in fact...'). A crucial instrument in this regard was the concept of the ecological footprint. Ecolife emphasised the importance to take into account 'exact facts and figures', that is, sustainability standards which are derived from ecological footprint calculations and translated into tools (e.g. footprint calculators,

demonstration boxes, quiz cards with right-or-wrong questions) aimed at reducing people's environmental impact through well-defined behavioural precepts.

Thus, we observed how Ecolife's educators, on the one hand, approached the issues at stake as matters of value while, on the other, they also firmly drew on matters of fact. For instance, we observed them repeatedly emphasising that participants have to make their own choices in accordance with their personal values and opinions, however, all the same they highlighted the urgent need of reducing ecological footprints from a rationalist perspective, referring to facts that are assumed to 'speak by themselves'. This oscillation between matters of fact and matters of value brought about a profound ambiguity. Participants got the message that it is up to them to decide how to deal with the suggested behavioural precepts, yet, against the backdrop of taken-for-granted, indisputable factual claims about a sustainable world and ecologically sound behaviour.

'So, as Belgians, what do we need to survive if we go on like this? Five planets Earth, that's what we'd need, in this way. Rather shocking, perhaps, but *it's the truth*. So the question is whether we can carry on the way we are doing. That's something you have to answer yourself... *I'm not going to give you the answer.*'  
[italics added]

### ***Nature excursions***

As in the first case study, here too our analysis enabled us to determine an attachment at the level of the Environmental Education (EE) centre as an organisation. The coming into existence of the centre was found upon the commitment of scientists and local conservationists to the particular piece of nature in which the centre is located.

'The natural reserve, yes [...] in the eighties it was pointed out, there was this botanist from the university and he discovered valuable grasslands and explained us how to, uh, observe nature and, and he pointed out that it needed protection. So, uh, that's how a local action group came about which has now become [a



department of the largest nature organisation in Flanders] but at the time they launched a campaign to persuade the local authorities to, uh, to buy this area.’

Up till now, the centre is dependent on the nature reserve in that it still is its reason for existence. All the staff members we met as well as the voluntary nature guides we talked with also expressed an active commitment towards the reserve. An interviewee explained that the EE activities were set up to offer people opportunities to experience this valuable natural area. The nature guides voluntarily spent time and efforts to realise these opportunities. Precisely because of the latter’s strong attachment to nature, their passion and inspiration, the centre appealed to voluntary guides for its educational activities.

‘Even today, teachers like to have the guides accompany the groups because we feel, and they as well, that they are... uh, the cherry on the cake, you know. With their approach, you know, with their, their, uh, their passion for nature they, uh, well yes, reach the right audience in the right ma..., in the right time.’

The centre’s dependency on and commitment towards the surrounding reserve seemed to be embedded in an attachment to nature in general. For instance, the educational staff member we interviewed voiced the belief that society as a whole depends on nature and emphasised the centre’s efforts to alert people that ‘we really need nature in order to have a good society’.

In this case study, too, we regularly observed verbal as well as non-verbal expressions of some kind of interest, amazement or emotional commitment. These were related to the direct experience of nature, particularly if there were animals involved. For instance, we observed primary school pupils jostling one another to watch an owl with binoculars and during the water analysis activity the pupils revealed diverse appreciations of the animals they discovered.

- 'Oh!
- Is that alive, Miss?
- Boy o boy!
- I've caught a little fish.
- Yes, me too.
- Look, they belong together! Mother and son... [laughter]'

These utterances showed how the pupils were touched by what they experienced in nature. Yet, diverse attachments that might be incorporated in such expressions remained implicit and unexplored as the guides never went further into them. On the contrary, during the water analysis the guide regularly made somewhat annoyed comments when the pupils paid too much attention to animals that were not useful so as to determine the quality of the water (e.g. 'You should not collect the tadpoles. We cannot use them.'). Apart from a short informal talk between the guide and a boy about how the latter and his father saved a bird that had been attacked by a cat, the enacted emotions were never connected to forms of active commitment or relationships of dependency.

As there was no space for the articulation, exploration and confrontation of attachments on the part of the pupils, the possible irreconcilability of attachments towards the issues at stake remained unaddressed. Pupils were not encouraged to express and explain their own interests, opinions, preferences, commitments and dependencies. The excerpt below illustrates how a guide addressed the issue of exotic species. Implicitly, his explanation revealed the centre's attachment to the nature reserve as it showed an active engagement to conserve the indigenous biodiversity in the area.

