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# Disposed to Unsustainability?

## Ecological Modernisation as a Techno-Science Enterprise with Conflicting Normative Orientations

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### Abstract

In the 1970s widespread awareness of a 'global environmental crisis' began to emerge in Western societies. Specific staff were employed to deal with environmental problems. While they are supposed to manage the greening of their organisations, committed to sustainable development, research did not study these agents in their own right. By drawing on two ethnographic cases this paper questions whether their dispositions are likely to help in approaching sustainability. The paper then takes up Bourdieu's concepts of habitus and field, a critical realist account of normativity and ANT's emphasis of heterogeneity to argue that the agents have conflicting normative dispositions.

### Introduction

*The moral dimension is unavoidable.*

(Sayer 2005, 9)

In the 1970s widespread awareness of a 'global environmental crisis' began to emerge in Western societies. Social movements were forming, ministries were established and capitalist industry was confronted with a demand to minimise its emissions. In corporations specific staff were employed to deal with waste, water and the like. Soon the idea of putting environmental managers in place – for ensuring compliance with social (especially legal) demands regarding environmental effects – was developed. Since the 1980s, the mode of greening society and industry has been conceptualised as ecological modernisation. As part of the latter, environmental management uses a variety of social technologies. While agents of ecological modernisation are supposed to manage the greening of their organisations, committed to sustainable development, researchers rarely studied these

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agents in their own right (Howard-Grenville 2007, 2–3), but, rather, focussed on possibilities to turn organisations and the state green, disregarding the individuality and agency of human agents. By drawing on ethnographic cases of two environmental managers this paper questions whether their dispositions are likely to help bringing about sustainability and how we can conceptualise such normative dispositions. To follow this aim, the paper is primarily concerned with *conceptual* work: I test notions to frame agents of ecological modernisation and their agency in hybrid fields, i.e. ones which are characterised by relations mediated in materiality and the social.

Towards this end, I will first attend to the discourse of sustainable development and its relation to ecological modernisation. Based on this, I will illustrate the work of environmental managers with two brief stories from the field. I will then turn to conceptions by Bourdieu, the critical realist Sayer as well as actor-network theory (ANT) to provide the base for conceptualising heterogeneous normative dispositions. While Bourdieu is of help in imagining social fields configured for sustaining something, Sayer's work helps to conceptualise the normativity of dispositions. ANT, then, provides an apt perspective to see how normative dispositions are not only carried by humans but by technologies or other non-humans as well. We will then illustrate these suggestions with the stories of the agents of ecological modernisation and conclude with a political problematisation of their dispositions.

## Sustainable development and ecological modernisation

The concept 'sustainable development' (SD) was taken up by the report of the *World Commission on Environment and Development* (Brundtland et al. 1987). Subsequently, it became the hegemonic framing for the aims and processes towards a socially just, environmentally sound capitalist modern society – especially since the United Nation's *Conference on Environment and Development* (UNCED, 'Earth Summit', in Rio de Janeiro, 1992). The resulting discourse has its roots in both environmentalism and the politics of development. While environmentalism was very much shaped by its problematisation of industry and technology (organised through capitalist

social and economic structures) as causes of environmental destruction, the aim of modernisation in the development discourse implied modern, i.e., Western, science and technology as a solution to 'under-development'. SD managed to unify both discourses into hegemonic politics. In SD the contradiction between technology as a cause of environmental problems and solution to 'under-development' discursively continues to exist. While what SD should actually mean in practice remains highly ambiguous, it became a powerful medium for universalising a specific approach to environmental problems: technological improvements and scientifically rationalised efficient organisation are constructed as solutions to both, environmental destruction and poverty (Dingler 2003; Jacob 1997). A result of UNCED, *Agenda 21*, constructs the private sector, i.e. corporations, as a major actor in bringing about sustainable development:

Business and industry (...) should be full participants in the implementation and evaluation of activities related to Agenda 21. (...) Through more efficient production processes, preventive strategies, cleaner production technologies and procedures throughout the product life cycle, hence minimizing or avoiding wastes, the policies and operations of business and industry, including transnational corporations, can play a major role in reducing impacts on resource use and the environment. (...) Business and industry (...) should recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development (United Nations 1992, 30.1–30.2).

