CONSUMPTION DOMAINS IN TRANSITION;
consumers (real, projected, represented or imagined) and
socio-technical systems of provision

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1. Introduction

The relation between consumption and the environment could well be one of the most sensitive topics in contemporary environmental sociology, particularly when facing the question what kind of changes in consumption patterns are required to avoid further environmental destruction. What is generally agreed upon is that consumption does affect the environment and the particularly Western consumption patterns[2] need to be made more sustainable one way or another. However, when it comes to the question how to make consumption patterns more sustainable there is sufficient disagreement for a heated debate. This debate not only revolves around the – by now almost traditional – discussion between ecological modernisation theorists and treadmill of production adherents, it is also a discussion crossing social scientific approaches to consumption.

Various theoretical approaches have sought to explain, predict and change consumption choices by drawing upon individual lifestyles and preferences, as well as on the level of knowledge and (environmental) education among consumers. The most well-known model here is Fishbein and Azjen's attitude-behaviour model [**reference**]. Following out of this line of reasoning is a sustainable consumption policy which is oriented at education and learning. The other extreme position would be to consider the greening of consumption as merely a technological issue, where the greening of infrastructures is assumed to take place without affecting, let alone involving, consumers. As is also argued in the call-for-papers, this perspective might at times appear attractive to engineers and policy-makers. In recent times however, this point of view is increasingly considered inadequate since it is recognized that the optimalisation of technical systems cannot occur without considering the role of consumers and consumption practices (for a range of pragmatic and normative reasons).

The social practices approach to the greening of consumption is based on the rationale that consumption choices are made under the influence of individual and lifestyle characteristics on the one hand, and socio-material systems on the other (Spaargaren, 1997, Spaargaren and van Vliet, 2000). A greening of consumption, in this approach, entails the development of an

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[2] In the absence of better terminology, I use 'Western' to describe not only consumption patterns in Europe, the United States and Australia, but I recognize that many in non-Western countries do indeed maintain a Western consumption pattern as well.

ecological rationality – both among consumers as within socio-material systems – which can allow for a better, more sustainable organization of consumption and production.

Consumption practices are inextricably linked to the infrastructures of consumption within which they take place. As is illustrated by for example Otnes (1988), daily consumption practices draw extensively on such systems (which Otnes labels social-material collective systems) and thereby also reproduce these systems. These infrastructures do not only comprise large-scale technological artefacts, such as electricity grids, but also include domestic appliances such as boilers, heaters, kitchen appliances, et cetera.

This recognition is of crucial importance when it comes to question how consumption can be made more sustainable. If we consider the four consumption domains with the greatest environmental impact, food consumption, mobility, tourism, and dwelling (EEA, 2005), we cannot but conclude that in each of these domains, individual consumption choices are inextricably linked to the existing infrastructures of consumption (whether those are roads, sewer systems, kitchen design, or the range of food products made available by supermarket and other stores). When questioning sustainable consumption, it would thus be rather naive to neglect the pivotal importance of these infrastructures and focus on individual attitudes and lifestyle changes solely.

This brings me to the subject of this paper in which I aim to achieve the following. I want to discuss a research approach that overcomes this strict dichotomy between individual-oriented and system-oriented approaches to consumption by discussing and elaborating on the social practices approach as developed by (among others) Spaargaren (1997, Spaargaren and Vliet, 2000, 2003). In doing so, I take the following steps. First, I discuss the deficiencies of 'traditional' approaches to consumption, both from a strictly sociological as well as from more technology-oriented approaches. After that, I introduce the social practices approach in more detail and position it within recent debates.

Drawing upon recent discussions from both transition theory (Schot and Bruheze, 2003, Geels, 2004) and wider debates from the fields of the sociology of consumption and environmental governance, I not only aim to develop a perspective that considers the consumers as an agents of change, but I also want to translate such a view into 'guideliness' for doing research. By briefly discussing some recent efforts made within the CONTRAST[3] research project, I aim to illustrate the practical consequences of such an approach.

2. The deficiencies of 'traditional' approaches to consumption and the environment

2.1 Sociology of consumption

There is probably little need to go into detail when describing the classic works in the sociology of consumption. Text books that deal with consumption pretty generally continue their overview with the works of Veblen, Simmel and Marx (see e.g. Paterson, 2006). This is not without reason; these theories have continued to influence sociologist who have tackled issues of consumption and the consumer-culture. Veblen's analysis of 'conspicuous consumption' and the *nouveau riche* , and Simmel's work on the role of consumption choices in shaping owns identify, particularly in urban settings, contain notions and concepts which still feature heavily the contemporary sociology of consumption.

The work of Marx has in many ways had the greatest impact on the attitude of many scholars towards consumption. Marx' argument revolved around the notion the commodity

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[3] See for more information www.contrast-research.nl

fetishism. For him, changing consumption practices meant that commodities were no longer only seen in terms of their use-value but also considered to have an exchange-value in themselves. To exchange commodities, one needs money (the use-value is of no use) and this means that consumers are increasingly interested in the monetary value of commodities rather than the origins and context in which these commodities were produced. This results in the alienation of consumers; "men are henceforth related to each other in their social process of production in a purely atomistic way; they become alienated because their own relations of production assume a material shape which is independent of their control and conscious individual action" (Marx, 1999, 187 in Paterson, 2006, 17).