- 'Guide: What you can see there, for instance, [...] is a number of Canadian geese. They are very aggressive breeding birds over here. And they chase away the native breeding birds. Canadian geese are an exotic species, chasing off the

pairs of black-tailed godwits that come here from Africa to breed, for instance. I said they are an exotic species and in this natural reserve, where all flora and fauna are protected, it has been decided to cull them, to control their number, at the moment there are several out there in those meadows. But since shooting is not allowed in natural reserves [...] they have opted to destroy the nests to reduce their population a bit. [...]. They addle the eggs and put them back in the nest or they puncture them and put them back in the nest. And mother goose simple continues brooding but those eggs won't hatch.

- Pupil: Oh.
- Guide: And after a while, after quite a number of days following her usual breeding period, the goose realises that, oh dear, something's wrong here, but by then the breeding season no longer allows her to nest again.
- Pupil: Oh.
- Guide: So those are destroyed.
- Pupil: That's how you control, they put the egg there, but what about that Canadian goose...
- Guide: Well, we're not killing the Canadian geese, those that are there, can stay, but we're controlling their numbers. And even so, in winter we've got concentrations of up to hundreds of Canadian geese that elsewhere in Flanders [...] there they are shot, sometimes by the hundreds.
- Pupil: Oh.
- Guide: Not that I'm against that, and I can even accept their being shot in a particular way. But what I do object to is that, once those [...] animals have been shot, they bring in a crane and a bulldozer, dig a hole and shove them into it. That's something I do... that's unacceptable from an ethical point of view. If you kill animals, you should show them some respect, for instance by using them for food. [...] That's a personal thing. Please come along.'

Explaining the centre's policy regarding exotic species, the guide took a perspective of taken for granted knowledge claims and normative assumptions concerning biodiversity. Next, he elaborated on his personal opinion and ethical considerations as to killing exotic animals. Doing so, he closed the issue of indigenous biodiversity without creating a space for the articulation and confrontation of diverse and conflicting attachments, thereby ignoring one of the pupils' vague expressions of

disagreement. Thus, here too, we found an educator oscillating between approaching an issue as a matter of fact (explaining why and how the number of exotic species should be controlled via scientifically sound procedures so as to conserve the ‘natural’ biodiversity in the reserve) and presenting it as a matter of value (defining ethical considerations regarding killing exotic animals as ‘a personal thing’). Both approaches were omnipresent throughout the activities of the EE centre and the oscillating focus was reflected in the twofold aim of the excursions: transferring *knowledge* about nature (mainly through activities to study the biotope) and offering pupils opportunities to *experience* nature (mainly via guided walks in the reserve).

With regard to the former, the emphasis was on the transfer of scientific and factual knowledge about nature in general and the local reserve in particular.

- ‘You just said that you want to convey knowledge through what you're doing here. Uh... Like what knowledge?’
- Well, knowledge of natu... of nature, see? To get to know nature *as it is* and nature's diversity, the flora as well as the fauna, and here [in the reserve] I have found the ideal place to demonstrate that nature is not just roadside grasses and, uh... uh a collection of birds, but that there is an, uh, enormous biodiversity to discover and I do think that it's very important for people to be aware of this, that citizens, from an early age, become aware of this.’ [italics added]

The aim to educate visitors about nature ‘as it is’ highlighted an approach to nature as a matter of fact. It was considered important to provide exact, factual knowledge about the issues that are addressed and, therefore, extensive and correct knowledge about nature and the reserve was an important criterion in the selection and training of the guides. The perspective on nature as a matter of fact was also reflected in – and brought about by – the educational activities, didactic tools, and interactional practices that shaped the excursions, particularly those aiming at study of the biotope.

For instance, pupils were given the task to find and identify aquatic animals using a dip net, magnifying pots and identification tables in order to determine the quality of the water. The guide frequently intervened with precise instructions in order to make the pupils select the 'proper' animals (i.e. those needed to conduct a biological water analysis). Other tasks were to dig up animals from the soil and identify them, to determine the water clarity using a Secchi disk, to measure (with the proper instruments) the height of a tree, the temperature of the water, the moistness of the soil, etc.