Thus, *Agenda 21* postulates modernisation of corporations' relations to the environment globally (Dingler 2003, 239). This perspective is theorised by Ecological Modernisation Theory (EMT). Although (and maybe because) EMT precedes SD they relate well to each other. EMT, developed first by environmental sociologist and political scientist Joseph Huber and Martin Jänicke – later spread globally especially by Arthur Mol and Gert Spaargaren – suggests that to overcome environmental crises societies need to engage with nature more techno-scientifically and in ways more mediated by capitalist economy (Buttel 2000; Huber 2008; Mol & Sonnenfeld 2000). The notion of ecological modernisation (EM) refers to the idea that a) environmental crises can be solved with more of the hegemonic practices of relating to nature (rather than less) and b) that practices are

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taking place which bring about this solution. How can we characterise the practices which are deemed to be typical of EM? EMT suggests that EM exhibits a shift from end-of-pipe technology towards proactive approaches. As part of the latter, corporate environmental management is deemed the major device for greening businesses. Scientific discourse within EM suggests that the best way of framing corporate environmental management is to organise its activities within a so-called *Environmental Management System* (EMS) (for illustration of this discourse see e.g. McDonach & Yaneske 2002). An EMS is a procedural type of tool: a corporation defines aims, draws up a programme to bring about these aims, chooses appropriate tools, implements the measures, evaluates the outcome and, eventually, informs decision-makers such that they can review and adapt the aims. The circle starts anew. While the specific content of activities is *not regulated*, an EMS clearly defines the steps or a bureaucratic procedure in order to make the process transparent. Actors within the process need to make *rational decisions* and file them in an orderly manner. Thus ideally, rather than regulating the content, we find that the process is regulated by restricting the types and forms of decisions.

The procedural character of this instance of EM is linked to another key aspect of EM: the corporation knows best how to improve its environmental performance. From the point of view of EMT the quality of local and organisationally specific information allows for better decisions than the government would be able to take. Furthermore, since improving the environmental performance is construed as bringing about business advantages EM is seen as successfully using capitalist dynamics for greening society and the state. The motto is to achieve 'win-win solutions'. Thus, the aim is to develop and use tools which allow both, making profit and protecting nature. Accordingly, Keil and Desfor (2003, 30) perceive EM as practices '*with* rather than *against* "nature"'. This greatly resembles SD: development is reconciled with nature and nature is reconciled with capital. No more of fundamentally questioning capital or industry! (Whilst such critical approaches were topical in environmentalism pre-1980.) In corporate discourse environmental management is aligned to SD and actors are perceived as aiming at best practices through technological and institutional innovations. How do environmental practices look like

in practice? Let me turn to sketching two practical settings which supposedly lead to SD, or – at least – to better environmental performance.

## Settings for constructing sustainability

In the following I shall briefly describe two practical settings of environmental managers. I encountered them during an ethnographic study of agents of ecological modernisation that took place in Western Europe between 2006 and 2008. I reconstructed the settings based on analyses of my observations as well as informal interviews (regarding the method cf. Emerson, Fretz, & Shaw 1995; Hassard, McCann, & Morris 2007; Thomas 1993; Weinstein 2006).

The first setting involves an environmental co-ordinator of an organisation in the education sector with about 12,000 clients. The organisation runs a night club as a social service. The co-ordinator, Mr. Berger, had the task of setting up a recycling system for glass waste. He therefore got in touch with a number of recycling companies and he learned that the amount of the night club's glass waste did not make collecting and recycling the waste worthwhile for the company. In this situation Mr. Berger decided to go for the option of *increasing* the amount of glass waste *to such an extent* that recycling became financially feasible for the recycling company. With this in mind he constructed a recycling network including other clubs in town.

The second setting had been shaped by an environmental manager of a site of a multinational corporation in the electrical equipment industry. The multinational employed about 400,000 workers – at the site we found about 1,300 workers. For improving both the extent of environmental management as well as workers' identification with the corporation the environmental manager, Mr. Kunz, drew up a specific programme within the corporate suggestion scheme. This programme focused on mobilising workers' knowledge on improving sustainability in terms of environment, health and energy. In the course of the programme a number of suggestions were accepted, others declined and a few also had to be further scrutinised. Suggestions included e.g. implementing devices for reducing water usage or electricity consumption. Some workers put for-

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ward the idea of installing solar panels. Mr. Kunz, as the expert in place, *declined* this suggestion *on the grounds* of having solar panels already in use at the site.

A first form of critique involves recognising that the network constructed by Mr. Berger was based on producing *enough* glass waste. If the amount of waste decreases the network has to balance the decrease by increasing the production of waste at other sources. Regarding the suggestion scheme of the second case we easily find that Mr. Kunz did not seem to bother about the meanings of the workers' solar panel suggestion but rather constructed his action as deciding straightforward *without discussion*. Mr. Kunz was able to effect these decisions because of his higher position in the organisational hierarchy. These structural critiques, however, are of little help in attending to the agency of the actors involved. Therefore, in the following we will attend to Bourdieu's account of habitus, which stresses the inert character of social dynamics regarding change.