My motive for this lengthy quote of Marx lies in the fact that this view on the relation between consumption and production has been, and continuous to be, dominant in many sociological works on consumption. On many instances, the consumer is seen as a 'passive recipient', at the 'receiving end' of production-consumption chains, 'malleable' and 'forced' by the capitalistic organization of society.[4] The most outspoken cultural critique on mass consumption, and the overriding influence of the mass culture industry, was formulated by the Frankfurt School in the mid 20th century. Industrialization and mass production, in combination with the rise of the mass culture industry, meant that 'artificial' needs were created and subsequently fulfilled by products that lacked authenticity. This critique has continued to influence contemporary sociologists studying consumption; recent examples include Ritzer's (1993) well-known thesis on the McDonaldization of society and studies on the Disneyfication of society (see for example Ross, 1999, Wasko, 2001).

While these theories have become well-known and influential, at least in academic circles, my argument is that they provide us with stunningly little starting points for thinking about making consumption more sustainable. I see two important drawbacks of these theories. First of all they are talking about consumption but say little to nothing about consumers, about their motivations, desires, and the rationale behind the decision that they make. These studies discuss issues of consumption on the macro-level solely where consumers are reduced to passive 'recipients'. Secondly, and this relates to the previous points, the main aim of these theories appears to be to give a fundamental cultural critique on the organization of contemporary societies, rather than analyzing and unraveling the societal processes that shape consumption and production. (It must be said that the work of Bryman (2004) is an exception to this since he clearly separates analytical and normative findings.)

2.2 Individual and lifestyle approaches
Another branch of social science has attempted to analyze consumption from a distinctively different perspective, analyzing at a micro-level how consumption choices are made. While such studies can take very different forms, for example a more anthropological one as used by Bourdieu (1984), Douglas and Isherwood (1980) and Miller (2001), social-psychologists have led the bunch here in linking the individual appropriation and use of commodities to environmental considerations.

Over time their attitude-behavior model was elaborated (references Azjen, Fishbein and Azjen, Vlek, etc). In early writings it was argued that the environmental awareness of consumers was the main determinant when it came to the question if consumers were willing to consume in an environmentally friendly way. Later onwards, it was acknowledged that the notion of awareness had to be divided into a cognitive and a normative element. Thus, the

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[4] See for example the article by Miller (2003) who actually uses Marx' terminology and talks about the defitishising of commodities.

environmentally relevant consumption choices we make, they argued, are determined by what we know, and how we think about environmental issues. Up to this point, the model was based on the assumption that consumption choices are essentially free choices, not hindered by practical considerations. In further elaborating the model, it was acknowledged that such considerations exist, for example when products are simply not available (external restricting determinant) or is alternative products cannot be fit into one's daily routines (operational determinants).

Nevertheless, the model continues to be problematic and inadequate for our purposes here. For a start, the model is focused on isolated, specific consumption choices that are quite literally taken out of their social and technical context. Even more, the model suggest that there is such a thing as 'environmental consumption', distinct from ... ? Secondly, the model continues to attribute significant importance to individual's values and norms as determinants for environmental behavior. In empirical studies that try to correlate values with direct and indirect energy consumption, no such link could be found (Vringer, 2005). There is no reason to assume that a high concern for the environment goes hand in hand with an energy-efficient lifestyle. Finally, while such studies recognize that consumer make choices on the basis on various variables and the personal situation they do not consider the impact of these consumption choices on retailers and producers. The role of the consumer in not only greening individual consumption patters but also in greening infrastructures of consumption and production-consumption chains therefore remains unanalyzed.

2.3 STS approaches

Studying this relation between infrastructures of consumption and consumption is not a new phenomenon in itself. Scholars from the field of science, technology and society (STS) studies have on various occassions stressed how technological artefacts and systems influence human behavior and how human behavior reciprocally affects these artefacts and systems. In retrospect, one can identify some of the classics in thinking over changes in the infrastructures of consumption. Thomas Hughes (1983) identified the users as an important actor since they where affected by the process of electrification but not so much in their role of agent of change; Hughes considered investors, engineers, managers and financers to be the system-builders. Comparably, many STS scholars who have investigated the interrelations between technology and its users have predominantly focussed on the 'consequences' of technologies for individual users (for example stressing the 'scripting' of behavior through technologies (Latour, 1992) or, by taking a historical perspective, analysed users came to influence technological development (Bijker, 1995).

Summerton (1994) acknowledges that when it comes to consumers, the focus has been too much on the consequences *for* consumers sec, rather than their role in inducing of forcing system transformations; "users are conspicuously absent in studies on large technical systems, somehow unnoticed among the managers, engineers and regulators. There are many examples of system builders' attempts to shape (or reshape) user behavior or expectations, but can we find cases in which users – through their practices and demands – have explicitly reshaped systems?" Such a research approach would require us to pay attention to issues such as the differential access to power and gender perspectives, discussed in more detail by for example Schwartz Cowan (1983).

