Consumption, Everyday Life and Sustainability

Online Handbook

A summer school at Lancaster University, July 2001. Funded under the European Science Foundation TERM programme

Handbook contents

As this version is publicly available online, for reasons of privacy, personal bibliographies and contact details present in the handbook distributed to participants have been replaced with a listing of participants.

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Programme

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Tuesday 17th July

Arrival	Lancaster University Conference Centre (reception will be open from 8am)
19.00	Dinner – Cartmel Restaurant
20.30	International Monopoly & Drinks – Conference Room 4

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Wednesday 18th July

08.00 - 09.00	Breakfast – Cartmel
09.00 - 09.30	Introductions - all sessions are in Conference Room 4
09.30 - 12.30	Session (1): Consumption & Everyday Life
09.30 - 10.30	Papers by Daniel Miller and Alan Warde
10.30 - 11.00	Coffee
11.00 - 12.30	Paper by Elizabeth Shove & Discussion
12.45 - 15.30	Lunch, followed by sport, discussion etc.
15.30 - 18.00	Exercise (A): Kitchen Tales & Bathroom Stories - with Tea at 16.45
18.50 - 20.00	Dinner – Cartmel Restaurant
20.00 - 23.00	Trip to the Navigation Pub in Lancaster

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Thursday 19th July

08.00 - 09.00 Breakfast - Cartmel
09.30 - 12.30 Session (2): Designing sustainability
09.30 - 10.30 Papers by Mika Pantzar and Margrethe Aune
10.30 – 11.00 Coffee
11.00 – 12.30 Paper by Jaap Jelsma & Discussion
12.45 - 15.30 Lunch, followed by sport, discussion etc.
15.30 - 18.00 Exercise (B): Designing sustainability for real - with Tea at 16.45
18.50 - 20.00 Dinner – Cartmel Restaurant
20.00 - 23.00 Rounders and other events

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Friday 20th July

08.00 - 09.00 Breakfast – Cartmel
09.30 - 12.30 Session (3): Cross-cultural comparison
09.30 - 10.30 Papers by Hal Wilhite and Jan Selby
10.30 – 11.00 Coffee
11.00 – 12.30 Paper by Rick Wilk & Discussion
12.45 - 14.00 Lunch
14.00 - 18.00 Exercise (C): Exploring everyday life I
18.50 - 20.00 Dinner – Cartmel Restaurant
20.00 - 23.00 Free evening

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Saturday 21st July

08.00 - 09.00 Breakfast - Cartmel
09.30 - 12.30 Session (4): Ordering practices - organising consumption
09.30 - 10.30 Papers by Galen Cranz and Matthew Watson
10.30 – 11.00 Coffee
11.00 – 12.30 Paper by Dale Southerton & Discussion
12.45 - 14.00 Lunch
14.00 - 18.00 Exercise (C): Exploring everyday life II
18.50 - 20.00 Dinner – Cartmel Restaurant
20.00 - 23.00 Presentations of exercises (wine provided)

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Sunday 22nd July

08.00 - 09.00 Breakfast - Cartmel
09.30 - 12.30 Session (5): Systems of Provision & Consumption
09.30 - 10.30 Papers by Bas Van Vliet and Heather Chappells, and by Tim Moss
10.30 – 11.00 Coffee
11.00 – 12.30 Paper by Aad Correlje & Discussion
12.45 - 15.30 Lunch followed by sport, discussion etc.
15.30 - 18.00 Exercise (D): Inventing new agendas in Consumption, Everyday Life & Sustainability - with Tea at 16.45
18.50 - 20.00 Dinner – Cartmel Restaurant
20.00 - 23.00 Party – Conference room 4

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Monday 23rd July

08.00 - 09.00 Breakfast - Cartmel
Departure from Lancaster

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Presentations & papers

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Introducing Consumption, Everyday Life and Sustainability

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This handbook sets out the issues and themes with which the Summer School engages. It describes something of the Summer School's history and context and explains what this means for the framing of the programme and for the central questions addressed in each of the five sessions.

The Summer School is funded by the European Science Foundation's Tackling Environmental Resource Management Programme (TERM). The European Science Foundation, supported by subscriptions from a range of national research councils, funds exchanges, summer schools, and workshops with the aim of adding European value to existing research activity.

One of the goals of the TERM programme, launched in 1995, is to promote a better understanding of the relationship between consumption, lifestyles, and the environmental costs and benefits of economic growth. Two Lancaster workshops and a programme of exchanges have already been funded under this programme, as was a first Summer School held in 1999. You can find out more about these events and read some of the papers presented at them by checking the consumption, everyday life and sustainability web site at: http://www.comp.lancs.ac.uk/sociology/esf.

The 2001 Summer School is organised by a team including Joann Bowker, Heather Chappells, Dale Southerton and Matthew Watson and by a Steering Group consisting of Jaap Jelsma, Mika Pantzar and Hal Wilhite. It is co-ordinated by Elizabeth Shove. Most of the organisers and some of the presenters and speakers have taken part in the previous Summer School or Workshops.

Building upon this work, the people involved have sought to establish an interdisciplinary but nonetheless distinctive approach to questions of consumption, everyday life and sustainability. By way of introduction the following paragraphs give an indication of the direction this has taken.

Rather than concentrating on individual beliefs and attitudes or the behaviour of "green" consumers, the Summer School programme assumes that questions of sustainability and consumption have to do with the routine organisation of everyday life and the mediation of lifestyles and "choices" through social institutions and sociotechnical infrastructures. The programme takes consumption to be a collective enterprise held together by social expectations, cultural conventions, and material constraints. This way

of thinking has theoretical implications for academic research and practical consequences for policy. Critically, it puts the question of how consumption practices change, and with what environmental consequence, in a new light.

Approaching consumption, everyday life and sustainability

In environmental terms, current patterns of consumption pose threats for CO_2 emissions and global warming; for pollution and loss of biodiversity and for the depletion of finite resources. This has led environmentalists to concentrate, rather anxiously, on the consumption of key resources like energy and water, and on raw materials and the production of waste. Claims about the need to reduce material intensities by factors of four or ten have followed, as have efforts to quantify the effects of individual consumer choice (Noorman and Uiterkamp 1998). The idea of measuring and comparing "ecological footprints" is rooted in this tradition.

Resource-based paradigms of this kind are internally consistent: they offer ways of thinking about the "metabolism" of society and of tracing the ecological impacts of production and consumption from cradle to grave. As such they have proved to be extremely influential in shaping the way the environment is conceptualised and in framing policy responses. However, preoccupation with the *consequences* rather than the *processes* of consumption has led to a particularly restricted view of what is involved. Three aspects are especially relevant.

First, and as a number of Summer School contributors argue, consumers do not consume resources, they consume the services those resources make possible. In buying electricity, consumers really buy lighting, heating, comfort, convenience and more. However influential, the language of resources bears such little relation to the world of consumer practice that it is of limited value in understanding what people do and why.

Second, deliberate efforts to reveal the environmental implications of individual action position the problem of sustainability as a problem of personal choice. The underlying assumption is that people could and would act differently if only they knew what damage they were doing. Such ideas inform programmes of research into the relationship between environmental belief and action and the design of policy initiatives geared around the provision of more and better information. As well as embodying an arguably suspect theory of choice (see Alan Warde's presentation), exercises like this fail to appreciate the socially situated and socially structured character of consumption.

Third, in focusing rather one-sidedly on the end-consumer, such approaches obscure important questions about the production and manufacturing of options and the intersection between design, demand and use. In practice, relationships between consumers and producers are varied and complex. Sometimes they are so varied and so complex that the distinction between them makes little sense at all.

Most of the contributors to the Summer School agree that existing patterns of consumption are environmentally problematic. Most are also of the view that the dominant resource-based paradigm and the language of choice fail to capture what is at stake. The big questions, and the ones which the Summer School tackles head on, have to do with definitions of well-being (Jacobs 1995) with how societal expectations of normality are established, and with the design, construction and institutionalisation of demand (Redclift 1996; Strasser 1999). Re-defining the agenda in this way has the dual effect of connecting the study of environmental consumption with that of consumption in general and of springing open a new tool-box of analytical and theoretical resources. Historians, anthropologists, economists, geographers, sociologists, psychologists, and political economists all have things to say about the social organisation of consumption and the dynamics of everyday life.

Core questions

In picking a path through these literatures and perspectives, the Summer School programme homes in on a handful of debates especially relevant for the analysis of sustainability. Turning the resource-based paradigm on its head, we concentrate on those aspects of consumption which trail environmental damage in their wake. In the domestic sphere this means looking at rather mundane things like changing expectations of comfort and cleanliness and at the ordering and scheduling of daily life.

Even with this filter in place, there are a great many perspectives on offer. There are, for example, deep divisions between those who equate consumption with escalating environmental harm and those who view citizen-consumers as the harbingers of ecological modernisation. While advocates of voluntary simplicity emphasise the moral, symbolic and material benefits of rejecting "consumer society" others argue that consumers' environmental commitments have the potential to transform commercial and political priorities from the 'bottom up' (Spaargaren 1997; 1999). This is territory in which arguments about necessary, sufficient, and wantonly profligate consumption fizzle and flare (Slater 1997; 1999). Are we talking about more consumption or less, of what, by whom, and on what basis? (see Daniel Miller's paper). Encompassing all these issues, but putting them in a different way, the Summer School investigates the social and political negotiability of demand. How do needs and wants come to be as they are and how do they change? That is one central theme.

By turning questions of environmental consumption into questions of consumption in general we expand the range of intellectual resources at our disposal. However, not all are of immediate use in understanding and analysing practices which are of particular environmental significance (Shove and Warde 1999). Ideas about the construction of identities and social distinctions (Bourdieu 1984) or about the symbolic import of material objects may need some modification when applied to water, electricity, and the services they make possible. Dealing with the parameters of everyday life the Summer School has more to say about the engraining of habit than the shading of lifestyles in lighter or darker hues of green. The mechanisms

and processes through which normalities (of one kind or another) are established are of particular importance. What lies behind the global convergence of expectation and what sustains persistent cultural difference? How do environmentally relevant patterns of consumption relate to social division and inequality? What if it is not consumption per se which represents a challenge for sustainability, but the normative and routine ordering of social practice into which it is embedded? (see Dale Southerton's introduction to session 4). These are core concerns.