## Habitus, normative dispositions and heterogeneity

This section serves to introduce the theoretical background for my further discussion. Bourdieu's concepts of habitus and field are suitable to conceptualise agentiality. Drawing on critical realism on the one hand, and an ANT-inspired take on heterogeneity on the other, this section aims to widen an orthodox Bourdieusian conception.

### Bourdieu's concepts of habitus and field

Bourdieu uses the concepts of habitus and field to overcome the dichotomy of structure and agency. While agency is normally considered to be located within the human actor, structure is to be found between and above humans. Thus, agency is ascribed to the human actor (such as in the Rational Actor Paradigm) and structure is understood as the relations in a given society (as in Marxist thought). In contrast to these conceptions Bourdieu (1989, 14–18) suggests that actors occupy positions within social fields. At such a social position actors develop a habitus which

predisposes them to acting and thinking in a way which reproduces their position. This explains the tendency for social inertia. How can we imagine this in detail?

The total social field is objectively given. Social scientists, however, can only construct fields by choosing dimensions which describe a field. Within a field some positions are higher while others are regarded as lower – depending on their access to whatever is at stake within the field. Thus, diverse forms of capital exist. Bourdieu constructs capital as the (social) material which people struggle for to enact effects within the field. The habitus of actors predisposes them to struggle for more of the capital which is relevant in the field. For this purpose, they develop a habitus which provides them with ‘a system of schemes of practices and a system of perception and appreciation of practices’ (Bourdieu 1989, 19). These systems, generally, fit to the position one occupies. Thus, he says, actors develop a ‘feel for the game’ (Bourdieu 1988), i.e. a feel for what practices are rational at the position. At the same time the habitus includes schemes for generating perceptions and thought: what is thinkable depends on the habitus, thus on one’s position (Bourdieu 2001, 126). In other words, actors learn how the world is and take it for granted. Believing in the field, i.e. that struggling for the stake is meaningful, can be described as *illusio*. Through knowing and believing about the world – from the position one occupies – one is disposed to reproduce one’s positions and relations to others. This disposition is based on the rationality of actors: we perceive the world in a way that fits to what we know about it and therefore the scheme of perception is reproduced. Again and again we successfully apply our categories and thereby they become durable and are perceived as objective, as in examples of symbolic dichotomies, e.g. male / female or black / white (Bourdieu & Wacquant 2006, 166–169). Hence, Bourdieu constructs:

[T]he habitus (...) is the principle of a form of knowledge that does not require consciousness, of an intentionality without intention, of a practical mastery of the regularities of the world that allows one to anticipate its future without having to pose it as such (1988, 783–784).

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Nevertheless, social change is possible. Habitus can be transformed – through exercising, changing our conditions (Bourdieu 2001, 220–231) as well as reflexivity: by learning and reflecting the habitus changes. Thus, it is an open and historical product at the same time. ‘It is durable but not eternal!’ (Bourdieu & Wacquant 1992, 133). Our habitus is contingent. Reflexivity, even if it is very unlikely and difficult to develop, allows us to distance ourselves from parts of our dispositions and habitus (Bourdieu & Wacquant 2006, 170–171). Habitus is most constraining when the actor is not acting consciously. Enlightening reflexivity can thus help to change how one is influenced by dispositions.

While Bourdieu mentions reflexivity and intentional change, it cannot be regarded as his emphasis. Critical realism, however, focuses on the latter.

### A critical realist account of normative dispositions

Sayer (2005) critically and sympathetically aims at elaborating Bourdieu’s thought with respect to ethics and morality. While Bourdieu did not focus on ethical dispositions (ibid., 22) and resistance emerges as an anomaly from his works, Sayer suggests, actually, ‘nonconformity and resistance are not unusual’ (ibid., 3–4) and that such moral stances can be linked to positions in field. This claim implies that normative dispositions must be somehow at work. How can we conceptualise this with Sayer?

First of all, Sayer emphasises that habitus is not necessarily coherent; dispositions can be in conflict (ibid., 26). He suggests that actors deal with such situations reflexively. If reflexivity is possible, then they are aware that they cannot totally control their situation. Thus, people can ‘strive to change their own habitus [using learning and practising] aimed at the embodiment of new dispositions’ (ibid., 30). Yet, why should actors strive for change? The reason lies in the bodily actor having ‘aversions to and inclinations towards particular conditions [... even] before [the body] gets habituated to a position within the social field, *indeed these are a necessary condition of the efficacy of socialisation*’ (ibid., 31).

