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Why do we need a sociology of society's natural relations to inform sustainable development?

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The discipline of sociology has been remarkably unprepared for the new challenges of sustainable development, especially around the importance of natural resources in human development and social and cultural evolution. In recent decades, interdisciplinary concepts of social-ecological systems and social (industrial) metabolism have emphasised how social and natural systems interact and perhaps co-evolve in history. They have been, however, mostly ignored by the mainstream of sociological thinking. The focus on the society–nature interface has successfully established new concepts that are non-deterministic and hence have gained recognition in both the social and natural sciences. The social aspect of social-ecological systems and the historical and institutional dimensions have received less attention, creating a vacuum which has been occupied by sometimes oversimplistic approaches, often from outside the social sciences, to understanding social systems. Employing the theoretical contributions of the German sociologists Niklas Luhmann and Jürgen Habermas, this chapter contributes to refocusing on the sociology of society's natural relations. It looks at the contributions of the two great theorists for understanding inertia and agency in social-ecological arrangements and the degree to which modern society has created non-adaptive socio-economic practices that may threaten the natural resources and ecosystems that modern society and human well-being depend upon. A good understanding of the social, institutional and political circumstances that determine society's capacity for sustainable development, which is both inclusive and environmentally sound, will be an important contribution to the literature on globalisation and global change and may create a more realistic picture of the intervention points in an increasingly global society. Achievements in theorising the society–nature interface have not yet been complemented with an equivalent theory of social systems.

Sociology and the environmental problem

The interest of sociology and the social sciences in the environmental and ecological conditions of social life and in connections between the social system and its natural environment started in the early 1980s with Catton and Dunlap's plea for a new ecological paradigm (Catton and Dunlap 1980), that emerged in response to the growing recognition of environmental problems faced by modern society. Society had started to feel the effects

of environmental change. Climate change, depletion of natural resources, pollution and waste have become important and increasingly converging features of society's environmental pressures and impacts. Since the 1980s, the prevalent question has been whether sociology can respond to environmental problems in its present state of theoretical development. The foundation of sociology, since its establishment as a scientific discipline in the 1850s, has been the fundamental division of labour between science and social science. The first is for nature and natural laws and the latter for social institutions and people. To be able to address the fundamental environmental problems faced by global society, sociology will need to relax its boundaries, as indeed will the sciences (Dickens 1992). Addressing environmental problems by broadening the theoretical base of the social sciences and creating an interdisciplinary analytical framework has been challenging, and sociology has left a vacuum that has been filled with often simplistic approaches to conceptualising society's natural relations and the connections between social and ecological systems.

In this chapter I argue that the environmental issues that emerged in the 1970s caught sociology unprepared theoretically. Conceptual attempts that aimed to broaden the framework to an interdisciplinary theory of society and nature have been prominent since the 1990s but have largely been ignored by mainstream sociology (Redclift 1999). Interdisciplinary social-ecological research has tried for two decades to change the dominant paradigm, with little success. This has meant that reintegration of sociological theory into the interdisciplinary framework has also been lacking. The aim here is to use the rich theoretical positions of two main theorists – Jürgen Habermas and Niklas Luhmann – as a starting point to delineate the sociological aspects of an integrated theory of society and nature.

One promising variant of social-ecological theory and thinking was developed by the Vienna School of Social Ecology (Newell and Cousins 2015), which has focused its conceptual framework on the interrelationship of social and natural systems (Fischer-Kowalski and Erb 2006), resulting in an advanced theory of social metabolism and colonisation of nature (Fischer-Kowalski and Haberl 1998) and numerous historical and current case studies that have informed environmental policy debate over many decades (Fischer-Kowalski *et al.* 2011). The framework focuses on the hybrid nature of society between natural and social realms (Fischer-Kowalski and Weisz 1999) but remains superficial in furnishing the social domain of the social-ecological system. The authors make reference to Luhmann's theory of the functionally differentiated, self-referential character of modern social systems but do not provide further detail on how Luhmann's comprehensive theory of the social system and its subsystems can be used in the sociological analysis of society's natural relations.

German sociologist and historian Rolf Peter Sieferle has contributed to the Vienna School's theory development, with his own social-ecological model of interaction between nature, population and culture (Sieferle 2011). While nature and culture are viewed as a system in Sieferle's conceptual framework (Sieferle 1997), population is seen as the mediating factor between the two. Only through population is culture able to have a physical influence, either biological or technical, on nature. In the process of labour and by using technologies, artefacts (e.g. houses, roads, bridges and factories) are built; according to Sieferle, these have a physical representation in the natural world and a symbolic representation in culture. Biological and technical interventions into natural systems cause changes in the ways those systems function, which impacts on population in often unintended ways. These impacts are then represented in a specific way in the various cultural subsystems as scientific insights, social conflicts, economic costs, political campaigns, aesthetic innovation or a deficit of religious meaning.