In thinking about these issues it is, as Latour puts it, important not to miss the masses (Latour 1992). By this he means that it is important not to overlook the extent to which habits intersect with the technologies involved in their formation and reproduction. Dealing with the development of infrastructures (Hughes 1983) and devices like refrigerators (Cowan 1985); air-conditioning systems (Cooper 1998); and electric light bulbs (Bijker 1995), historians and sociologists of technology have much to say about the emergence of options, the structuring of "choice" and the scripting of practice. Addressing questions of appropriation as well as design, this work underlines the interdependence of production and consumption and of things and the habits they sustain.

But it is not enough to talk of things and products in isolation. The manner in which infrastructures are designed and organised is of further significance for the making and management of demand. Do de-centralised networks of power have the potential to generate sustainability? What are the unintended environmental consequences of new configurations of utilities, regulators, planners, house builders and consumers? The central questions here have to do with the relationship between devices, practices, and sociotechnical infrastructures: exactly how do they co-evolve and with what implications for sustainability?

In tackling the dynamics of ordinary consumption, reflecting upon the sociotechnical structuring of practice, and exploring the social negotiability of demand, the Summer School engages with important areas of theoretical debate. It does so in a deliberately provocative manner, bringing disciplinary perspectives together in new combinations in order to challenge assumptions, positions and paradigms. This is exciting in its own right but it is of more than academic interest. The policy relevance of talking about services rather than resources and about the transformation of convention rather than choice is already apparent. Less obvious are the ways in which policies of all sorts standardise and reproduce more and less sustainable concepts and models of everyday life. In going beyond the analysis of individual consumer behaviour the Summer School has the further ambition of developing a conceptual framework with which to raise the level of policy debate.

The speakers we have invited take up these challenges in different ways. Some papers focus on the past, others on the present or the future. Some reinforce each other's perspectives, some offer contrasting points of view. Whether talking about freezers, cars, showers, water storage, air-conditioning systems, lawnmowers, urban parks, or new networks of power, they will, we hope bring the theoretical implications of consumption,

sustainability and ordinary practice to life. The afternoon workshops provide an opportunity to reflect upon the themes and issues introduced in the morning presentations and figure out what they mean for research and policy. These afternoon sessions – which involve the use of glue, crayons, maps, cameras and notebooks – are designed to be interesting and enjoyable in their own right.

Having put the Summer School in context, the following sections introduce the five morning sessions and summarise the speakers' presentations.

Introductory References

Bijker, W., 1995, *Of bicycles, bakelites, and bulbs : toward a theory of sociotechnical change* Cambridge, Mass.: MIT Press

Cooper, G. 1998, *Air-conditioning America: engineers and the controlled environment, 1900-1960*, John Hopkins University Press, Baltimore

Cowan, Ruth Schwartz, 1985, "How the refrigerator got its hum" in Mackenzie, D. and Wajcman, J (eds) *The social shaping of technology*, Open University Press, Milton Keynes

Hughes, T. P. 1983, *Networks of power : electrification in Western society, 1880-1930,* Baltimore : Johns Hopkins University Press

Jacobs, Michael, "Quality of Life" paper from the first Lancaster workshop on Consumption, Everyday Life and Sustainability: http://www.comp.lancs.ac.uk/sociology/esf/qol.htm

Latour, B. 1992, "Where are the Missing Masses? The Sociology of a few mundane artefacts" in Bijker, W. and Law, J., (eds*), Shaping Technology/Building Society*, MIT Press, Cambridge

Noorman, K. J, and Uiterkamp T. S. (eds), 1998, *Green households? : domestic consumers, environment, and sustainability*. London : Earthscan, 1998

Redclift, M. 1996, *Wasted : counting the costs of global consumption,* London : Earthscan, 1996

Slater, D., 1997, Consumer Culture and Modernity, Oxford, UK: Polity Press

Slater, D. 1999, Themes from the Sociology of Consumption, 1999 Summer School: http://www.comp.lancs.ac.uk/sociology/esf/themes.htm

Spaargaren, G., 1997, The Ecological Modernisation of Production and Consumption: Essays in Environmental Sociology, Wageningen, WAU (doctoral thesis)

Spaargaren, G., 1999, the Ecological Modernisation of Domestic Consumption, http://www.comp.lancs.ac.uk/sociology/esf/spaargaren.htm

Shove, E. and Warde, A., 1998, "Inconspicuous Consumption: the sociology of consumption, lifestyles and the environment", in Gijswijt, A., et. al. (Eds.) *Sociological Theory and the Environment*, Proceedings of the Second Woudschoten Conference, ISA Research Committee 24, SISWO, University of Amsterdam, pp135-154; and a short version at http://www.comp.lancs.ac.uk/sociology/esf/inconspicuous.htm

Strasser, S. 1999, *Waste and want: a social history of trash*, New York: Metropolitan Books

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1 Consumption and Everyday Life

Organiser: Elizabeth Shove

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Introduction

In planning the summer school we thought it would be useful to begin with questions of consumption. What theories, concepts, and critiques might be borrowed from the literature and used for the purpose of understanding and analysing relationships between consumption, everyday life and sustainability? Just as important, what gaps and omissions might this reveal? Put another way, what new challenges does the study of sustainability present for contemporary theories of consumption?

This is an ambitious agenda to get through in just a few hours. Undaunted, the three papers in this session tackle big issues. Not content with merely looking at consumption, Daniel Miller starts by commenting on the broader context in which it has been considered. He argues that one of the problems is that consumption has so often been viewed as a problem. Having shaken off this negative veil it is possible to see and to think more clearly about the positive aspects of consumption. As a means of tackling poverty, there is a case to be made for more not less consumption. There is further case to be made for recognising the positive values of consumption and the social arrangements those entail. He makes both cases and does so with the aim of strengthening, not weakening, arguments about sustainability.

Alan Warde's problem is the problem of choice. In challenging the very idea of consumer choice he introduces a raft of issues which are central to the Summer School and to many of the papers which follow. If we were to summarise the essence of his paper in one short limerick it might go something like this:

> They say there's no choice but to choose,
> A claim that's designed to confuse,
> But modes of provision
> And social division
> Are superior concepts to use.
> (Warde, Palmer and Shove, 2001)

Continuing the debate along similar lines, Elizabeth Shove is worried about change. Assuming the concepts which Alan identifies *are* superior, what do they mean for the conceptualisation of change, the reinvention of normality, and the transformation of environmentally significant patterns of ordinary consumption? Like I say, these are big questions.

Summaries

The humanity of contemporary consumption
Daniel Miller

This paper tries to provide a broader context for the overall consideration of consumption. It starts by noting the ideological framework within which consumption is usually considered as an intrinsically destructive if not evil activity, as against the creative work of production. This is as true for ancient and for many tribal societies as it is for contemporary environmentalist debates. By contrast the talk then provides a series of arguments for a positive view of consumption and future increases in consumption as well as its ethical consequences for the population of consumers.

The first of these is to re-cast the increase in consumption as an attempt to tackle poverty and the moral argument for a massive expansion of consumption throughout the developing world and with respect to large populations of underprivileged groups within the developed world. The second is to consider the positive arguments for consumer goods whose primary attraction is typically characterised by commentators as symbolic rather than fulfilling what have been termed functional needs. Two cases will be presented, the first based on the role of goods in the expression of care and love within the contemporary British family as against family relations that were previously not primarily expressed through the medium of consumption. The second will be the role of goods in relation to racial and other stereotypes in Trinidad, and the impact of mass consumption in becoming a primary medium for the expression of generalities about other people. Finally within this section an argument will be made against the common assertion that the rise of mass consumption is merely an indication of the spread of either Americanisation or indeed capitalism by considering the possibilities of mass consumption as either authentically `Eastern' or `Socialist'. Overall it is suggested that there is a danger that the denigration of consumption as, for example, stupid or wasteful, becomes a medium for the denigration of populations associated with consumption. Typically this becomes a medium for the denigration of women as the `natural' consumer, or the mass population who are associated with what are seen as `vulgar' or `manipulated' expressions of consumption.

Having argued for the poverty of much of the moralism within which most debates around consumption are currently framed, the talk will examine other ways in which we can start to construct a more nuanced stance towards the rise of consumption and its specific contents. This will be based around the case-study of the car. First an examination will be made of the conventional critique of the car through an exploration of the concept of `externalities'. This approach insists that an assessment of the car must include all those implications of its existence in the world that have become taken for granted and are no longer evidently the consequences of car use. This approach will be broadened to consider what might be called social as well as economic externalities. I will then argue that while this approach has several merits over a more naïve assessment of the car it fails to

acknowledge what emerges from an ethnographic encounter with the car in diverse societies (see D. Miller Ed *Car Cultures* Berg 2001), which is the way people experience its `humanity' and its centrality to what are regarded as moral and social necessities.

In conclusion it will be suggested that none of what has been argued in this talk precludes a stringent critique of consumption on the basis of issues of sustainability and the negative consequences of the car in terms of both labour exploitation and environmental damage, but that such a critique is likely to be much more effective if it acknowledges the many positive and ethical advantages that people feel derive from the vast bulk of contemporary consumption including their possession and use of cars.

Consumption and choice

Alan Warde

The prevailing view of consumption is that it can be comprehended as the exercise of individual and voluntary choices made with reference to personal preference regarding the style(s) in which a person's life should be led. This talk seeks to problematise that view, challenging arguments which suggest consumption has become a realm, sometimes playful and sometimes anxiety-provoking, of freedom. It is suggested instead that consumption is the expression of socio-structural differences and constrained by the unequal distribution of various resources between social groups. It is proposed that consumption is a collective enterprise that is, above all, embedded in routine social practices. Consequently, most consumption becomes normalized within the practical conduct of daily lives and becomes taken-for-granted.

This view of consumer behaviour raises important empirical and theoretical issues regarding the capacity for individuals to reflexively adopt, and adapt, more environmentally sustainable modes of consumption. This is not to say that groups of ethical consumers do not strive, reflexively, to consume in environmentally friendly ways. However, consumption is a complex and socially differentiated process that cannot be altered, modified or changed by simply offering consumers a diversity of lifestyle options nor by generating information regarding qualities of different products. In short, many hopes for more environmentally sustainable forms of consumption are based on misleading models of consumption as an individual and voluntaristic process.