2.4 Wrapping up

Overseeing these 'traditional' approaches to consumption, one can identify three archetypes of 'the consumer'. The image of *ignorant, captive, and even slave-like consumers* emerges from the sociology of consumption. From social psychological and some economical studies however

emerges the image of a *rational, free-choosing consumer*. Finally, studies on socio-technical system have tended to position to consumer at the 'end' of the infrastructure where he/she might be affected by the system, or where he/she is important in determining how the system works, but where the predominant view remain that consumers are most of all *'recipients' of technologies and resources*.

In my opinion, none of these views however provide us with a valuable insight into the true role of consumers in the greening of production and consumption chains. Thus, if we come to speak about making consumption and the infrastructures of consumption more sustainable, we need a different approach then the aforementioned ones. It requires us to 'connect infrastructural change with the dynamics of change in domestic consumption' and, at the same time, it requires a perspective on the governance of such transitions and the role that citizen-consumers can play in these processes.

3. A different perspective on consumption

In a number of contemporary studies a more refined view on the issue of consumption, related to questions about for example the relative power of consumers and the impact of infrastructures of consumption, is constructed. Over time, we have witnessed the development of a number of more systemic approaches to provision and consumption which acknowledge the pivotal role of consumers in the shaping and (possibly ecologically) restructuring of such systems. Although it is not my aim to provide a historical overview, one can identify some important publications which have fuelled this development. Fine and Leopold's work on system of provision (Fine and Leopold, 1993) has pointed at the interaction between consumers on the one hand and the providers on the other. In a similar vein, Otnes (1988) as played an important role in bringing the duality between socio-material systems and individual consumption choices to the fore; consumption choices are necessarily made within the context of socio-material systems but at the same time the thereby influence and maintain such systems.

3.1 The social practices approach
In elaborating on this dualistic nature of consumption choices, Spaargaren and others have elaborated the social practices approach (Spaargaren, 1997, Spaargaren and Vliet, 2000, Spaargaren, 2003). Drawing upon Giddens' notion of the duality of structure (Giddens, 1984), Spaargaren argues that social practices should be at the heart the analysis; the emphasis should not be on the beliefs, norms, and values as such but on the concrete behavioral practice that is performed in a social context. To clarify this, and the consequences for research, the following figure (Figure 1) was developed.
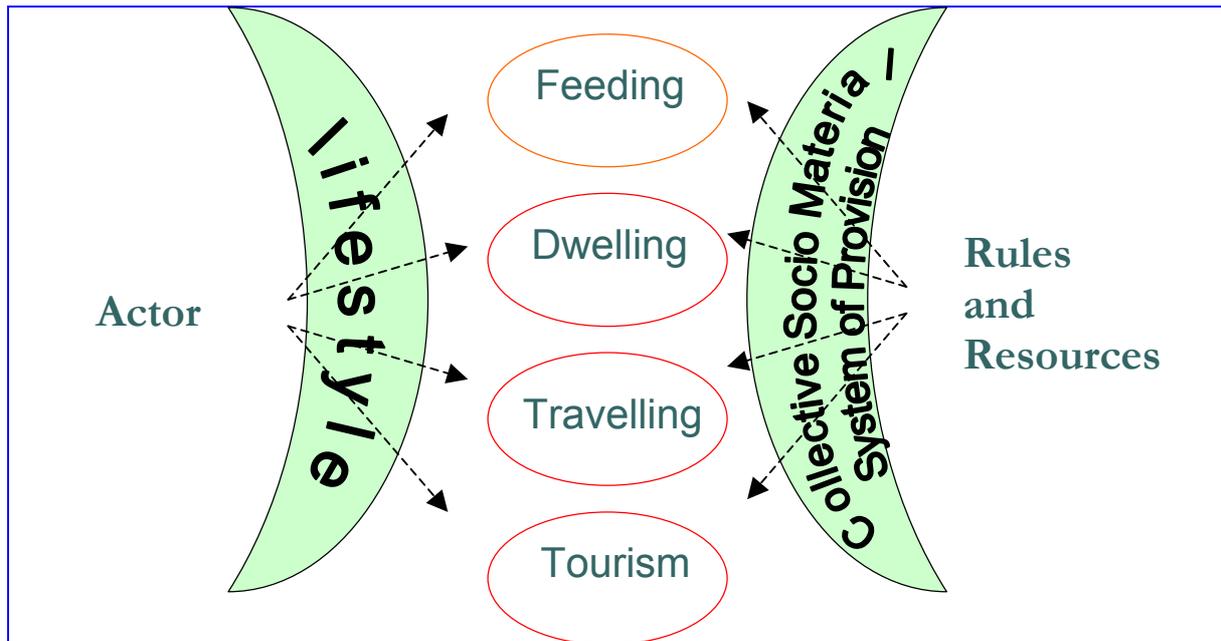
Figure 1: The social practices approach (based on Spaargaren and van Vliet (2000, 53)

In practical terms, this points us at two main categories of questions when analyzing consumption. While I recognize that this might appear to be a repetition to some, I want to describe them briefly. First of all, we can start at the social practice and look towards the right; "in an *institutional analysis* of social practices, the actors' knowledge and skills are ; bracketed out'" (Spaargaren and Vliet, 2000, 54), and the emphasis lies thus more on the structure, on the rules and resources and how these are determined by the existing collective socio-material systems of provision. Alternatively, one could look towards the left and analyse strategic conduct where the context of consumption is considered as given and the emphasis lies on the actors' use of structures, and the knowledge and resources they have and use.