Thus, at particular moments and through the interventions and tools described above, nature in general as well as particular issues such as water quality and biodiversity pre-eminently emerged as matters of fact. This, in turn, allowed for only one particular and predefined set of values to be enacted: a fascination for nature that is inspired by an ill-conceived image of the scientific attitude as neutral observation<sup>6</sup>. For instance, when the guide meticulously steered the pupils to perceive and analyse the quality of the water 'as it is' according to the procedures for biological water analysis developed by experts, she closed the door for other perspectives. Water quality, here, was not about the pleasure of finding attractive little fishes, nor about amazement at the amount of tadpoles that will soon be transformed into frogs. The issue emerged here as the exact and proper measuring of those undisputable indicators that were assumed to 'truly' reveal how the water quality actually is.

The centre's second aim – offering nature experiences – strongly corresponded with an approach to the reserve as a matter of value. The guides and educational staff members emphasised the importance of arousing pupils' interest in nature and creating openness to value and appreciate it.

‘What we’re looking for in particular is this good feeling, you know, of this natural environment and uh... Yes, despite bad weather conditions, for instance, or uh... that the time spent here has been valuable and that they have become a bit more aware of... how valuable that environment is. [...] That uh, the children go to, that they experience it, the wow effect. Oh, that’s not what I’d expected, yes, oh, I find it really cool here, well, you know, this feeling of comfort and shelter you can get in nature. [...] Gee, I’d like that very much and sometimes it does happen, that pupils come back here later and that it stays with them, what shall I say, as a little beacon in their, uh, school days...’

This aim was reflected in the role that was attributed to the voluntary guides and, as the excerpt below shows, revealed a quest for an alternative pedagogy than the matters-of-factual approach we described above.

‘Uh, that’s somebody who’s able to convey... especially the knowledge he’s got, you know, in a pleasant manner. In such a way that, well, the youngest visitors, the visitors have a good time. So their role is not so much that of a do-gooder or a pedagogue or a finger-pointing moralist, but uh... well, somebody who, uh, informs them and knows how to make this natural environment exciting and opens their eyes a bit... and indeed, who encourages them to do something with it later on...who stimulates...’

Hence, the aspiration to offer pupils valuable nature experiences also resulted in a different kind of educational activities. In contrast to the abundance of tools and instruments used during the excursions to study the biotope, the only tools used during the walks we observed were binoculars through which pupils could watch birds. The interaction between guides and pupils was less structured beforehand as the guides frequently went along with the (sometimes coincidental and unexpected) observations and encounters in the reserve. They taught about the plants, landscapes, and animals they came across, thereby paying attention to the (e.g. medicinal) usefulness of nature for people, the history of the reserve, the conduct of animals, etc. The guides also regularly told stories and legends about plants and animals.

Similar to the case of Ecolife, we found here an educational practice in search for a perspective that acknowledges facts as well as values, opinions, and preferences. During the excursions in the centre, nature sometimes emerged as a matter of fact that was known (and, thus, manageable) by experts who were willing to share this knowledge with the pupils. Doing so, the guides and staff members hoped to foster a passion for nature and to direct attention to nature as a shared interest. However, we observed little or no space here for nature (and for particular issues such as biodiversity and water quality) to emerge as a common matter of concern in which the pupils, educators, plants, animals, landscape, etc. were jointly and antagonistically implicated. The excursions did not create opportunities to explore and confront the multiplicity of attachments at stake but oscillated between one-sided perspectives of facts or values, torn apart and disconnected. Nonetheless, at particular moments the issues raised and the observations and encounters in the reserve (e.g. the Canadian geese) could have been seized upon as a point of departure in the exploration of a multiplicity of attachments and might have opened up a space for enacting the interconnectedness between facts and values.

### ***Documentary films***

Also in this case study, we observed diverse ways in which attachments (of persons and at the level of the organisation) were enacted. During interviews as well as observations, the coordinator and volunteers of the centre regularly expressed concern for and emotional involvement with people affected by sustainability problems. For example:

‘Such things will always be rather, not rather but very emotional. That's the audience you'd like to be involved with. [...] Those are the people you like and all, uh, so... yeah... After shooting those scenes... every time we needed quite a while ... an hour or two ... to chill out before we could go on. That's heavy stuff, you know, even today. Also when you see that. Even when I see that film [‘Climaxi’]

for the twentieth time, when it's been a while, it'll still fill me with emotions and indignation. And it makes me think, hey man, it's such an indifferent system, there's so much injustice in this shit society, I don't want to have anything to do with that...'