The idea that aversions and inclinations are more material than merely social constructs can be traced back at least to Hegel (Sayers 1976). Here we find: a ‘force must operate on something, it must meet with



some resistance, in the form of an opposing force' (ibid., 12). Without a structure a thing cannot be shaped. Thus, the formation of habitus intrinsically requires resistance (Sayer 2005). Then, discourses influence people but do not determine them. Consequently, actors have some agency which they may use in 'actively [discriminating] between the good and the bad' (ibid., 34), rather than just applying the disposed classifications. Sayer finds this for example in everyday life when meeting workers who struggle for better educational opportunities for their children. Thus, people can commit to people, rationales, practices – even against their own self-interest:

Actors also tend to invest emotionally in certain things not merely for the rewards but because they come to see them as valuable in themselves, sometimes regardless of any benefit to themselves' (ibid., 40).

Finally, then, with Sayer we find both: a) that actors have normative dispositions, i.e. 'habitus includes ethical dispositions, which when activated, produce moral emotions' (ibid., 42) and become embodied; and b) that these dispositions can change – consciously and unconsciously. No wonder then that they can conflict with each other. To make the picture even fuller, let us now turn to a constructivist take on materiality. The discussion of heterogeneity connects well with Sayer's account because a key aspect of the constructivist take, sketched below, is the assumption that resistance can be characteristic of materials.

### The 'social' and heterogeneous networks

It is a basic point in Science and Technology Studies that technologies are shaped by heterogeneous factors, i.e. not merely by science but also by things, decisions and contexts (Bijker & Law 1992). It is also a common notion that a technology is stable if the heterogeneous relations 'of which it forms a part (...) are themselves stabilised' (ibid., 10). What does this usage of the trope heterogeneity mean? Law (1992, 2) has tried to capture the significance of it:

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(...) the metaphor of heterogeneous network (...) lies at the heart of actor-network theory [ANT], and is a way of suggesting that society, organisations, agents and machines are all effects generated in patterned networks of diverse (not simply human) materials.

Thus, ANT construes humans to be part of networks and the elements of these networks generate each other. Accordingly Law emphasises relationality: a network is shaped by its relations, rather than by any substance. If one looks at an element with an ANT focus one zooms in and can construe it as an effect of an underlying network. This is why Strathern (1996, 523) points us to the fractal logic within the element: networks can be traced into depth without limits. In that respect, Law (2007) elaborates, ANT can also be seen as an empirical translation of the study of rhizomes – as conceptualised by Deleuze and Guattari (1987). A rhizome can consist of all kinds of elements and has no centre but spreads in all dimensions. To exemplify heterogeneity: to communicate my ideas to you I use a network consisting of articles and books, my computer, significantly many cups of tea and all kinds of actors including IAS-STS and the publisher of this book.

Nevertheless, the non-existing elements construed by ANT, which are merely sets of relations that may be regarded as resources as long as one does not zoom into them, can resist. They may not support the network one studies and can then be called dissidents (Callon 1999). Thus, we can conceptualise resistance as well as heterogeneous – all kinds of dissidents may exist: people, organisations, texts, stones, gates, nation-state borders. Heterogeneous resistances can be conceptualised as reasons for the existence of local order – for Law (2007, 6) there is ‘no larger over-all order’. Outside of the network materiality may differ very much.

If social order is continuously reproduced and reconfigured in a multiplicity of human and non-human materials then, for following an aim such as sustainable development, we need to enquire how elements of orderings can be normative.

## Conceptualising heterogeneous normative dispositions

Above I have described activities by two environmental managers and their implications. I then turned to Bourdieu, Sayer and an ANT perspective on heterogeneity with the aim of elaborating a critique of both, constructing the glass recycling network as well as using the suggestion scheme. How can we conceptualise the agency of the agents of ecological modernisation in these cases? Let me focus on the normativity of some of the agents' dispositions.