In the remainder of this paper, I focus first and foremost on the institutional analysis and discuss how such an approach can benefit from recent studies concerning the (governance of) socio-technical systems of provision. It goes without saying that, given the interdependencies between structural factors and individual behaviour, I will also come to touch upon the issue of lifestyles. In doing so, I seek to tackle two different difficulties. Whereas the social practices approach is considered as a starting point for the analysis of consumption, I aim to elaborate on (1) the question how to assess the influence and impact of consumers on structures and institutions and (2) the question how such findings can reinforce environmental policy measures.

3.2 Transition theory

The question how we can improve our understanding of the influence and impact of consumers on structures and institutions is informed by two observations. First of all, one could argue that the SPA is a valuable theory to look and explain current consumption patterns but doesn't (yet) offer the concepts required to think about changes in consumption choices and thereby changes in the infrastructures of consumption (following the duality of structure). Secondly, the lack of formulated 'mechanisms of change' makes it difficult to talk about the influence of consumers and therefore one is easily tempted to talk about consumer influence solely in terms of their actual purchasing decisions (do they buy free-range eggs or not?) and consequently dismiss all attempts to exert influence through consumers because of a observed lack of 'concerned' consumers.

One of the recent theories in which such mechanisms of change are discussed in more detail is the field of transition theory. The development of transition theory shows a somewhat peculiar pathway. Influenced by the work of STS scholars, a number of Dutch and British researchers developed the notion of transitions to talk about the transformation of system (of systems), which take place over long periods of time (20-30 years) and at different levels (niche, regime, landscape)(see for example Rotmans, 2003, Geels, 2004). Quite rapidly, this notion was embraced by Dutch policy-makers, fuelling the academic interest in transition theory, and as a result one can now observe a rather diverse set of approaches which are all categorized under the heading of transition theory.

If there is one figure which almost always features in discussion on transition theory, it must be Figure 2. This figure features some of the core concepts of transition theory; namely the notions of landscape, regime and niches. The core rationale here is that contemporay societies are structured by a number of regimes (the mobility regime, the food production-consumption regime) which prescribe or enable certain behavioural practices, and disable others. These regimes are influenced by landscape development that are believed to take place at the macro-level. At the micro-level, we see various niches which are understood as projects in which scientists, companies, civil society groups and others try to bring about change at the regime-level by the invention and promotion of new technologies or new routines. This is the level where radical changes originate. If change is to come from within the dominant regime, then we can only expect incremental change, since these regimes face path-dependencies because of vested interests, invested capital, et cetera. In other words, regime change is only brought about by the development of innovation in niches which subsequently can develop into new regimes. This mechanism of change has been further discussed in numerous writings on strategic niche management <**include references**>.
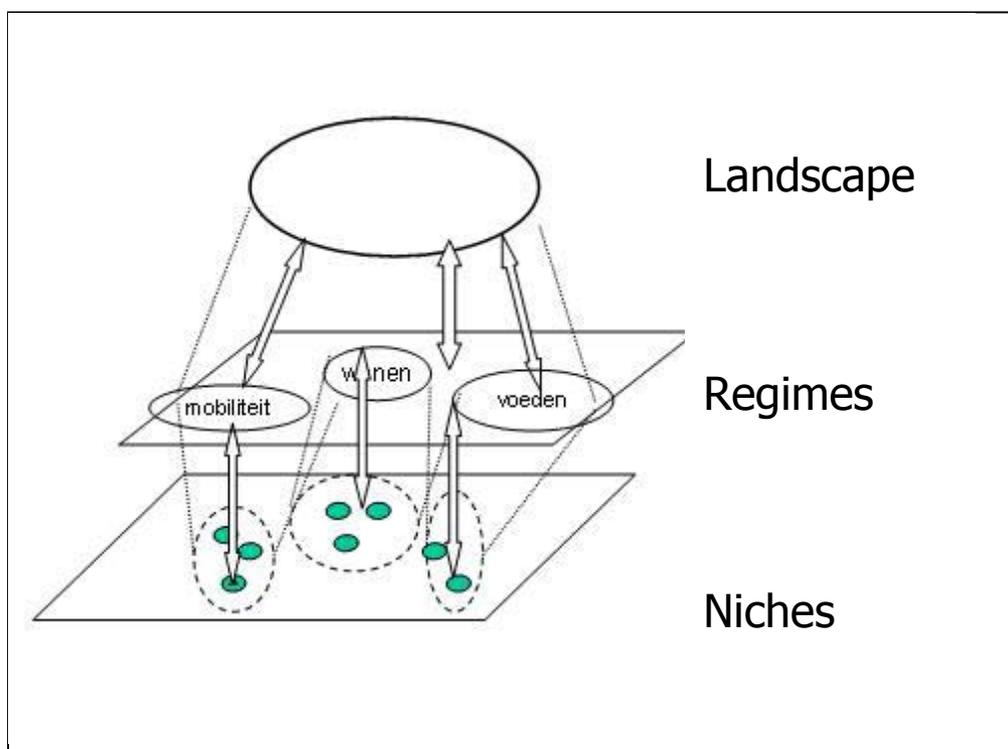

Figure 2: Interaction between different scale levels (based on Geels and Kemp, 2000)

This conceptualization of change in founded on the perceived robustness of existing regimes and therefore only sees change occurring through the inventiveness of niche managers. The role of consumers remains, like in earlier theories on science, technology and society limited to a receiving role, playing perhaps a role in making niche experiments successful or not.