The talk will develop notions of ordinary consumption and social practice.

Ratchets, standards and the reinvention of normality

Elizabeth Shove

Environmentally-relevant patterns of consumption are changing and are doing so in what appear to be unsustainable ways. If we see consumption as an individualistic or a voluntary enterprise it makes sense to view these developments as correspondingly optional. But what are the implications of

taking a more embedded and a more systemic view of ordinary consumption? If we do this, how are we to explain the dynamics involved?

I want to explore two potentially relevant concepts, ratcheting and standardisation. Ratcheting first. If we argue that consumption is part of everyday life, and that practices and habits in some way hang together there is merit in thinking about the evolution of expectation as a process of collective ratcheting. The ratchet is a device the teeth of which lock a wrench – or perhaps a culture – into a particular position. Once held, there is no way back. The only option is forward, onto the next tooth. Standardisation second. Standardisation suggests that the reach of what comes to be normal is more and more encompassing. Practices once confined to specific cultures – like wearing a business suit, or working between the hours of 9am and 5pm - seem to be extending (and thereby eroding other traditions) in ways which imply convergence in both technology and practice. Old routines die-hard, some are stubbornly resistant to change and the reinventing of normal and ordinary practice is neither certain or inevitable. Nonetheless, some things are changing as demonstrated by the recent history of comfort and cleanliness.

In the course of just a few years, the diversity of the global indoor environment has reduced dramatically. The spread of heating and cooling technologies has been such that many people now inhabit and expect uniform conditions all over the world. The siesta is going out of fashion, the seasons are barely detectable and, in some places at least, climate sensitive building types are no longer constructed. If they are to provide environments which meet international comfort standards (defined on the basis of physiological research), designers are increasingly obliged to include energy intensive equipment with which to manage and control the weather inside. Bit by bit, ways of life and related infrastructures have changed and have done so in a manner which seems to illustrate global standardisation realised through a process of local ratcheting.

The business of bathing is a touch more complicated. Americans use roughly twice the amount of water that the British do for bathing and showering. In America, showering accounts for 90% of this water consumption compared with 36% in the UK where the bath remains important. But this is not a stable picture. The British bath is in danger of being abandoned in favour of showering on a daily or twice daily basis. In environmental terms this is a problem for although one bath might use more hot water than one shower, frequent showering, especially with a power shower, soon tips the balance.

At the level of the individual, the concept of ratcheting still makes sense: habits form and once established there seems to be no way back. However, a longer term history of bathing reveals radical swings in what counts as “normal”. Although the Romans bathed and the Greeks showered, there have been times – indeed entire centuries – during which there was no association between washing, cleaning, health and hygiene. Perhaps because people have had different reasons for getting wet all over, the story here is not a simple narrative of ratcheting standards or of escalating expectations of cleanliness.

These two cases, the indoor climate and the shower, suggest that the reinvention of normality proceeds in different ways. In both cases we observe a measure of convergence and in both cases too, the image of ratcheting helps capture the embedding and locking-in of new suites of practice. Yet the mechanisms of change are not the same.

To go further we need to borrow other ideas about the rate and direction of social and economic development. We might, for instance, argue that the spread of air-conditioning reveals a perfectly familiar narrative of capitalist expansion. There has been and still is a lot of money to be made by defining "natural" environments as inadequate and providing the means to fix them. From this perspective, standardisation is a consequence of global marketing, the inevitable result of which is escalating consumption. It is perhaps harder to explain the shift from bath to shower in quite these terms though there is no doubting the commercial significance of the bathroom industries. Even if the needs of capitalism account for ratcheting of demand and the standardisation (and sometimes also the differentiation) of goods and services, why does this take the form it does? Why showering and not bathing, and why are some but not other aspects of the weather controlled and reproduced indoors?

Ideas about the operation of sociotechnical regimes and the co-evolution of technologies and practices give better grip on the direction if not the rate of change. Notions of path-dependency are, for instance, of use in making sense of the history of air-conditioning and in following the institutionalisation of mains water supplies, the bathroom and the equipment it contains. Observations about the manner in which habits and practices are scripted by the technologies on which they depend also ring true with reference to the power shower and the veranda. The implication here is that the processes of ratcheting and standardisation may be generic but that the details vary from one sociotechnical context to another.

But what about the reinvention of meaning? Is it not necessary to understand that definitions of comfort and cleanliness have changed and might this not be the missing ingredient? What about conceptualising change in terms of symbolic significance? In questioning what comfort is, what constitutes cleanliness, and what heating, cooling and bathing are really for we home in on another potentially important issue. This has to do with how change is viewed and justified. Historians of bathing identify multiple reasons for immersing oneself in water and in explaining when and why they wash, people still invoke an impressive range of benefits including relaxation, invigoration, pleasure, social acceptability, appearance, cleanliness, privacy, sociability, and comfort.

These sometimes competing, sometimes complementary rationales are relevant for they suggest that practices of bathing, like those of heating and cooling, reveal different strategies for the resolution of shared dilemmas and the achievement of shared goals, mediated by the technologies and resources at hand. I argue that these dilemmas and goals are the ends around which various modes of ratcheting and standardising revolve (of course these modes also shape the ends themselves).

Looking back at the problems which showering and air-conditioning promise to resolve and at the history of ideas at stake, it is important to notice that both have to do with the reproduction of natural conditions *and* with keeping nature at bay. This leads to the perhaps paradoxical conclusion that some of the most environmentally damaging and some of the most energy and resource intensive dimensions of everyday life relate to our interface with nature in the home, in the bathroom, and at work. It is certainly not the whole story, but in this context it is also important to notice the standardising – even universalising – role of scientific knowledge (for example, of physiology, disease, and human biology) in defining the threats and benefits of nature and in providing the means with which they are managed.

Discussion

Although consumption, (non)choice and change are consistent themes the papers raise different questions about the intersection of consumption, sustainability and everyday life. Here are just four.

- ※ If consumption is embedded in social structure does sustainability depend upon change at that level?
- ※ What if social structure depends upon levels of consumption, what does that mean for sustainability?
- ※ Is there a tension between contextually specific practices of consumption and increasingly standardised expectations of "normality"?
- ※ What more needs to be known about the dynamics of ordinary and routine as opposed to conspicuous consumption?

Consumption and everyday life: References

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2 Designing Sustainability

Organiser: Mika Pantzar

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Introduction

This session considers the structuring of consumption through the design of objects and how this relates to changing practices. Each paper reviews the relationship between consumers and the (sometimes environmentally problematic) devices, technologies and services they have come to take for granted. Rather than viewing consumption as the end point of production we want to investigate the manufacturing of demand and the ways in which consumers are constructed along with the goods and services they are expected to require.

This session exploits ideas developed in social studies of science and technology. Reflecting on key texts from this field, Mika Pantzar suggests that designing for sustainability requires a fundamental re-think of the ways consumers and producers are represented and incorporated within processes of product design and marketing. How do consumers and producers interact in the process of innovation and what does this mean for sustainability?

Mika investigates these issues with reference to the spread and development of computer and digital technology into the household: how well do product development and marketing personnel really understand the requirements of end-users and how are future markets and consumers constructed? For Margrethe Aune, the task is to better understand the diverse meanings, practices and technologies involved in the domestication of (often unsustainable) energy consumption in order to influence policy and practice. Finally, Jaap Jelsma asks how product development might incorporate values like sustainability and how consumers might be involved in co-shaping a range of household appliances.

Summaries

Designing and defining a consumer for new technology?

Mika Pantzar

“So to stay in rhythm, Intel must create “new uses and new users” -which is in fact the company’s slogan for keeping the market in sync with its own pace” (Eisenhart, Brown, 1998, 65)

The basic question of the current design discourse and digital future - most notably in human computer interaction research - is: how the black-and-white dichotomy of producer-consumer can be replaced by new forms of interaction between producers, trade, and consumers? How the novelty products of the information society are produced conceptually? What is the role of designers? How should consumers be represented and configured in design process?

The commodities of the first wave - the telephone, electric household appliances, radio and television, and the automobile - were developed already about a hundred years ago. Along with the second wave in the 1990s, communication and digital technology which was originally produced for military and later for business purposes, is spreading to households in the form of such as computers, information networks, and digital television and digital radio.

Although households have an essential role in shaping the use of technology, scenarios concerning the future of information technology still assume a technological perspective in which households feature as adaptable users and/or passive recipient. For example, there were only a few studies of consumer demand for the high-definition television, which was launched with such high hopes, or for the pan-European television channel, even though questions of demand might be assumed to be more decisive than those of technological development[1].

Our notion of technology is surely not as black-and-white as it was for Thomas Edison who actively opposed, for example, the use of moving pictures and gramophone records as entertainment. But how well do the product development and marketing personnel of manufacturing firms really understand the requirements of the end users? What kind of misconceptions or blind spots are there in this respect? For instance, I would argue that we are currently witnessing the birth of a global amusement paradise, not a politically respectable knowledge society.

Rather than talking about consumers, most designers tend to speak of users, usability and of different types of use. This modernistic view of human beings is primarily task-oriented and only secondarily experience-oriented (Pantzar, 1996, 2000a; 2000b). The user makes use of the machine; the machine does not make use of the user. Is it the linguistic asymmetry that makes it impossible for “machines to use people”? However, the increasing interactiveness of smart machines is one of the core changes in future technology and design. The pessimistic view is that machines which are capable of learning in interaction will lead to completely new kinds of human-machine dependencies. Although we speak euphemistically of “machines that learn and are customized to the user’s preferences”, we are dealing with a completely new level of dependency.

Technology does not develop as a one-way process from the designer's desk into the hands of the consumer. Inventions are born and domesticated in a

[1] Burgelman, 1996; Garnham, 1996; Winner, 1996. Without a critical mass of demand and economies of scale, the prices of many novelties will continue to remain high, and this in turn will keep demand low.

certain social and political context. Creating a consumer and a use for the product are central elements in the invention process – and not just at the end. Steve Woolgar refers to this process as *user configuration*. User configuration leads to the formation of a "script" (manuscript of correct use) which the consumer follows when faced with a novel product[2]. From the manufacturer's point of few, creating a need and a market for the product is as important in the domestication of technology as is technical inventiveness.