We can construe both agents as acting within fields or networks, consisting of a variety of materials. Although Bourdieu stresses human agents within fields, the notion of habitus can easily be extended to technology (Sterne 2003). Bourdieu's concept of field is characterised by its emphasis on relationality: agents inhabit positions within fields, but we can only describe them relative to other positions, rather than absolutely. The ANT take is comparable to this: networks are characterised by the relations among the actants. Both also emphasise that a field or a network is a social construction by an academic – which can merely try to be just to observed realities. The critical realist critique of Bourdieu, i.e. that agents have normative dispositions – that agents are disposed to both moral emotions as well as morally loaded action, can be related to ANT as well: in both ANT and Sayer's work, agents emerge as resisting and, thus, as possibly intentionally reproducing (dis)order. Through these linkages we can shed light on *heterogeneous normative dispositions*.

When Mr. Berger constructs a recycling network which is configured such that other actants have an incentive to produce *enough* glass waste (the constructed norm), rather than *less* (an alternative norm), he can do so only by inscribing the norm materially. We find heterogeneous materials and relations which carry the norm of producing enough waste: the relation between the producers of glass waste, the relation between the 'local glass waste production network' and the recycling corporation, the contract and other forms of texts (communication between agents), and – very importantly – the glass bottles themselves. The latter elements are accumulated in the night club and they show up, take space and need to

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be got rid of. They seemingly ask for a recycling network, rather than asking for not-having-been-brought-to-the-night-club-in-the-first-place.

Mr. Kunz's use of the suggestion scheme structure enacts spreading this kind of network. We find another instance of a social field in which workers are related to various experts in a way which emphasises the knowledge hierarchy: the environmental *expert* within the network is disposed to *know rightly* about matters affecting the environment or improving its conditions. At the same time, the field's structure reproduces positions of *lay people*. Within the Western cultural context both, lay as well as expert knowledge, carry a normative load. Thus, the network disposes actors normatively: actors' 'feel for the game', which is in this case the suggestion scheme, rightly suggests that experts have better access to knowledge, a feel which is linked to emotions: the expert ought not be questioned and if he is, he 'has to' defend his position, rather than questioning his own stance. The materiality of this network, including humans, documents which regulate the suggestion scheme, databases, forms, posters and meetings, enable the flow and spreading of this normativity.

## **Conclusion: Sustainable networks for and against dispositions of unsustainability?**

In this article I introduced both, a) key ideas of sustainable development carried within ecological modernisation practices such as environmental management as well as b) a move to link the theoretical approaches of Bourdieu, the critical realist Sayer and an ANT take on heterogeneity. I illustrated how I link the theoretical approaches through telling stories of practices of environmental managers. Here I presented the trope of heterogeneous normative disposition in order to emphasise that actors are disposed to perceptions and ways of practically dealing with realities (habitus), that these dispositions can be normative and that these dispositions can be materialised in a variety of elements. This helps us to better conceptualise e.g. a text, which is disposed to lead to specific normative effects. Of course, a text may also show resistance. In the stories told, however the managers created networks with positions at which actants

were disposed to enacting normative effects, such as producing enough glass waste (rather than minimising it) and reproducing social hierarchies between the expert and lay people rendering a fruitful discussion about meanings of the suggestion to install a solar panel unlikely.

The final task, then, is to consider how sustainable the normative dispositions in the networks of the environmental managers were. First, let us recall that the very positions of the environmental manager in society – as construed by corporate environmental reports, governments and ecological modernisation theory – are ones of generating sustainability. The sustainable development discourse co-constructs these managers as sustainable. However, the activities described above are part of networks which produce unsustainability: Christoph (1996) considers waste minimisation as central to ecological modernisation; Jacob (1997) emphasises that activities which ought to lead towards sustainable development need to deal with the political and normative load of meanings attributed within the discourse. Thus, we find that the managers are disposed to both, sustainability and unsustainability. For studies which aim at co-producing sustainability this implies: we need to study in more detail how actants, both humans and non-humans, enact sustainability as well as unsustainability. Whether we are actually approaching sustainability is highly contested. We thus need to enrich a simple mode of critique which points out that we need social change for some form of ‘true’ sustainability (Carvalho 2001) with a more complex mode: What is actually sustained and how? Pepper (1998) and Blühdorn and Welsh (2007) point investigations towards how capitalism is sustained, i.e. unsustainability is reproduced. Further research should attend to these issues. For an emancipatory STS take on sustainability it might be of special interest to investigate how heterogeneous resistances can be created in order to construct (dis)orders which spread alternatives to capitalisms and hierarchical networks leading to domination. With this in mind, let me conclude with the question: How can we enact sustainable networks against unsustainability?

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## Note

- <sup>1</sup> *Academic knowledge is not produced by individuals but in networks and communities.* I am grateful to Anup Sam Ninan for comments on an early draft and the final version of this article.

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