Disturbances that are caused in the relationship between population and nature are not represented directly in culture but are received as irritation and create disorder which can be dealt with in manifold ways. A reaction that relates represented effects to the correct causes is only one, and not even the most probable, reaction.

An alternative approach to understanding social-ecological systems comes from the Institute for Social-Ecological Research in Frankfurt. It has based its conceptual framework on a specific reading of the early Habermas and the Frankfurt School more generally, aiming for a social-ecological theory of society, people and nature (Wehling 2002) that promises insights into the functioning of modern society in broad domains of provision of services, water, mobility and housing and wishes to inform sustainability policy.

I believe it is fair to say, despite the important contributions mentioned above, that the potential contribution of the sociological literature remains underexploited; an all-encompassing theory of social-ecological transition and the potential for social processes to be guided towards a sustainable future require further development.

It has required substantial intellectual effort to establish a social-ecological systems framework and to acknowledge that the relationship of society with nature needs to be seen as a social not an individual relationship. This social-ecological framework also opens avenues for reintegration of sociological theory into the framework aimed at in this chapter.

Socio-cultural life reproduced through processes with outer and inner nature: the contribution of Jürgen Habermas

Why has modern society increasingly put its own environmental conditions at risk? Pressure points of climate change, water and food security, and supply security issues of many strategic materials including metal ores and fossil fuels, are converging rapidly (Weisz and Schandl 2008). To unpack this question we require theory that acknowledges the biophysical underpinnings of social activities and the potential for non-adaptiveness of society to its biophysical conditions. The work of the German sociologist Jürgen Habermas is a good starting point in this regard. In his early work *Legitimation Theory* (Habermas 1973), Habermas analysed multiple crisis tendencies that have formed in late capitalist societies and occur at a systemic level in the economic, political and socio-cultural system. Influenced by Marxist theory, he viewed socio-cultural life as reproduced through processes with outer and inner nature. According to Habermas, any social system would establish a relationship with its natural environment and would appropriate nature, and natural resources, in the production process. He argued that this relationship between the social system and the natural environment (also referred to as outer nature) is maintained through instrumental actions and technical rules. This is essentially Marx's concept of the labour process (Marx 1887), which he described as a process between humans (society) and nature in which society organises and satisfies its physical demands. According to Marx, it is within the labour process and by application of technology that human society organises the essential supply of raw materials and energy (i.e. social metabolism) for production and maintenance of people and artefacts.

For Habermas, building on the insights of the Frankfurt School (Horkheimer and Marcuse 2002) and the work of Norbert Elias (Elias 1969, 1997), the specific relationship between the social system and nature requires a corresponding relationship between the social system and people (and what he calls their inner nature). Establishing this correspondence between outer and inner nature is secured in the process of socialisation through communicative action (see Fig. 2.1) and the establishment of valid norms. The

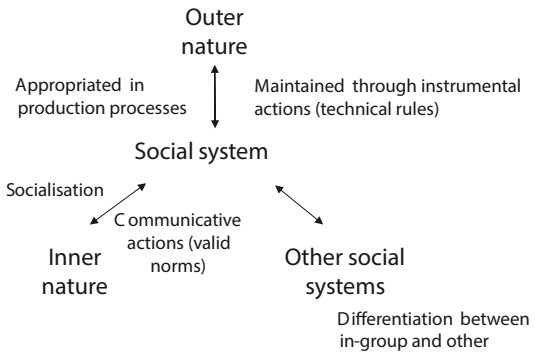

Fig. 2.1. Socio-cultural life reproduced through processes with outer and inner nature.

socialisation process, according to Habermas, guarantees a close match between inner nature and processes in the natural environment. Habermas also referred to social change and history as a process of cultural evolution, in which the relationship between society and nature becomes increasingly complex, institutionalised and removed from human experience and influence.

He described the process of cultural evolution as evolutionary decoupling of economic, political and administrative systems from lifeworld (*Lebenswelt*) driven by functional differentiation and the evolution of modern control media (see Fig. 2.2). In modern society, more and more processes are determined by the rules of the economic and political system which operates, disconnected from the everyday lives of people in communities, neighbourhoods and households. This dominance of the political economy over everyday life has resulted in a process of alienation of people from nature, their relationship to work and from each other. In a romantic sentiment, Habermas lamented the expropriation of lifeworld through the anonymous incentives and power structures of the political economy and its administrative apparatus, which he interpreted as a social domain in which consensus has been replaced by empirically motivated commitment to the incentive of money and the deterrence of power.