This excerpt does not only show an emotional involvement but also reveals how the interviewee was incapable to accept what he called an unjust society. This explanation but also the way we observed him arguing in debates, elaborating on dilemma's involved in the montage of the documentaries, preparing political actions together with volunteers, etc. – i.e. his active engagement – pointed out how the meaning-making of his world appeared to depend on contributing to the improvement of ecological sustainability and social justice in the face of concrete issues. The latter could also be considered an attachment of the centre as an organisation. Realising social change in this respect was 't Uilekot's foundation and throughout all its activities the centre was actively committed to achieve this aim.

Next, a multiplicity of attachments of diverse actors came to the fore in the films as well as during the performances and actions related to the documentaries. The makers of 'Sustainable on Paper', for instance, discovered that the large scale plantations required to meet the growth of paper and wood consumption worldwide – although they are certified by the Forest Stewardship Council (FSC) – destructively affected the life and environment of local people in Brazil. In the film, diverse actors enacted different and often antagonistic attachments: e.g. local people (whose livelihood depends on the conservation of the jungle, access to potable water, landownership), representatives of FSC (an organisation whose activities are based on well-defined criteria for sustainable forestry and fixed procedures aimed at fostering the latter), consumers in affluent countries (whose lifestyle goes with the consumption of an abundance of wooden/paper products), and representatives of a multinational paper



corporation (dependent on making profit and committed to ‘be a benchmark in sustainability’).

As we will further elaborate below, exploring and presenting this multiplicity of attachments was precisely what the centre considered to be an important purpose of its educational activities. Also during the film performances with subsequent discussion and in a political action concerning the FSC label, these diverse and antagonistic attachments were extensively explored and confronted. We noticed a sustained effort of the coordinator and volunteers of the centre to invite others to present their concerns, perspectives and opinions on the one hand and to advocate their own attachment to the people that are affected by the issue at stake on the other. During the activities we observed, plenty of time was taken for in-depth discussions; divergent points of view were elaborated, clarified and sometimes refined or revised; participants frequently objected to each other’s opinions; they were given the opportunity to ask questions and / or to answer them extensively and people were called to account regarding the consequences of their opinions or behaviour.

Doing so, the centre neither approached the issues it addressed as indisputable matters of fact, nor as mere matters of value. Moreover, an approach to sustainability issues as uncontested matters of fact was firmly criticised by the coordinator we interviewed.

The centre was reluctant towards translating sustainability into well-defined claims or standards (‘do’s and don’ts’) but, on the contrary, preferred to approach sustainable development as a continuous quest for what can be regarded ‘sustainable’ in very concrete situations. ESE, then, should be aimed at arousing interest in the issue at stake and evoking questions rather than providing (matter-of-factual) answers, they argued:

‘From the beginning we have deliberately chosen not to offer solutions. [...] We’ll do the asking and it’s for people to reflect and think what they... We’re not dishing out any ready-made solutions or ideologies. [...] Many people find that hard. And that’s what they said... I was expecting to see solutions but I’m left with even more questions than, than in the beginning... But I find that, personally I find that a good thing. So if you can make people think and question themselves, then that’s fine.’

All the same, arousing interest and evoking questions, here, was not about approaching these issues as matters of value. After all, the ‘continuous quest’ for what is sustainable implied an attempt to explore and confront the multiplicity of interests, opinions, knowledge claims and attachments involved. The documentary ‘Fish and Run’, for instance, went into the environmental movement’s concern for endangered fish, scientists’ findings regarding maritime biodiversity, fishermen’s anxiety for the future of their occupational group, the impact of common versus sustainable fishing equipment on the seabed, consumers’ culinary preferences, European and national legislation such as the distribution of quota, etc. Hence, within the documentary facts and values emerged inextricably entangled.