My normative message can be summed up in the following arguments and concepts:

1) The interrelationship between producers and consumers in an innovation process must be intensified in order to promote products that better meet the needs of consumers. See, for example,
※ User as collaborator (Margolin, 1995)
※ Users as producers (Wickström, 1996)
※ Constructive technology assessment (Rip et al., 1995)
※ Role of active experimenter (Orfel, 1995)
※ Contextual Design (Beyer, Holzblatt, 1997)

2) The perspective must be focused on the user configuration and the scripts of consumption, both in product development and marketing, but also in innovative pioneer households. Innovative consumers are often the ones to define and determine the uses of new products which later become established.
※ User Configuration (preconception of users and use)
※ (Woolgar, 1994, 1996)
※ Social construction of the user (Bardini, 1995; Pinch, Bijker, 1987)
※ Appropriation (Silverstone, 1996)
※ Script formation (Ackrich, 1992, 1995)
※ Technology as text (Woolgar, 1996)
※ Open objects (Orfel, 1995)
※ Product milieu (Margolin, 1995)

3) The future consumer is not a market waiting for products, but rather the producers and consumers construct the future consumer, needs and market on the basis of their expectations and actions. The potential of new technology is often not revealed until it is used (Gershuny, 1992; Pantzar, 1996, 2000b; Rosenberg, 1995).

Bringing energy home – the domestication of Norwegian houses

Margrethe Aune

A number of studies of household energy consumption have shown that lifestyle and everyday practice are important explanatory factors in understanding increases in private energy consumption. In spite of this, the dominant view of the user/household within energy policy is that of a

[2] The concept of "script" (see Ackrich, 1992, 1995) has been used in studying the transfer of technology to developing countries, but it is equally useful in examining, say, the domestication of the refrigerator in Finland in the 1950s (Pantzar, 1997).

rational consumer – an economic actor who will respond to information. To design effective policy it is important to work with a more subtle understanding of energy consumers. To get such an understanding we need to study the practices and meanings of everyday life through qualitative research.

This paper explores aspects of energy consumption and everyday life in Norway with the home as an analytical focus. The study is based on 34 open-ended interviews with different kinds of households. The core concept in the analysis is that of *domestication*, a concept developed "in between" social studies of science and technology, media studies and cultural studies (Silverstone et al 1989, Berg 1996, Lie & Sørensen 1996). Domestication is a fruitful metaphor when investigating the consumption of technology for it refers to the mutual shaping of users as well as products (jmf. Berg 1996). In "Bringing Energy Home" the concept of domestication can illuminate both the processes whereby houses are turned into homes, in which everyday life is, in turn, adapted to the house. The home is, so to speak, the outcome of a process of domesticating the house. As this theoretical focus indicates, my interest lies more in the process than the home as a physical artefact. I therefore examine activities as well as attitudes, things and technologies, including the *results* of energy consuming technologies like heat and light.

As Hal Wilhite et. al have pointed out in previous studies, Norwegian homes reflect our value for cosiness (Wilk and Wilhite 1985, Wilhite et. al 1996). We invest a lot of time and money in turning the house into a proper home. Important in the construction of cosiness is a high indoor temperature, an open fireplace and a lot of lights. We seldom put out the lights when we leave a room and we prefer to wear light clothing indoors, even in the coldest part of the winter. In addition the ideal is a detached house as a basis for the home. Norwegian homes, defined thus, are very energy consuming.

Even if this is the dominant ideology, we are not all alike. Not all Norwegian homes relate to this ideal. By highlighting alternative ways of constructing the home, we can track other lifestyles. In my project I identified three archetypal homes that illustrated the *process* of domestication as well as the results:

- the home as a *haven*
- the home as a *social arena*
- the home as a *never ending project* .

Analysing different ways of domesticating the house and of making a home gives us a better understanding of the role of energy and provides important insights into the content and rationale behind different lifestyles. These are important when developing strategies designed to change or reduce private energy consumption (whether through political action or technological development). Taking consumers to be rational actors and thus focusing on the price of energy is a mistake. Knowledge of how Norwegian homes are domesticated promises to contribute to an understanding private energy consumption and so to the design of more effective consumer-related policy.

Normative design processes for every day life practices

Jaap Jelsma

Concepts like market success or failure put the fate of products in the hands of consumers who are conceived of as the passive recipients of goods. Within technology studies, such concepts are increasingly criticised for their black-boxing of the mutual shaping of technical scripts and consumer needs. In his introductory comments on this session, Mika Pantzar instructively summarises this critique and channels it into a threefold normative message:

- ※ producer/consumer interaction should be intensified in all stages of product development to meet better the needs of consumers
- ※ product development and marketing should focus on user configuration
- ※ markets should not be seen as fields of passive consumers to be conquered by new products but as constructs developed interactively on the basis of expectations and actions of both consumers and producers.

In my contribution, I want to enrich this highly relevant message by extending its normative load to include the question of sustainability. A market, though constructed interactively, is still just a market. And a market is limited with respect to values. That is, both parties constructing and consuming goods are primarily acting in their own short-term interests. Markets tend to neglect the externalities they produce, i.e. their effects for third parties and the environment, even if such effects threaten their own survival in the longer run. One of the problems of modernity is to link micro decisions about the production and consumption of goods to their macro effects such as the production of greenhouse gasses.

Following Boudon, one might conceive of production/consumption junctions as internally closed systems driven by a compelling economic logic and by the expectations of people. Strengthening this junction will not automatically produce a better world. When producers learn to understand consumers better, this may simply speed up the development of the global amusement paradise. Like markets, consumer needs are constructs too, and ones which are also co-shaped by the products on offer. Before the advent of the mobile phone, we were not aware of the urgent need for people to call distanced others regardless of location, while often being completely indifferent to what that means to those nearby.

According to Boudon, closed systems which neglect their environments provoke aggression that leads to feedback to which the system has to react. Such counteractions from the outside used to be channelled through the political system resulting in all kinds of regulation, but presently come more and more from new pressure groups such as Greenpeace. My question is, whether such counteractions can be anticipated and can be built into design/use processes from the very beginning in a structural way. That is, *how can product development incorporate values like sustainability, and what does that mean for the role of consumers?* As citizens, people may welcome ecofriendly products, but as consumers they may resist them as

soon as they perceive these products to interfere with their autonomy to behave as they like.

A possible answer might be the development of a new paradigm connecting design and use processes conceptually, but incorporating a normative viewpoint from the beginning. The outline of such a paradigm might be as follows.

Owners of goods are not passive consumers, but active users engaged in all kinds of household practices on the basis of specific logics which are often unconscious. In these practices they collaborate routinely with devices and appliances which co- shape, by the logic underlying their design, the ways in which users interact with them. Thus consumption of water, energy and electricity can be seen as the outcome of collaborative practices between two types of active partners, (wo)men and machines. By conceiving of them in this way, processes of design and use are linked, and their logics revealed. We can now start to think in an informed way about how this dual process can be optimised from a normative point of view (for example with the goal of conserving energy) that caters to the logic of use. Taking up such a viewpoint has substantial as well as procedural consequences for the design of design processes.

I will illustrate this normative, use-oriented design paradigm by giving examples from fieldwork and trials in the domain of household appliances.

Discussion

In combination, the papers in this session examine consumers' roles in processes of design and innovation and in the use and appropriation of domestic technologies. Though they have this in common, the practical implications differ. While Margrethe suggests that energy policy should be refined to "go with the flow" of current practice, Jaap looks for ways of deliberately re-engineering the interface between technology and practice in support of environmental goals. What are the "moral messages" inscribed in the houses of today, how did they get to be so, and to what extent are they subverted or modified through processes of domestication?

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3 Cross cultural comparison

Organiser: Hal Wilhite

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Introduction

Virtually every effort to understand anything about everyday life is a cross-cultural project. At a minimum, cultural differences manifest themselves in the differences between the researcher and her subjects. Paraphrasing the social theorist Albert Schultz, once the social scientist has visited questions about what it means to be social in the world, he never really comes home. Regardless of whether a research design is explicitly cross-cultural or not, it pays to be aware of these differences. The main subject of this session is the cross-cultural project, which explicitly aims to highlight cultural similarities and differences in one or another aspect of every day life, and to use them to open avenues of theoretical inquiry. The papers in the session explore ideas about culture, its uses in social science approaches and its role in consumption.

Hal Wilhite begins by discussing the problems and potential benefits of cross-cultural comparison. A comparison of household energy use in Japan and Norway is used to highlight cultural differences and show how consumption of heat, cooling and bathing relates to socio-culturally constructed notions of comfort. He points to analytically problematic issues associated with understanding the ways in which non-local ideas, goods and capital contribute to local cultural and consumption change.

Jan Selby is critical of the use of culture as an explanatory concept. Referring to Israeli and Palestinian water practices, he argues that the notion of cultural difference is often used in pejorative and slippery ways. He argues that dichotomous terminologies like those of 'traditional' (backwards) and 'modern' (rational) culture lead to stereotyping. In discussions of water demand, "culture" has, for instance, been invoked by way of explaining that Palestinians do not have the same need for water as Israelis and that their traditional ways of using water lead to low demand. According to Selby, differences in material and infrastructure have a greater explanatory power than ideology-based concepts of culture. In short, he argues that culture defined in terms of attitudes and ideas ought to be replaced by a view of culture as an ensemble of situated practices.

Taking a different view, Rick Wilk argues that culture matters in the ways people choose to consume energy. For him, culture is a medium through which ideas about comfort and convenience emerge. As Wilhite has already argued, these ideas have significant impacts on resource use and the environment. Wilk analyzes consumer culture and the escalating cycles of

consumption in which ‘wants’ get converted into ‘needs’. He raises questions about ‘overconsumption’ and discusses the moral underpinnings of concepts like sustainability and fairness. He argues that energy consumption can only be understood in the local context. One consequence is that there are no generic solutions for sustainable energy policy. Instead, policy makers must design different strategies each applicable to the specific historical, economic, and political context in question.

Summaries

The socio-cultural construction of comfort in Japan and Norway

Hal Wilhite

The uses of the cross-cultural research design have been called into question in a post-modern anthropology which has been occupied with the specificity of cultural meaning. Working under the assumption that a “culture” is uniquely understandable in its own terms, cross-cultural comparison can be viewed as a positivistic undertaking, generating findings which are inevitably unreliable. The challenge of neatly separating “cultures” in an increasingly interconnected world adds a further complication to cross-cultural designs. I argue that cross-cultural comparison can nonetheless contribute to the understanding of household consumption by highlighting differences and opening avenues of inquiry into the reasons which lie behind such variation.