In the more recent debates on transitions and system innovations (nowadays more frequently referred to as transitions) the relation between consumers as the infrastructures of consumers is given more attention. Illuminating in this context is Shove's work on the relation between consumption practices, technical systems and changing conventions of normality (Shove, 2003). Shove's work is should be seen as a attempt to bridge the gap between infrastructures of consumption and the very mundane in which consumers make us, and thereby maintain, these systems. By analysing practices of consumption, technology and social change, and working out how and why conventions of comfort and cleanliness are on the move, she seeks to shift the focus of social environmental research and policy so as to comprehend to collective restructuring of expectation and habit. She moves away from the dominant sociology of consumption and turns towards the sociology of technology to explain that transitions in the levels of comfort, cleanliness and convenience follow certain trajectories and reconfigurations of meaning. The concepts comfort, cleanliness and convenience are introduced as possible alternatives to the dominant concepts in contemporary theories of consumption and are also relevant for environmental scientists as they seem to be subject to a continuous process of escalation and standardisation

As far as this paper is concerned, the value of Shove's work lies in the fact that it clearly points out that system innovations and the changes in routines and behavioural practices cannot be seen apart. Furthermore, she argues, an analysis of the co-evolution of systems of innovation and practice requires us to look at the process of acquiring innovations but also, and perhaps above all, requires us to look at the evolvement over time. Shove offers to concepts to give body to such an approach when she talks about the vertical and horizontal structuring to describe how technologies and practices are taken up, incorporated and, ultimately, are accepted as 'standard' or 'normal practice'. In elaborating on the vertical structuring, Shove continues upon what was described in relation to figure 2 and describes how (newly developed) niches can be incorporated on the regime level. This is not only a technological issues but is also influenced by the societal developments at a landscape level, such as the change in working hours (in relation to the siesta) or the cultural changes regarding practices (e.g. washing) which, she argues, influences the kind of niche-technologies and -practices that are actually taken up. In other words, the appropriation of particular technologies and practices can also proceed successfully if this particular technology or practice is tied to the various developments at niche, regime and landscape (or micro, meso, and macro) level.

At the same time, such technologies and technologies have to be incorporated into daily routines of households (with all the associated infrastructures, etc.) and this is described by the notion of horizontal structuring. A new practice (let's say washing) needs to be compatible with, to name only a few, the distribution of work within the households, the available time, available money, the clothes possessed, and what is considered the 'normal' practice of washing. In Shove's words; "there is much more to washing and bathing than purification (...), these are activities in their own right, and ones that involve the simultaneous reproduction of all kinds of values, experiences and socio-technical systems" and secondly "meanings of service, that is what it is to bathe and wash appropriately, emerge from what people do" (Shove, 2003, 191). The horizontal structuring of normal practice is therefore dependent on the relation of a particular system to the 'systems of systems' and the individual's way of doing things. Together, these two processes determine how conventions and obligations, or 'normal practice', are redefined.

While this might appear as a rather instrumental perspective on the (re)structuring of domestic practices, the Big Question in this paper's context is of course what role various actors play in constructing demand and supply, convention and 'normal' practice. While Shove hints at this, describing the role of standard-setting agencies (such as the ASHRAE) and science, but this could be taken a step further. Schot and de la Bruheze (2003) have analyzed this process in further detail by elaborating on the 'mediation junction', in analogy to Cowan's concept of the consumption junction – the place and time where the consumer makes choices. The central argument is that technologies and practices are shaped by the mediation process between production and consumption through which product characteristics and user requirements are aligned. This process is not only given shape by producers, perhaps drawing upon test panels, but also by real-life consumers, mediators, representatives and other interest groups. While Schot and de la Bruheze appear to suggest that there are particular, identifiable institutional loci and arenas where such a mediation process takes place, I would emphasize that the mediation between production and consumption takes place on various locations, on various moments in time, and through various different forms. Nevertheless, the concept of mediation junction enables us to analyze how various are involved in shaping products and practices and how the consumer is involved in these processes.

Continuing upon this latter point, Schot and de la Bruheze argue that we should not only look at the role of actual, real-life consumers who purchase products and make choices how to use them, but that we should also look at the indirect ways through which consumers influence production processes. It is easy to imagine that producers have a certain idea of what the consumers want (and what not) and they draw upon this ideal-type, projected, consumer when designing products. In other words, designers '" define actors with specific tastes, competences, motives, aspirations, political prejudices, and the rest" (Akrich, 1992, 208) and inscribe this vision in their new products or services. Next to that, we see that the mediation junction is given shape by various actors that seek to represent the interests of consumers, and thereby influence the mutual articulation of demand and supply. While it is easy to imagine that consumer organizations (and increasingly environmental organisations) seek to speak on behalf on citizen-consumers demands and concerns, we also see that corporations, lobbying groups and governments refer to 'the wishes' of 'the consumer'. A noticeable example here is provided by van Vliet, Stein and Hegger (Vliet and Stein, 2004, Hegger et al., 2005) who discuss how particularly building constructors speak on behalf of future inhabitants (thereby inhibiting the deployment of non-conventional technologies for waste water treatment).