Thus, at particular moments, by taking into account the multiplicity of opinions, assumptions, preferences, and factual knowledge the centre approached sustainability issues as matters of concern. This was made possible by a sustained and common focus on the issue at stake, that is, by the deliberate choice to develop educational activities starting from concrete issues (instead of general or theoretical subject matters) and by thoroughly paying attention to the multiplicity of attachments involved. The concern for real people affected by sustainability problems was always the starting point for making a documentary. For instance, when the centre organised a concert, one of the musicians turned out to be a fisherman who used sustainable techniques. He talked about his experience that it was utmost difficult to stand up to the competition with the fleet using common, intensive fishing methods and that he started a petition striving for an inshore

three miles zone reserved for sustainable fishery. This encounter was the trigger for making 'Fish and Run'. The very particular concern of the fisherman was acknowledged, examined further, complemented, refuted, and adjusted by other points of view. For instance, his striving – built on practical knowledge and experience – for an inshore three miles zone was confronted with the scientifically based insight that mainly juvenile, small fish is found in this location which cannot be legally commercialised. Furthermore, questions were raised about legislation that obliges fishermen to toss back all fish smaller than the variety-specific standard. This regulation appeared to be ineffective because of the high mortality rate and, therefore, the documentary took notice of an alternative proposal of fishermen to restrict the numbers of days each fishing boat is allowed to sail. Thus, the issue of sustainable fishery was not presented as a matter of implementing well known solutions but instead as a matter of concern in which a multitude of concerns, assumptions, preferences and knowledge claims are caught up.

Throughout its focus on this diversity of attachments, the centre strived to emphasise those of the – often vulnerable – people affected by (or 'victims of') the issue at stake. 'Giving voice to the voiceless' was a continuous and deliberate endeavour frequently reflected in the films as well as in the arguments used in debates and actions. In the debate and action about 'Sustainable on Paper', for instance, representatives of FSC recognised the problems revealed in the movie but continuously referred to procedures for stakeholder consultation and reaching consensus amongst the members of FSC. In contrast, staff members and volunteers of the centre consistently expressed their concern about the suffering people.

'So when I watch this movie, showing the use of Round-Up and how local communities are being deprived of their income; when I consider the case of Uganda, where 22,000 people were displaced, and when I see that this is taking one

or two years... Well, me and you, we've got the time to have a debate on this every other year, you know. But that woman with her jobless son, she's got no time for that, see. She's expecting a solution right now.'

While this focus on concrete sustainability issues and the implications of the latter for the people affected by it enabled the articulation of matters of concern, all the same, it involved a number of challenges and, perhaps, pitfalls. The centre's attachment to realising social change caused tensions with the aspiration to preserve openness to a multiplicity of perspectives. For example, in contrast to 'Climaxi' and 'Sustainable on Paper', 'Fish and Run' did offer possible solutions instead of solely evoking questions. The challenge, then, is to avoid that these ideas and propositions emerging from the making of the film, start to serve as matters of fact that are beyond dispute and, thus, close the door for other attachments. Another challenge was connected to the centre's strong commitment to the actors affected by sustainability issues and the related aim to 'give voice to the voiceless'. Here, too, the enactment of matters of concern entailed a difficult balance, i.e. the balance between presenting the (often unheard) voice of these vulnerable people and avoiding that this vulnerability – as it touches the audience – comes to stand as an objectified matter of fact that silences other voices or perspectives. For instance, during the shooting of 'Fish and Run', the coordinator of the centre told about his struggle to decide which ones of the filmed scenes should be in the documentary or cut out of it. The initial purpose was to focus on the fisherman's dream of an inshore three-mile zone for sustainable fishery. Yet, in the meantime, the fisherman's project turned out to be loss-making and he quit. The coordinator told us how he was struggling with this, particularly because he did not want to create the perception that the failure was due to a lack of ingenuity and entrepreneurship of the fisherman himself. Earlier that day, he interviewed the scientist about how the location

of fish varies with age. This scientist, too, while being interviewed, acted very reticent with regard to contesting the fisherman's idea.

- 'Interviewer: So what's the point of a fisherman fishing for sole inshore? If we consider that most of the population in the inshore three-mile zone cannot be commercialised because the fish are too small?
- Scientist: Well, we should not forget that this is about mixed fisheries where different species are caught... uh... well... what shall I say [laughs].
- Interviewer: No, but what I'd like to know is why, why would an inshore fisher go fishing for sole in coastal waters while you as a scientist argue that you need to go offshore for that.
- Scientist: [shrugs his shoulders and shakes his head] Those are commercial... uh... aspects... of fishermen [stretches out his hands high in front of him]. But I'm rather wary uh... to express my opinion on this. [shakes his head] I mean, a fisherman...'