These points are illustrated with reference to a cross cultural study of Japan and Norway. This is an interesting comparison for a number of reasons. They were both relatively poor (in relation to other European and North American countries) at the end of World War II and through the decade of the 1950’s. Both experienced rapid growth and wealth accumulation from the 1960’s. Today, they are two of the richest countries in the world, with relatively evenly distributed wealth and large middle classes. Energy prices are much higher in Japan than in Norway (about 3 times as high), but average income in the middle classes is also much higher, so that the average amount of household budget spent on energy is about the same in the two countries. For economic modelers, these similarities ought to provide a sufficient basis for predicting homogeneity in home energy consumption patterns; however, the cross-cultural study revealed significant differences in space comfort (heating and cooling), lighting and bathing. I relate a few of the findings.

In Norway, the convention is that the home should be heated in such a way that allows people to move from room to room in light-weight clothing. The entire living area, excluding the bedroom, is heated to an average of 21C. The definition of a “cozy” indoor aesthetic is strict and fairly uniform: the warm ambient temperature and a lighting pattern consisting of pools of light and shadow, these produced by small lamps placed around the room. In stark contrast, in Japan, living rooms are usually lit by a single florescent ceiling light (fluorescent light and ceiling lights are both abhorred by Norwegians for living areas). Heating is also quite different. Until recently,

the idea of space heating was totally foreign. In most Japanese homes, the practice is still to heat the body, not the space. In the living area, this is accomplished with a 'kotatsu', which is a heater placed in a cavity in the floor. A table is placed above the 'kotatsu' with a heavy blanket attached to the table. People sit under the blanket with their feet and legs next to the heater. Other heat sources are the bath and the bed (where body(s) are the heat source). The intervening space between heat sources is very cool by Western standards (average 16 C).

Coziness for the Japanese is achieved in the bath. Japanese spend anywhere from 30 minutes to over an hour in the bath each evening, moving back and forth between the shower (located outside the tub) and the bath tub several times. The tub has a heating element which keeps the water temperature high through the entire period of the bath. Norwegians are more likely to shower than to bathe. While a hot shower is considered relaxing by most, the experience of the bath as a provider of comfort is not nearly as important, nor as energy intensive as for the Japanese.

While these practices have been relatively stable through periods of rapid economic development in both countries, there is evidence of change. Central heating is increasing in Japanese homes. Norwegians are building more baths per dwelling, with more and larger bath tubs. This raises important questions: What is responsible for both the stability and the change? Is culture the appropriate theoretical category for understanding differences or should more attention be paid to the social structures and physical infrastructures which both enable and limit choice?

This question draws us into debates about structure versus individual agency. Much of the discourse on sustainable consumption has been dominated by a model of individuals with absolute freedom to choose. Of course this is nonsense. Social relations have much to say about how we consume, whether it be to solidify relations, strive to demonstrate our conventionality or difference, and so on. Social relations also operate in the processes of production and delivery of the things we have to choose from. The social structures which shape production and delivery of energy choices are under-theorized in home consumption debates, both in research and in sustainable policy. The well-meaning separation of 'demand' from 'supply' in energy policy discourse, done in order to draw attention to policy opportunities at the point of consumption, has had the unfortunate consequence of analytically severing relationships among and between providers and choosers.

This discussion of where choices come from leads us back to the questions surrounding global interconnectedness. The contributions to social change by the movement of people, goods, capital and images is as yet poorly understood. Appadurai (1996:7) talks about these processes in terms of a "social colonisation of the imagination". Miller (1994) argues for a more subtle view in which there may be a reinforcement of some aspects of culture and changes in others. He shows that in Trinidad, outside impulses tend to be taken in and used by recipients in ways which reaffirm or manifest existing cultural practices. Embedded practices are not wiped over, but rather goods and images are recast to reflect existing cultural patterns.

Returning to the Japan-Norway comparison, one can see instances of both 'colonialization' and 'adaptation'. Japanese bathing traditions have been strengthened by new technologies which maintain high water temperature and extend the duration of the bath. However, space cooling and space heating practices have changed significantly, and the changes are suspiciously similar to early developments in North America.

Whatever theory of cultural change and globalization one subscribes to, the tendency for many consumption-related developments to require increasing use of resources and increasing emissions of pollutants and climate gases underlines the urgent need for social science to engage with questions of both consumption and sustainability.

Water Practices in Palestine: A Case of Cultural Difference?

Jan Selby

In accounts of the nature and causes of Israeli-Palestinian water conflict, one powerfully recurring explanatory trope has it that differences in patterns of water consumption and management are the result of deep-rooted cultural differences. 'Culture', in such accounts, is understood in primarily attitudinal and ideational terms.

My aim in this paper is to critique such accounts by arguing that the invocation of 'culture' as an explanatory category is problematic and dangerous, and that differences in patterns of water consumption and management – and by extension in many areas of social life – are not so much products or instantiations of attitudinal differences, as practical responses to material circumstance.

Within the Israeli-Palestinian water arena, allusions to 'cultural' factors tend to display a number of common characteristics: they are generally slippery and unspecified ('culture' typically refers to nothing more precise than 'something in the way they are'); they are largely pejorative ('culture' is an auto-impediment to the rational use and management of water); they often link 'culture' and 'tradition' (the latter also being a barrier to 'modern' rational behaviour); and they commonly build upon superficial stereotypes, ones that, at least when Palestinian culture is being described, are frequently Orientalist. As a discursive object, 'culture' is typically a negative catch-all, and a source of polemics rather than reflective explanation.

This is not to say, of course, that cross-cultural analysis is always polemical and stereotypical, merely that the invocation of 'culture' as an explanatory trope always carries with it certain dangers. Cultural explanations are often persuasive and appealing, at least at first glance. Nonetheless, in the case of the Israeli-Palestinian water arena, I consider cultural explanations to be empirically misguided. With this argument in mind, this paper gives three examples of phenomena which could readily be explained in cultural terms (and indeed have been so explained, either in interviews or in written accounts), but which I would explain along much more practical, material and arguably Marxist lines.

The first of these examples relates to levels of Palestinian water demand. It is commonly argued by Palestinians, and indeed is universally accepted by international experts, that Palestinian water consumption in the West Bank and Gaza is suppressed as a result of supply shortages consequent upon Israeli control of the region's water resources. However, and notwithstanding this, Israeli experts often argue that Palestinian culture is such that Palestinians do not have the same high level of demand for water as Israelis; and moreover, that in cases where modern water supply systems have been put in place, Palestinians have typically continued to rely on their traditional water use practices, again for supposedly cultural reasons. Is culture then a factor in determining Palestinian water needs?

A second issue is both less analytically complex and less politically sensitive, but interesting nonetheless. Since 1998, a great deal of water infrastructure development work has been carried out in the West Bank, among this work two very similar projects in the northern district of Jenin and the southern districts of Bethlehem and Hebron. The problems faced by the contractors to these projects have, however, been quite different. In Jenin district, the engineering work has been generally smooth, with little friction between local people and the contractors. In Hebron and Bethlehem, by contrast, there have been recurring arguments over compensation claims, and even attempts to physically impede and in some cases actually attack contractors. Several Palestinian experts sought to explain these differences to me in cultural terms, alluding with a grin to the stereotypically dim-witted and tradition-bound Hebronites (Khalilis). But can these different experiences really be explained in such cultural terms?

A third and final example pertains to Israeli water use. Israel, as both Palestinian experts and international commentators often observe, has a highly developed economy in which agriculture now plays a minimal part, accounting for only 3-4% of GDP and workforce. Yet the agricultural sector still receives the lion's share of the country's scarce water resources, and at highly subsidised rates, such that the overall economic value of Israel's agricultural sector is minimal, and even perhaps negative. Given this, many have raised the question of why Israeli water policy is so oriented towards agriculture, and while some have emphasised political-institutional factors, another strong line of argument has been what one might call 'cultural'. From this perspective, Israel's water use patterns still bear the marks of the founding myths of Zionist 'ideology' and its emphasis on the redemptive character of agrarian labour (interesting that the word 'ideology' is generally used in this context rather than the word 'culture': ideology, presumably, is the modern equivalent of 'culture', one that is just as much an impediment to rational organisation). But does it make sense to explain Israeli water policy as a product of ideological commitments?

To each of these three questions my answer is no – that culture, at least if understood in attitudinal and ideational terms, is not a useful explanatory category. In each case I offer a counter argument (or at least pointers to such an argument), which might more plausibly explain the puzzle in hand. And I conclude by returning to the first of these puzzles, regarding patterns of Palestinian water use. Drawing upon research in Dheisheh refugee camp

in Bethlehem, I offer a description of Palestinian water use (within this specific context) which emphasises the massive variability in consumption patterns and practices; the materiality of the constraints on water users; the flexible, adaptive and creative quality of people's coping practices when faced with water shortages; and the implausibility of distinguishing between 'modern' and 'traditional' cultures. One might want to take these emphases as illustrative of the nature of Palestinian (or at least Dheisheh) culture; be that as it may, this is not culture understood as a homogenous set of attitudes and ideas, but as a heterogeneous ensemble of situated practices.

Culture and energy consumption

Richard Wilk

Culture underlies human energy use at many different levels, and it drives and contextualizes consumption in modern society. Energy consumption must be placed in a broad cultural context, which includes systems of meaning and communication.

In seeking to understand the continuing worldwide expansion of energy use, the continual growth in perceived needs – the conversion of wants into needs – is a key issue. This process has been an essential aspect of Western consumer culture for several hundred years, at least. There are a number of plausible explanations that link this growth in consumer culture to different aspects of modernity and the global expansion of capitalism. But the global spread of consumer culture has been uneven, and cannot be explained simply as emulation, imitation, or diffusion.

It is important to move beyond "prime mover" arguments for the origins of consumer culture. There are good reasons to believe that the continual expansion of needs so fundamental to consumer culture is a self-replicating cycle driven by positive feedback. Like the cycles of addiction, there are cycles of consumerism that continuously expand the role of commodities in social life, and create expectations of rising standards of living, expanding needs, and ever-increasing abundance. These processes are now deeply rooted in the taken-for-granted assumptions and expectations that underlie daily life in consumer societies. The very notions of poverty and economic growth incorporate assumptions about the relationship between consumption and quality of life.