The hypothesis of Schot and de la Bruheze is that "the nature of the mediation junction – whether it is fully controlled by the producer or not – influences the mediation process between production and consumption" (2003, 244). I would like to make three additions here. First of all, as already argued by Shove, one should not be tempted to consider the mediation process as something that occurs at a definable and restricted moment in time. Secondly, I believe that we can stretch the scope of these concepts. Where the emphasis (still) appears to lie on the development of technological artifacts and behaviour, we could also use these concepts to discuss environmental policies, environmental governance and the role of citizen-consumers in these processes. Thirdly, I want to add that the mediation process itself is not only influenced by real, projected and represented consumers but also by another 'identity' of the consumer.

3.3 Consumer-based environmental governance

Continuing upon the latter two points, I'd now like to address the question how to think of the role of consumer in contemporary environmental governance arrangements. Again, it is probably not necessary to elaborate on the limited role of consumers in early environmental policy

arrangements. For a long time, consumers where considered the most difficult target group and thus received little attention (apart from the occasional mass publicity campaign).

In roughly the last decade, we have however witnessed the emergence of the citizen-consumer in environmental governance arrangements. What I mean by this is that the citizen-consumer is more and more considered as an actor through which change can be achieved; the power of citizen-consumers on the marketplace and on the political scene is increasingly 'used' to bring about change. This line of arguing is inspired by the post-Fordist changes in the organization of production (see for example Kumar, 1995) and the subsequent change in the perspective on consumers. No longer were they only seen as passive, malleable and ignorant, they were now increasingly seen as active, knowledgeable and authority-possessing agents (Abercrombie, 1994, Spaargaren, 2003). In this context, Michelletti [**reference**] coins the notion of political consumerism to describe how consumers are increasingly enabled to take political considerations into account when making private consumption choices.

In this paper, I would like to exemplify this development by describing the processes through which citizen-consumers are increasingly provided with environmental information, and the consequences of this. As argued by many, we are witnessing the development of new governance arrangements in the field of environmental care and protection which are less dependent on strict rule-setting and enforcement by national governments. This also entails, as I have argued elsewhere in greater detail (Burg et al., 2003, Burg, 2006), a development where environmental monitoring and information come to be used in new ways, and for different purposes. Traditionally, environmental monitoring was used primarily by policy-makers and experts; now it is more often publicly available, on either the level of products, producer or society, and can be used by individual and organized citizen-consumers to bring about change. The notion of informational governance arrangements was coined to describe this development.

To elaborate this notion, and examine how it information enable citizen-consumers to take action, three case-studies were carried out focusing on (1) domestic energy consumption monitoring, (2) fuel efficiency labeling, and (3) disclosure of environmental information. Not seeking to reformulate the conclusions here, I want to focus on the mechanisms through which citizen-consumers can exert influence. The conventional story is generally speaking that the provision of information to citizen-consumers enables them to, drawing upon Hirschmann's (1970) typology, *voice* their concern (complain, talk to local politicians, support NGO's) or *exit* (buy different products, switch provider, move to another municipality). What the findings of the case-study illustrate is that the mechanisms at work are far more diverse and complex.

For a start, making information publicly available to citizen-consumers also means that other actors – such as journalists, shareholders, companies, etc – can access information; the notion citizen-consumer is not strictly limited to particular individuals in a particular role. Thus, in the case of disclosure we see that the information provided is also used by various other actors to increase pressure on the companies that are named (and shamed). What is more, the provision of information does not mean that a new set of clearly identifiable mechanisms of change is set in motion; it does not mean solely that for example consumers buy eco-labelled products and that companies change their production processes following complaints and law-suits. A significant effect is, and according to some this is the main effect, that producers are faced with greater uncertainty about complaints or about consumption behavior, and consequently that they come to anticipate on possible action. In other words, the provision of information not only means a change at the demand side but also, in anticipation, a change in the supply side.

The extent to which anticipation occurs differs among different sectors and for different consumption areas. What matters is the extent to which citizen-consumers feel responsible and able to bring about change, the extent to which they trust providers to act environmental friendly, but also the role that state and non-state actors play in 'problematizing' particular

practices and production- and consumption patterns. In a certain way, one could argue that the provision of information can lead to the re-mediation of the relation between producer and citizen-consumers. In this process of re-mediation, real-life, represented and imagined consumers play their role.