### **Discussion and conclusion: Concern-oriented ESE**

The aim of this article was to contribute to the discussion about the democratic paradox in ESE. Drawing on Latour's conceptual framework we wanted to deepen our understanding of what it means to address sustainability issues as matters of concern in educational practices and to examine how a concern-oriented ESE can take shape. Therefore, we analysed the cases focusing on the enactment of attachments; the articulation, exploration, and confrontation of the mutual exclusivity of attachments and the approach of the issues at stake as matters of fact, matters of value or matters of concern.

We examined whether and how we could observe the enactment of attachments. We were able to determine attachments of organisations (Ecolife's attachment to 'a sustainable world', the EE centre's attachment to a particular nature reserve and 't Uilekot's attachment to realising social change in the face of concrete sustainability issues), of educators (e.g. the voluntary guides passion for nature), of participants (e.g. a

student's passion for fast cars, a mother's concern for the safety of her children) and of people affected by sustainability issues (e.g. fishermen, indigenous people). As argued, we repeatedly observed how expressions of commitment, emotional reactions, the showing of interest, the raising of diverse concerns, etc. did not bring about the articulation of attachments as these reactions or considerations were only superficially addressed. At particular moments, however, we did find educators who went into this elaborately, thus creating time and space for the articulation and exploration of a multiplicity of attachments. The documentaries, for instance showed how a sustained effort to study an issue through the diversity of attachments involved enables to bring forward how a variety of actors are intimately connected by all kinds of institutional, material, economic, biological, legal, ... ties as well as by being commonly touched, implicated, and mobilised by an issue. The enactment of attachments, thus, allows to reveal how factual knowledge claims, personal preferences, tangible effects, scientific insights, ethical considerations, etc. are inextricably entangled within sustainability issues.

The second question we addressed, was whether and how mutually exclusive attachments were articulated, explored, and confronted. Here, we found that both Ecolife and the EE centre were reluctant to explicitly address the irreconcilability of attachments through which a variety of actors are caught up in the issues at stake. In the making and performances of the documentaries, however, we did observe thorough attention for mutually exclusive claims, interests, values, preferences, etc. By making visible how diverse actors are commonly affected by an issue and by highlighting the commitments and dependencies involved, the films draw attention to how these actors are *bound together* by the mutual exclusivities between various attachments. What comes to the fore, then, is that in order to take care of an issue, one cannot ignore the

effects this has on the other actors caught up in it. Thus, being attentive to the joint and irreconcilable attachments of a set of actors involved in a sustainability issue prevents falling into one pole of the aforementioned democratic paradox while neglecting the other. It enables moving beyond the contradistinction between democratic concerns (at risk of ignoring facts concerning far-reaching consequences of sustainability issues) and sustainability concerns (at risk of denying the variety of values and opinions at stake). Instead, the multiplicity of concerns, interests and commitments is acknowledged while, all the same, the enactment of the irreconcilability of attachments stands in the way of an ‘anything goes’ relativism.

As to the question whether and how sustainability issues were approached as matters of fact, matters of value or matters of concern in the three cases, we pointed out how the democratic paradox was tangibly present in ESE practices’ oscillation between approaching issues sometimes as matters of fact and other times as matters of value. This oscillation can be explained as a symptom of educational practices being trapped in the Modern Constitution. As Latour explains, matters of fact as well as matters of value are both very partial renderings of the issues at stake. However, thinking from within the Modern Constitution and its separated worlds of facts and values, this partial approach can only be complemented by adding what has been left behind. This is for instance what happens when Ecolife employs factual arguments such as ecological footprints to make people embrace a value-laden position of ‘caring for the planet’. Vice versa, the EE centre can – at particular moments – be seen as actively appealing to a particular set of emotions – admiration, fascination – to lead their audience to adopting a factual position *vis-à-vis* ‘nature as it is’. These examples show, in a very symptomatic way, that neither facts nor values can exist by themselves. This is precisely what Latour intends with his dual mode of using ‘matter of concern’: in the same way

as facts can only exist by the values, concerns and attachments that sustain them, values are completely powerless when their factual underpinnings are removed from view turning them in mere opinions.