We need to recognize cycles in our social interactions, in the public discourse over economic growth and development, and in our own individual narratives and life-goals. One cultural cycle that expands needs is the result of alternation between periods of economic prosperity and relative recession. This cycle acts like a ratchet to continually move up the 'set point' for needs when money and resources are available, creating relative deprivation and heightened perceptions of lack during the next economic downturn.

Juliet Schor has argued that Americans are increasingly trapped in a "work-and-spend" cycle. As we sacrifice more of our free and family time to our careers and evermore-insecure jobs, we are driven to get more out of our time. We spend more money on gadgets and services that are supposed to save time and provide convenience, but the things we buy end up requiring our time and attention too, as we set about fixing, replacing, maintaining, and storing all our "stuff." The things we used to do for pleasure and togetherness, like fixing family meals, are replaced with fast food, gobbled on the run. When we end up feeling more rushed, more pressed for time, and less satisfied with our lives, we buy more new things, and to get the money for the new things we need to work harder still.

Mark and Mimi Nichter are medical anthropologists who have studied eating disorders among children in Arizona. They found that American kids, like their parents, show a great deal of anxiety about their eating, and remarkably large numbers of children are on diets by the time they are eight years old. A majority are dieting and worrying about their weight by the time they turn ten. The paradox is that dieting does not actually lead to thinner kids – instead dieting and binge eating go together. More concern and anxiety does not lead most people to actually cut down on their average diet. Instead, explain the Nichters, people get in a cycle where eating becomes both sinful and enjoyable, and afterwards they atone and feel guilty by dieting. The guilt eventually fades, and the cycle begins again when the person feels that they have suffered enough, and deserve a reward.

Taking culture into account in a systematic way raises fundamental questions about different policy approaches to consumption. To what extent is cultural change possible, and where should we expect to see an effective role for public policy and government action? To a large extent, the answers to these questions depend on the kinds of theories we use to understand consumer culture. Rational-choice theories of consumption have been dominant in the policy communities, while advertisers and marketers have been much more open to using cultural and social theories. The result is that advertising has been much more successful in impelling consumption, than government policies have been at controlling and channeling it. I would argue against any kind of fundamentalist approach that concentrates on a single theory, because consumption itself is such a broad and heterogeneous set of activities and processes.

Because consumer cultures are diverse and variable over time and in different parts of the world, we cannot expect to find approaches that will be universally valid, and policies that work in one setting are unlikely to work in many others. This suggests that there will be many different solutions to consumption problems, each within a different historical, economic, political, and cultural context.

Discussion

The papers grouped together in this session all deal with “culture” but do so in very different ways. Hal Wilhite considers the practicalities of cross cultural comparison as an analytic method. In this case, cultures like those of Japan and Norway constitute the units of investigation. But is “culture” also useful as an explanatory concept? Is talk of cultural difference simply tautological or is it, as Jan Selby suggests, a potentially – if not inevitably – misleading discourse that strips ideas from context and practice. Taking yet another turn, Rick Wilk considers the characteristics of a distinctive phenomenon which he terms consumer “culture”.

The session raises a number of key questions:

- ※ What do we really mean by “culture” and what are the risks and dangers of using it as an explanatory concept?
- ※ What do “cultural” explanations of needs and wants mean in the light of global interconnectedness, and of global inequality?
- ※ What can cross-cultural comparison bring to our efforts to understand consumption?
- ※ Is there such a thing as ’consumer culture’, where does it come from, is it “escalating”, and if so, how does this work?

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4 Ordering practices – organising consumption

Organiser: Dale Southerton

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Introduction

That people consume more whether through shifting perceptions of 'need' or escalations of 'wants' is rightfully held as a major obstacle to environmental sustainability. It is an obstacle largely because the potential for 'down-shifting' (Schor, 1992) our consumption appears so utterly unattractive in a consumer society, particularly when economic imperatives of 'growth' are so closely tied to unabated levels of consumption. The difficulty with conceptualising the environmental problem in this manner is that understandings of consumption are all too often based on simplistic, economic driven interpretations of the consumer. This session moves attention away from representations of consumption as individual, voluntaristic decision-making to demonstrate how the vast majority of consumption relates to mundane, routine and ordered daily practices (Gronow & Warde, 2001). Understanding consumption as the appropriation of goods and services within social practices draws attention to the inter-connectedness between varieties of objects, services, and normative values that together pattern and shape daily lives (Harvey et al, 2001). This session aims to show how patterns of consumption relate to understandings of the world beyond the act itself and how consumption becomes meaningful through the routines of normative social practices.

Galen Cranz starts the session by introducing her work on urban parks. She considers the idea of the ‘ecological park’ as it has developed in the US literature. The prospect of transforming urban parks into spaces of agricultural production create spaces for innovative measures for sustainability, relevant to the urban environment and to the domestic provisioning of food and waste. Such a prospect also offers benefits in terms of health and the development of an ecological aesthetic presently absent within the contemporary city. Importantly, Cranz's paper challenges everyday understandings of how urban space is ordered and what it is for. In addition, she introduces new discursive interpretations of health and food, waste and nature, and aesthetic sensibilities of the urban.

Matthew Watson continues our exploration of practices through his empirical investigation of domestic gardening. As with urban parks, the dominant ideological view associates 'green space' with recreation and relaxation. Gardens, like many other areas of daily life, have been subject to a form of media attention that 'stylizes' the practices and aesthetics involved. As Watson demonstrates, stylized gardens have followed a particular path of development in which apparently natural environments are replaced by ones which are highly commodified. Moreover, this

commodification takes a particular form; it organises gardening around new temporal patterns. Gardens are no longer shaped by the rhythms of nature but by an array of commodities (from weed killer to a host of garden pruning devices) that allow them to be re-shaped and managed in ways which reflect contemporary gardeners' interests in shifting and saving time.

Taking this theme further, the final paper of the session turns from urban and domestic environments to the organisation of social practice in time and space. That contemporary society suffers from a 'time famine', that time is 'squeezed' and that people are increasingly 'harried', are topics of public discussion and social scientific interest (Demos, 1995; Schor, 1992; Hewitt, 1993; Linder, 1970). Drawing upon empirical research into daily time - space scheduling, Dale develops a conceptual distinction between 'hot' and 'cold' spots, the management of which involves the orchestration of timing and the optimisation of convenience. These arrangements prove important in relation to the commodification of natural, domestic and urban environments.

Summaries

Urban Agriculture in city parks

Galen Cranz

Historically, those who set policy for the creation and management of urban parks in the United States have insisted that parks are for pleasure and recreation, not work. In the most general terms this dichotomy stems from the laissez-faire theory of Western industrial capitalism. Regulating economic life as little as possible has meant that cities had been allowed to develop economically with minimal competition from other values like beauty, naturalness, cleanliness, public health or visual order. The American Park movement developed in the 19th century as a reaction against the ugliness and perceived chaos of the city. But rather than challenge or regulate the forces that created these troublesome conurbations, park advocates proposed an antidote by differentiating spaces of production from those of consumption. The legacy of this distinction remains prominent in American parks today. Land uses which suggest the institutions of urban life, including housing, political and military activity, schooling, religious activity, commercial activity, and agriculture, continue to be excluded from parks (Cranz, 1982).

This paper argues for special attention to more environmentally friendly use of urban parks through the cultivation of 'ecological parks'. Such proposals require a radical challenge to 'conventional' ordering of ideas regarding urban space and practices. The 'ideal type' ecological park would try to realise an older utopian vision of the city as a garden, with features such as:

(a) Native species of plant life with judicious use of mowing to define the edges of meadows so that users can appreciate that natural strands of

grasses represent a desired aesthetic, rather than lack of maintenance or care (this could be achieved by using sheep to do the mowing).

(b) Compost is an important part of the ecological park and such spaces could be used for garden waste (garden grass cuttings and branches account for 19% of municipal waste)

(c) Water is collected, stored, and cleaned in flow forms and ponds that use water-loving plants and support animal life, including amphibians like frogs whose future might otherwise be endangered.

(d) Buildings are carefully sited close to mass transit to reduce transit distance, are solar facing, use recycled or less energy intensive construction materials, and are never air-conditioned, relying on natural ventilation systems.

(e) Parking lots are kept to a minimum, but where necessary never paved with impermeable materials like blacktop or cement. Pathways for foot traffic are differentiated, always favouring the softer more organic material when possible, crushed gravel being preferable to cement, for example.

(f) Fencing is used more to regulate flow of traffic than keep people out. Materials for fencing are selected according to the least long-term environmental costs: metals, post consumer plastics, bamboo, wood.

(g) Lighting is minimal and utilises solar collectors and wind generators.

(h) Benches and play equipment use more body conscious design than has ever been seen in public places in America, because a planning philosophy that focuses on eco-system health also includes human health.

The paper concludes by arguing that while urban parks have historically not been sites for urban agriculture, agricultural activity should now be included in them for several reasons. Most simply, the space for farming is available within city parks, and plants are already grown there. More importantly, urban agriculture has multiple benefits, and can increase public health for everyone, not just supplement the income of the poor. Significantly, the activity of gardening has become a leisure and recreational activity, no longer solely a utilitarian, economic activity. Consequently, the split between spaces of production and consumption can today be reworked in the post-industrial ecological park in America. Landscape professionals have promoted this new park type primarily since 1991. It can be both summarised and further developed as an 'ideal type'. Barriers to its institutionalisation must be acknowledged, even as general planning principles are formulated. The ideal parks should be self-sufficient materially even as they help solve larger urban problems. Through these two processes the Ecological Park evolves a new visual order for private and public outdoor spaces.

All hands on decking: the makeover of UK gardens as sites of production and consumption.