3.4 Wrapping up

In the previous paragraphs, I have elaborated upon the following line of reasoning. The starting points were the following: (1) studies of consumption cannot be focussed on the consumption process in a narrow sense but are required to focus on the roles of socio-technical infrastructures as well and (2) the SPA approach offers a conceptual framework here. However, there are two 'additions'. First of all, to make the approach *dynamic* we need to study the co-evolution of systems and practice over time and this requires us to analyse how system and practice are horizontally and vertically structured over time. Secondly, to understand how these processes of structuration are given shape, we focus on mechanisms of change in a broader sense. Thus, we not only incorporate 'real' consumers (out there on the streets and in malls) but also analyse how represented, projected and imagined consumers play a role. In figure 3, I have sought to visualize this. Starting from the social practice as the 'unit' of analysis, we need to venture in four different directions.
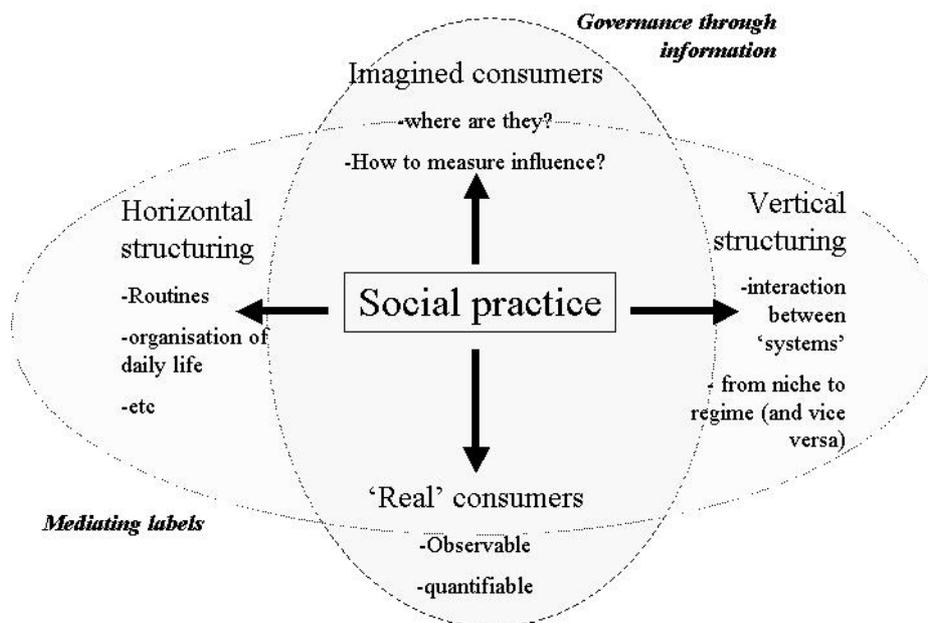

Figure 3: four directions for sustainable consumption research

4. **Putting the approach into practice: the CONTRAST labelling project**

In the contrast-research project, we aim to investigate sustainable consumption by drawing upon the SPA model, with the explicit aim to incorporate ideas from transition theory. Four different domains are tackled: (1) daily mobility, (2) tourism mobility, (3) home maintenance and repair, and (4) food consumption. A first exercise to clarify this approach, and operationalize it, is made through the 'labelling project' in which we do research on labels and other ways to bring across information about products and producers (hence, we could also use the term information flows).

In recent years, a lot of attention has been given to labeling as an instrument to make consumption and production more sustainable [**references**]. However, pretty much of this research tends to focus on either the individual appropriation of labels (do consumers understand them? use them? et cetera) [**references**] or on the political process through which labels are shaped (see figure 4) [**references**]. It is our hypothesis that this fractured approach to labeling does not offer a good insight into the provision and appropriation of labels, nor does it allow for a proper understanding of the impact of labeling.
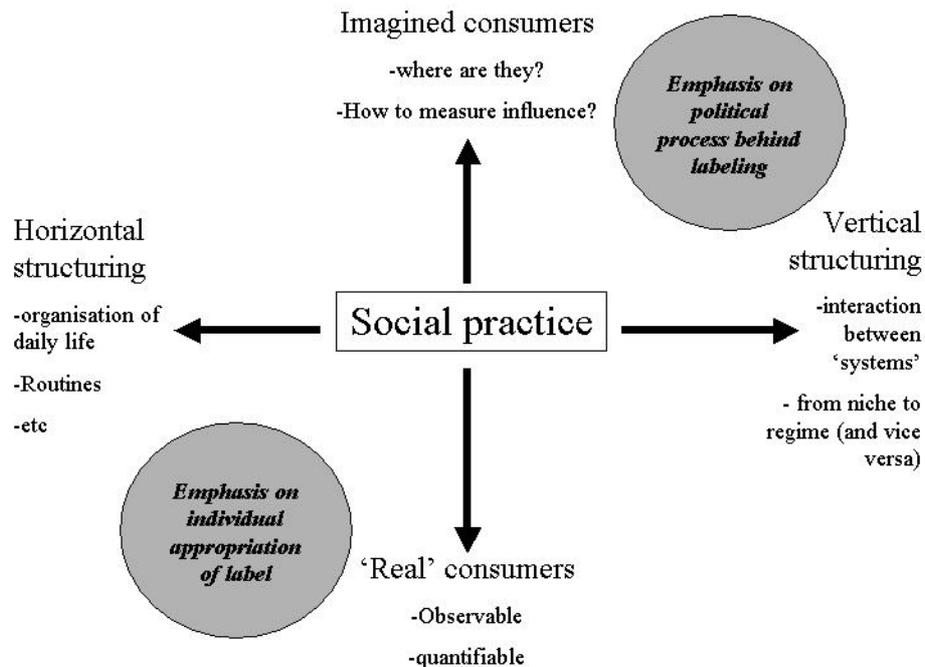