A concern-oriented ESE should thus not depart from within the Modern Constitution as it condemns itself to mending what got artificially separated into facts and values but what in reality – as a matter of concern – never got broken in the first place. Rather, it tries to create the occasion where facts and values can emerge in their interconnectedness. What Latour labels a ‘fair position’ (dealing with matters of concern), then, cannot be understood as a particular, well-defined position in the sense of a point of view from which one approaches reality the ‘right’ way. Rather, we conceive of it as a time and space where, on the contrary, a multiplicity of positions can be explored while switching perspective from one to another.

‘The great thing about a standpoint is, precisely, that you can change it! Why would I be stuck with it? [...] Show me one standpoint, and I will show you two dozen ways to shift out of it.’ (Latour, 2004b: 65)

As argued above, this implies creating time and space to thoroughly study sustainability issues and to articulate, explore, and confront the multiplicity of attachments at stake. What is required, then, is to make room for the enactment and investigation of attachments of participants, educators as well as people affected by sustainability issues. Furthermore, our analysis points out the importance of presenting the attachments of an organisation and/or an educator *as an attachment*<sup>7</sup>. We repeatedly observed educators and organisations concealing their attachments behind undisputable matters of fact or, otherwise, reducing their commitments to matters of value. Yet, our case study made clear how Ecolife’s striving for a sustainable world as well as De Bourgoyen’s care for the nature reserve and ‘t Uilekot’s deep concern for afflicted



people are neither one-sidedly grounded in uncontested facts, nor in mere preferences or opinions. Instead, all of these organisations are attached to matters of concern within which factual and scientific claims are inextricably intertwined with diverse images of a desirable world. Presenting it as such opens up a space for posing Latour's ultimate question 'what it is that we should be concerned about' in the light of the issues at stake. A perspective of matters of fact forecloses the space to answer such questions while an approach of matters of value renders this question of concern irrelevant in view of its relativistic tolerance that grants every opinion equal value.

## Notes

1 In this respect, Graham Harman's object oriented ontology may be regarded as one of the most consequent attempts to elaborate such a stubborn realist attitude in that it departs from entities and their relations, thereby being indifferent as to whether they are human, nonhuman, natural, or artificial (Harman 2002).

2 The analysis we present is part of a broader doctoral research project in which 7 ESE practices were studied. Besides the cases presented here, we also analysed the project 'Environmental Performance at School', the 'Transition Towns Network' in Flanders, a 'transition arena' aiming to make a city climate neutral, and a CSA farm (Community Supported Agriculture). The 7 cases were selected through heterogeneity sampling (Patton, 2002). For this article we selected the three most information-rich cases with regard to the issue we address here, that is, those that pre-eminently allowed us to grasp how the democratic paradox affects ESE practices. The research design and methodological considerations are described in full detail in the PhD dissertation (Van Poeck, 2013).

3 't Uilekot runs a café and develops activities in four domains: ecology, international solidarity, culture and youth work – thereby striving to address environmental issues in the context of international solidarity and social justice. The analysis presented here only focusses

on the making of documentary films. For an overall analysis of this case, see Van Poeck & Vandenabeele, 2014a.

4 In view of Latour's indifference to human vs non-human, it seems reasonable to extend the use of Marres' concept of attachments beyond the domain of human - non-human' relations.

5 The ecological footprint is a standardised measure of human demand on nature representing the amount of biologically productive land and sea area necessary to supply the resources a human population and to assimilate associated waste (Wikipedia, The Free Encyclopedia, s.v. Ecological Footprint). With respect to the argument of this paper, it is interesting to observe that the ecological footprint concept, while it has been scientifically developed as an objective measure for sustainability, is mostly used for campaigning and educational purposes. Here, and as illustrated in this paper, the ecological footprint is typically used in an instrumental way serving as a matter of factual, non-negotiable basis for normative guidelines.

6 As already touched upon, Latour (2008) argues at length that the image of scientific practice that was passed down through the ages and that consists of a distanced observer depicting reality-as-it-really-is is actually a mythical reconstruction, neglecting the constitutive role of actual scientific practice in all its social and technical complexity. For an extensive discussion of the mythical character of this image of science and how it is still active in current thought, see Goeminne (2011).

7 In another case study (Van Poeck & Vandenabeele, 2014b) we analysed an interesting educational dynamic brought about by an educator who raised matters of concern starting from his attachment to a CSA-farm (Community Supported Agriculture).

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