Matt Watson

In Britain, a new breed of TV gardening programmes is leading a revolution in popular understandings of what a garden is for and what can be done to it. In countless gardens around the country, lawns and borders have been replaced by hard landscaping, pot plants and water features. Since these programmes began their domination of early evening terrestrial TV schedules in the mid-90s, the UK horticultural retail industry has grown by 14%, reaching a turnover of £2.6billion (c. €4.2bn) in 2000. This growth has not been in the 'traditional' materials of gardening like seeds and bulbs – materials that become garden features only with time and the labour of gardening. Instead, market growth has been in the stuff of the instant garden makeover - established nursery-grown plants, feature paving, outdoor furniture and, most emblematically, timber decking - a product almost unknown in the UK a few years ago but projected to represent a market worth £400 million (c. €6.3m) a year by 2004.

There is enormous potential for gardens to make a contribution to sustainability. In England and Wales, there is estimated to be almost half a million hectares of garden – about 3% of the total land surface. Most of this is divided into manageable areas immediately adjacent to homes, giving ideal opportunities for the composting of domestic waste and the home production of food. However, the 'makeover' model of gardening can be situated historically in the progressive democratisation of private gardens as sites of more or less conspicuous consumption and of leisure, rather than of local labour and local production. Changes to gardening over the last century or so can be associated with gardeners finding themselves increasingly able to 'buy time'. Their own labour time in the garden can be displaced with bought products, whether time-saving technologies like lawnmowers, or chemical weed-killers that cut out the need for hand weeding and hoeing.

The move from gardens dominated by plants to gardens dominated by hard landscaping and inorganic features exemplifies this changing temporality. Rather than just saving time, new 'technologies' of gardening allow gardeners greater control over how much time they devote to the garden and when. The ongoing tending of organic processes with their own temporal rhythms is displaced. Instead, maintenance and production of gardens comes to be dominated by one-off events of do-it-yourself construction with inert materials.

Representations of the garden as a 'room outside' are closely associated with this model of instant gardening. Re-defined as a room, the garden figures as an extension of the home, a materially passive context in which humans interact with each other rather than a space where humans engage with non-human nature. Listed under the title of 'outdoor living', consumer durables, ranging from hardwood furniture to outdoor space heaters, become a cascade of necessities once the script of the outdoor life takes hold.

Gardening is a field in which long term processes of commodification are accelerating through the re-shaping of what gardens are, and what they are for. This is in part one manifestation of the speeding up and fragmentation that characterises contemporary experience of time and that is further reflected in the displacement of schedule-threatening organic entities (e.g. lawn grass) with more temporally amenable entities (e.g. decking). It also suggests an extension of the ideals and practices of home such that the garden also becomes a space for do-it-yourself material transformation, sociability and the display of taste and identity.

Feeling 'harried' – hot spots, social networks and scheduling practices

Dale Southerton

This paper reports on preliminary analysis of research that investigates experiences of harriedness, impressions of time shortage and the strategies that people employ to organise their daily practices. Twenty in-depth interviews with people living in a suburban town revealed an overwhelming belief that contemporary society suffers from a shortage of time. Respondents were quick to suggest explanations, namely the demands of work; rising household standards of cleanliness; economic competition; and, the social pressures derived from a pursuit of social distinction. However, experiences of 'being harried' were not evenly distributed. Instead, they were contained within 'hot spots' - usually around weekday mealtimes for those with children and predictable parts of the working day for those without. 'Hot spots' were characterised by a density of social practices, network obligations and an accompanied increase in the potential for the disruption of personal schedules. To some extent, hot spots arose as a consequence of compressing some practices in order to free other 'blocks' of time (often termed 'quality time') at other points in the day.

Only those with significant degrees of power, and a lack of informal obligations within networks, had the personal flexibility required to develop and successfully administer this strategy of stretching and squeezing time. Yet the point remains. Impressions of 'being harried' were the consequence of seeking to impose a personal structure onto various socio-temporal constraints (such as mealtimes and periods devoted to household tasks; work place routines; times traditionally viewed as 'free time').

The paper concludes by arguing that practices of consumption are embedded within socio-temporal routines that are characterised by flexibility within particular social parameters. In responding to what they were convinced was a generic 'time squeeze', respondents adopted various strategies including that of consumption as a means of dealing with the time problem. However, because the time problem is primarily centred around 'freeing up' time through the increasingly complex task of co-ordinating network interactions and social practices, the very strategies employed in response were at the same time those responsible for the experience of being harried.

The paper demonstrates that consumption of this kind is both the response to and the cause of being harried. This analysis helps to explain the proliferation of goods and services, dependent on other goods and services, which together contribute to the ordering of social practices in ways that make alternative social arrangements unimaginable. In conclusion, the discourse of a time squeeze and promised solutions, like the technologies and commodities offered and marketed in the name of convenience, lock people into an ordering of environmentally problematic practices.

Discussion

This session is truly eclectic and only scratches the surface of the diversity of social practice. It nonetheless supports the view that it is not consumption per se that presents the challenge for sustainability. Rather, it is the socially embedded, normative and routine ordering of everyday life which counts, and within which consumer practice must be comprehended. By advancing this argument, the session aims to stimulate ideas that challenge the 'normality' of social lives. By moving beyond simplistic understandings of consumption as the expression of choice it should provoke radical re-conceptualisation of the obstacles to, and the opportunities for, sustainability.

Ordering practices – organising consumption: References

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5 Systems of provision & consumption

Organiser: Heather Chappells

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Introduction

One of the key aims of the summer school is to locate consumption practices in the context of the social and physical infrastructures of everyday life. The papers in this final session pursue this aim by focusing on the social institutions and socio-technical infrastructures involved in the provision of goods and services. The session combines theoretical reflection and empirical evidence drawn from the utility sectors. The objective is to show how demand for energy, water and the services they provide is influenced not just by consumers' actions but by the practices of an incredibly wide range of institutions positioned along typically convoluted supply chains.

Processes of industrial transformation, privatisation and liberalisation have led to the re-ordering of utilities, infrastructures, and market relationships. Each of the three papers in this session scrutinises what have become key intersections between consumption and provision within these changing institutional arrangements. In highlighting the range of influences that have a bearing on demand, the papers prompt us to think again about the regulation of utility infrastructures and about the facilitation of environmental innovation within these systems.

Bas van Vliet and Heather Chappells introduce some of the theoretical perspectives that have been employed in analysing the relations between service providers and consumers. Specifically, they reflect on the benefits of adapting a "systems of provision" framework (see Fine and Leopold, 1993) as a means of understanding how demand for energy, water and a range of associated utility services is created and managed. Turning their attention to institutional and environmental changes in these systems, they suggest that processes of 'differentiation' are at work which promise to redefine relationships between providers and consumers and to create new contexts for the management and use of energy, water and waste resources.

Tim Moss considers the types of institutional structures and procedures required to support the sustainable management of infrastructure systems and the use of urban land. Taking inspiration from literature on urban and regional development and on technical networks he discusses the case of metropolitan Berlin where economic and political restructuring is changing the scale and spatial distribution of land, water and energy use. With these changes in mind, Tim investigates how far processes of de-industrialisation

and have influenced demand for resources in the city and considers the role of the region's utilities in stimulating demand as a means of improving the efficiency of under-utilised networks.

Finally, Aad Correlje reviews attempts to redesign energy infrastructures within the home. In this he focuses on Dutch efforts to design a framework of social and institutional relations which foster sustainable innovation. In the Netherlands, decisions about energy supply for new housing projects have traditionally been settled by municipalities, project developers and local energy distributors. In recent years this has been unsettled by government stipulations that 'sustainable' energy options be used in large-scale projects. One of the problems, Aad argues, is that these demands have come at a time when market liberalisation and regulatory changes have created a riskier energy supply situation which has in turn restricted definitions of feasible as well as sustainable options. Aad identifies a range of institutional and economic arrangements which promise to re-shape perceptions of more and less viable options.

In acknowledging the intersecting roles of utility companies, planning organisations, regulators, house builders and consumers in creating, maintaining and manipulating demand each of the session papers goes way beyond the analysis of consumer behaviour. Such approaches have practical implications for policy and for the range of actors with whom policy makers interact.

Summaries

Systems of provision and sustainable consumption: the differentiation of energy, water and waste services

Bas van Vliet & Heather Chappells

Conventional understandings of the organisation of utility systems - defined here as those providing energy, water and waste services - require revisiting in light of recent institutional and environmental restructuring. With this in mind, our intention is to review relationships between domestic consumers and their utility systems with the aim of revealing how these arrangements shape demand and frame consumption.

As a starting point we consider the widely held assumption that demand is driven either by the purchasing decisions of consumers seeking to maximise utility by choosing between alternative services on offer, or by the dictates of providers seeking to maximise the efficiency of production processes. We reflect on the way this representation of consumption and production has infiltrated and guided the economic and environmental strategies employed in the energy, water and waste sectors in recent years (Guy and Marvin, 1996).

Concluding that conventional approaches misrepresent relationships between consumers, providers and infrastructures, we suggest an

alternative approach. Drawing on the work of Fine and Leopold (1993) we argue that commodities and services find their way to consumers in different ways depending on how specific systems of provision are configured. It is the system of provision that unites a particular pattern of production with a particular pattern of consumption.

Following this logic, we analyse relationships within utility sectors so as to reveal connections between the various material and cultural objects, flows and practices that comprise production, distribution and consumption. This move leads us to think about how the organisation and subdivision of distinctive chains of activity (from generation to consumption) combine to influence patterns of demand.

Having characterised present systems of energy and water provision, we turn our attention to the changes in their institutional and environmental context. In particular, we suggest that processes of 'differentiation' are at work and that these promise to change the face of utility provision as we know it. We are, for example, witnessing the differentiation of previously mono-dimensional commodities (where distinctions are drawn between grey and normal water and between green and "ordinary" electricity). At the same time, monopolist providers have been replaced by a multitude of companies competing to provide a range of different services.

In what follows, we unpack four different forms of differentiation each relating to the changing configuration of resources, providers, technologies and consumers. As these layers of differentiation unfold, we consider what each implies for the organisation of systems of provision as conventionally characterised. Pausing to reflect on evidence from the Netherlands and the UK we show how processes of differentiation create new contexts for the management of energy, water and waste resources.

Though the changes are clear, the implications are uncertain. For instance, what does the proliferation of competing energy service companies (ESCOs) mean for initiatives in energy efficiency and demand-side management? Does it imply increased specialisation and improved service in the energy efficiency business or does it place further distance between distributors and generators, isolating them from end consumers and confirming an interest in meeting but not managing demand.