Figure 4: dominant research focus in labelling/information research

In all four domain studied in the CONTRAST research project, labeling is considered an important instrument to bring about change. This is not to say that the situation is comparable. In the domain of daily mobility, there are a limited number of information flows but we do see that some of these are enforced by governments (fuel efficiency labels in both EU and United States). In the domain of tourism mobility, the somewhat surprising finding was that there are numerous labels (80+ in Europe) and other information flows but it appears that none of these has yet managed to reach the public at large. In the domain of home maintenance and repair, information flows generally originate from government legislation concerning standards and norms and are thus producer-biased. Finally, the domain of food consumption is characterized by numerous labels which are generally speaking visible to, and relatively wide-known among, consumers.

This variety offfers us the possibility to put the approach elaborated above to the test. The starting point is that we question the way in which information is provided, accessed and appropriated at the consumption junction (which could of course be a shop, a website, et cetera). In analysing how labels are mediated and 'land' within individual households and their (routine) social practices, we are confronted with various questions:

- To understand how information is provided, we take a systemic approach to analyse the origin and envisioned effect of labels. In answering this question, we not only focus on the political process behind labeling but are also led to question the influence of the various mediators (state or non-state) in developing and implementing labels.

- To understand how consumer make sense of labels, and find them relatable to their own routine practices, one is required to analyse if labeled products have different functional characteristics but one also for example needs to analyse if the way in which information is provided is actually appealing and accessible to consumers (perhaps one should not provide information on food products in the crowded supermarket with stressed shoppers?).

A different line of research leads us to examine the impact of labelling (and information), not primarily focussing on the household level but focussing on the level of the system of provision. The relevance here lies in understanding how labelling works, how the provision of information can lead to the emergence of mechanisms of change, and how it fits into the multi-level perspective of niches, regimes and landscapes. Again, there is a range of different questions which are concerned with different identities of the consumer (real, imagined, etc) in relation to providers, governments and other mediators. Figure 5 visualizes some of the questions at stake.
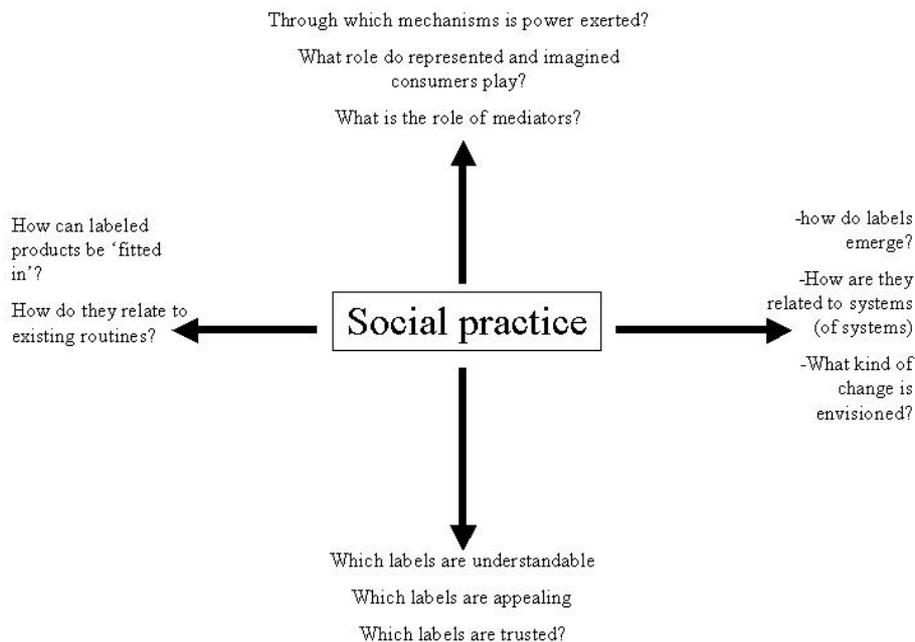

Through which mechanisms is power exerted?

What role do represented and imagined consumers play?

What is the role of mediators?

How can labeled products be 'fitted in'?

How do they relate to existing routines?

Social practice

-how do labels emerge?

-How are they related to systems (of systems)

-What kind of change is envisioned?

Which labels are understandable

Which labels are appealing

Which labels are trusted?

Figure 5: questions in the labelling/information research

5**. Concluding remarks**

In this paper, I have sought to clarify the research approach in the CONTRAST research project. At the theoretical core of the research is the social practices while various theories on systems of provision and transitions add a dynamic, multi-level perspective. This research is carried out in four different domains (all highly environmental relevant) in which individual consumption choices cannot be seen apart from existing systems of provision which not only consists of technical infrastructures (pipes, roads, etc) but also of social structures which are created, while at the same time influencing, the behaviour of consumers, in all their various identities. The challenge to sustainable consumption research lies in tying together these various dimensions in a way that makes sense analytically, but that can also provide the insights and tools for enhancing the sustainability of consumption and production.

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