And how are consumer roles being re-written? Conventionally regarded as the passive recipients of uniform services, it appears that we are witnessing the emergence of a more involved consumer. Involvement can take various forms but it is no longer appropriate to view domestic consumers as passive recipients when they take on a myriad of new roles as co-providing partners right along the system of provision.

It is not just a question of organisational change. Technical infrastructures are also being restructured at a range of different levels. At the household we have seen the development of increasingly differentiated devices. For example, the all-consuming dustbin has been supplemented by a range of multi-coloured recycling depositories. But how do arrangements, designed with environmental improvement in mind mesh with established routines?

And in any event, how far do they relieve capacity on the waste infrastructure at large?

In re-conceptualising relationships between domestic consumers and utility systems, this paper sheds new light on processes that are defining and re-defining the provision of environmentally significant energy, water and waste services.

Reshaping infrastructure systems to meet changing resource use patterns: the case of derelict land

Tim Moss

When a large urban site loses its industrial function as a result of economic restructuring it creates a hole not only in the local economy but also in established and entrenched land-use and infrastructure systems. In terms of the site alone the environmental balance is often positive: the use of energy or water drops sharply. From the perspective of the city or urban region, however, disuse of a major site can create major resource inefficiencies, including the under-use of existing technical networks for power, gas and water. This paper explores the interest of utilities and key players of urban redevelopment in finding new users for under-utilised infrastructure built to serve major industrial consumers on what are now derelict sites.

There are several arguments, drawn from various sources, to suggest this interest should be strong and growing. The literature on sustainable urban and regional development has identified the re-use of existing infrastructure networks as an important component of revitalising urban centres and promoting the “compact city”. A second body of knowledge on common or public goods identifies technical infrastructure systems as a “network good” whose full (public) value is only achieved when used to capacity. Research on the reconfiguration of urban infrastructure systems following liberalisation by Guy, Graham and Marvin argues that utilities are, for primarily commercial reasons, showing an increasing interest in differentiating between different parts of their networks, seeking to boost demand in the “cold spots” where existing infrastructure is under-utilised.

This paper examines how far these arguments resonate with the interests and experiences of key players of infrastructure and urban planning in Berlin. Berlin provides an ideal setting in several respects. All three of the city’s utilities for power, gas and water/wastewater services have recently been fully or partially privatised and energy markets in Germany are in the process of being liberalised. The degree of commercialisation and commodification of utility services is relatively pronounced in Berlin. Furthermore, Berlin has a large number of derelict sites resulting from rapid economic restructuring following reunification which play an important role in strategies for the development of the city. De-industrialisation has been the principal cause, also, of a sharp drop in water consumption in the city, by some 37% since 1990. Over-capacity – particularly in certain parts of the networks – has become a major concern for the city’s water and sewage managers, in particular.

In my paper I aim, on the basis of empirical research on the Berlin case, to provide some answers to the following questions:

1. How has de-industrialisation affected the consumption of energy and water resources provided by utilities? In what ways has the disappearance of major industrial customers affected the performance of technical networks, technically as well as economically?
2. How far are utilities interested in maximising the use of their existing technical networks? Are they taking a more spatially sensitive approach to infrastructure provision, differentiating between "hot-spots" and "cold-spots"?
3. Do they show any interest in revitalising derelict sites as part of a strategy to stimulate demand in their "cold spots"? What contextual factors or problems frame the way utility managers and urban planners view this opportunity?

Sustainable Energy Supply Infrastructures in a Liberalizing Energy Market: The Netherlands[1]

Aad Correljé

Traditionally, the Dutch utilities' supply infrastructures for large scale building projects have been developed within a formally structured sequence of plans that, in an increasingly detailed manner, determined patterns of land-use, lay-out and design. The participants in this decision-making are driven by a mixture of economic and other motives, in short:

- *Municipalities* intend to reap maximum revenues from selling building lots, but they also seek to create attractive and affordable - and possibly sustainable - new neighbourhoods. These objectives reflect the functional variation between different municipal departments.
- *Housing corporations* seek to cover the costs of their housing projects by revenues.
- *Project developers* seek to maximize their profits, through a quick throughput of houses at reasonable margins. Revenues are often needed to finance later phases of a specific plan. So, developers are risk averse and strive for continuity. Yet, it is also in their interest to secure early involvement in the planning of new housing areas, through maintaining a good image and good relation with the municipality.
- The e*nergy utilities*' main issue used to be the pay-back time - given up-front investments and fixed and variable cost; given the connection fee and the fixed and variable elements in the tariffs; given cross-subsidization between these types of cost and revenues; and given subsidies to stimulate the use of low carbon energy supply systems. As the former backbone of the Dutch fossil fuel saving policy, the public utilities had a double objective.

Since the mid-1990s, the Dutch government has stimulated the construction of sustainable energy supply systems through the state-funded participation of

[1] This paper is based on an evaluation of the Optimal Energy Infrastructure (OEI) Programme, for NOVEM, Utrecht, Netherlands. See: Correljé, A.F, Keers, G., de Wildt, R. (2000) *OEI in de toekomst: Een strategische toekomstverkenning in een liberale omgeving,* ESM, Erasmus Universiteit Rotterdam, Januari 2000.

advisors early on in the decision-making process: the Optimal Energy Infrastructure-Programme (OEI). Taking account of the site-specific interests of the several parties, economically feasible energy savings and low carbon energy supply options could be applied on a larger scale than before.

By the mid-1990s, the Dutch Government initiated a process of liberalisation in the energy sector[2]. A new Electricity Law was accepted in April 1999 and in June 2000 the new Gas Law was passed. Step-by-step, three pre-defined categories of end-users are given the right to 'shop around'. Distribution networks have been opened up to third-party suppliers and the operation of these networks has been separated from the trade divisions.

Parallel to liberalization, a radical restructuring of the sector is taking place, involving horizontal integration, vertical (de-)integration, diversification and to a certain extent privatization. Most local utilities have merged into three large *multi-utility* firms and joint-ventures have been established with foreign companies to supply liberalized groups of consumers. The large production companies have been sold by provinces and municipalities to foreign firms. New participants are constructing independent electricity production capacity and/or import electricity.

The current industry structure, the existence of excess production capacity and the regulatory objectives pursued by the competition authority, DTe, are inducing a fairly competitive power market. The behaviour of the gas industry remains tied to its place within the oligopolistic European gas system. So, despite the fact that Dutch gas from the Groningen field is the lowest cost gas available in Europe, consumer prices will remain linked to those of oil products for the foreseeable future.

Meanwhile, the Dutch government maintains ambitious objectives regarding energy conservation and the use of renewable energy. Parallel to energy market liberalization, it is developing a sustainability policy 'new-style', which - instead of on the traditional self-regulation of target groups - is based largely on economic instruments, viz. subsidies and taxes. It has also reduced the role of the (former) energy utilities, for which energy saving can no longer be considered a 'core-activity'.

As firms now consider each other as competitors, they reject sectoral convenants and refuse to share 'strategic' information about their customers and markets. In addition, the pressure upon firms to enhance profitability has reduced the staff and finance available, and traditional cross-subsidization between energy supply and network exploitation is now impossible. The utilities have been separated into energy supply companies and network operators with separate accounts and operations, which impedes the allocation of cost and revenue elements as a function of what is most 'practical' given the parties involved. Moreover, it is no longer self-evident that users buy their energy from the supplier that is associated with the firm that, at arms' length, operates the network.

[2] EZ (1996) *Third White Paper on Energy Policy 1996*, Sdu, s'Gravenhage.

Differences between the regulation of power, gas and heat supply cause a structural variation in the risk incurred in the exploitation of these systems. Operators of *electricity* and *gas* networks are hardly confronted with any risk. Under a normal efficient operation, fixed and variable costs are recovered on the basis of the tariffs, which will be adjusted annually to increase efficiency but take into consideration actual levels of cost. Operators of *other* energy supply systems - like heat-distribution with CHP, heat pumps, etc. - run a much higher risk. There is no regulation that covers their operations. Profitability is a function of the developments of the price for gas (as input and alternative) and electricity (supplied to the grid), the impact of national energy saving strategies and the capital and operational costs. These systems are also highly exposed to regulatory risk, associated with the level at which the government fixes the so-called *regulatory energy tax* (REB) on energy produced non-fossil fuels and with the characteristics of subsidy-schemes.

Thus, the already small 'margin for negotiation' for sustainable energy infrastructures in new housing projects has been reduced further. The achievement of the CO_2-reduction objectives requires the development of new - more market-oriented - policies that stimulate the traditional actors in new ways to engage in innovative and effective initiatives. A central role herein could be played by the municipalities.

Currently, obligatory energy use standards are directed only at buildings. According to the Dutch Electricity and the Gas Law, supply options that apply to an area or neighbourhood are not allowed in principle, as they interfere with the separation of network and supply. Yet, the Dutch Government intends to support local sustainable supply systems. To this end, the Electricity and the Gas Law contain a provision that enables municipalities to select firms - other than the appointed regional network operator - in a competitive procedure, for the construction and exploitation of environmentally friendly supply systems, involving the operation of the local network as well as the supply function. Competition with other potential applicants may stimulate bidding firms to develop more innovative, (cost) effective and sustainable concepts, while safeguarding the required realism.

Yet, such an approach requires: firstly, that there is real competition among the participants, possibly through the invitation of new and/or foreign firms. A second requirement is that municipalities are able to create an effective selection procedure. There remains a need to support them in formulating sustainability objectives, in negotiating with energy companies and in establishing the criteria for evaluation. Finally, measures are to be taken to control the exploitation of the newly created sustainable systems - as these will become local monopolies. If and only if these requirements are met - which is not the case currently - then this experiment may produce an innovative 'market-based' instrument for energy policy, that will stimulate real dynamic efficiency.

Discussion

These three papers raise questions about the constellation of institutional actors that need to be engaged in managing demand and developing more

sustainable systems of provision. These questions demonstrate the value of analysing infrastructures and utility services as vertically integrated systems of provision. Such an approach has the further advantage of cutting across disciplinary boundaries. As this session shows, environmental sociology, urban planning and economics have much to contribute in tracking, anticipating and analysing recent and radical change in utility sectors. As it also makes clear, traditional conceptualisations of mono-dimensional providers and equally mono-dimensional consumers are increasingly redundant in this fast moving arena.

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