This evolutionary move away from the steering arrangements prevalent in the lifeworld where people are connected to certain places, ecosystems and natural resources and in which they organise their relationship with nature, to a hegemony of large socio-technical systems for the provision of essential services such as food, energy, water, housing and mobility, creates a fundamentally new relationship between society and nature. Under the new regime of socio-technical systems (Geels 2004) that has developed hand in hand with modern society, no single individual has command over or influence on the way in which

	System	
Functional differentiation	Economic system	Political–administrative system
Control media	Money (incentive)	Power (deterrence), laws
Motivation for acting	Empirically motivated commitment substituting for consensus	

	Lifeworld		
Differentiation of domains	Science	Morals	Art
Communication media	Reputation	Value consensus	
Motivation for acting	Rationally motivated confidence as a result of previous agreement		

Fig. 2.2. Evolutionary decoupling of system and lifeworld.

essential services, and hence the metabolism between society and nature, are organised. Appealing to individuals to change their behaviours to achieve better environmental outcomes is no more than a sterile reminiscence of a time when people actually operated at the society–nature interface.

In his later work *Theory of Communicative Action* (Habermas 1981), Habermas moved away from the Marxian framework of legitimation theory and turned his attention to the notion of a public domain to explore how a rationalised lifeworld could influence the momentum of a differentiated functional economic and political system (Habermas 2006). In situations that are perceived as crises, such as climate change, pollution or resource depletion, it is possible and even likely that issues that are identified by lifeworld agents who first recognise them can lead to mobilisation of discursive action, initially in specific fora and eventually transported by mass media, making them feature in public discourse and enter the domain of political debate (Habermas 2005).

Therein lies, for Habermas, the potential to heal the fundamental legitimation crisis of modern society through re-empowerment of the sphere of lifeworld achieved by participatory democratic action and a de-legitimation of the abstract powers of money and political power exerted by detached politico-administrative systems in a financialised economy.

Certain aspects of Marxian and Habermasian theory have been employed and adapted to establish modern systems approaches to society–nature interrelations that address the fundamental reliance of any social formation on natural resources and the adaptive capacity of ecosystems. This focus on the society–nature interface, using the interrelated notions of social metabolism and colonisation of nature, has been developed by the Vienna School of Social Ecology.

The Frankfurt Institute for Socio-Ecological Research has developed its own approach to society–nature interrelations based on Habermas' early concepts and with strong references to the Frankfurt School. The approach has a stronger link to the notion of systems of provision and includes an analysis of institutions and infrastructure involved in providing essential services to society, but with a less elaborate conceptual framework of metabolic interactions between social systems and nature than that of the Vienna School of Social Ecology. The Frankfurt Institute of Social Ecology attempts to develop a critical theory of society's socially structured relationship with nature and ultimately a social theory of the environmental crisis that modern society faces. For that purpose, the analytical framework of the Frankfurt School and the early Habermas, before his linguistic turn, appear to be most valuable to constructing theory that includes society, nature and people and is able to interpret social processes in terms of both symbolic and material activities.

Functional differentiation, self-reference and operational closure: sociological systems theory à la Niklas Luhmann

While the theory of Habermas has often been used to empower social movements and agents of deliberative democracy to improve and repair the dysfunctional relationship between system and lifeworld, Niklas Luhmann's sociological systems theory started with a very different conceptual basis and a different set of questions. Luhmann is certainly the most influential German sociological theorist, and his sociological systems theory has provided the most convincing alternative theory of society to Habermas' theory of communicative action. It is fair to say, though, that he has been less favourably received by the Anglo-Saxon research and policy community. This is related to the political philosophy of Anglo-Saxon societies, which is fundamentally different from the European tradition

(Pusey 1987). While the former focuses on the individual, the latter puts greater trust in collective action and social organisation.

From Luhmann's point of view, Habermas overrates the potential of communicative rationality and underestimates the significance of complexity which is central to his systems theory of society (Luhmann 1996). Complexity, in Luhmann's theory, refers to the abundance of potential experiences and actions of which, in any specific situation, only a few can be realised. The range of experiences and actions that can viably be chosen is always extremely small in comparison to the number of alternatives. Complexity hence forces selection.

In Luhmann's theory of society, the ongoing process of cultural evolution refers to the fact that over time society has formed different strategies for social differentiation, allowing increasing internal complexity and enabling more sophisticated relations with complexity in the environment. The major evolutionary achievement of modern society over traditional society is that of functional differentiation into major social subsystems, each of which fulfils a certain function within and for society, on which other subsystems can rely. In a grand division of responsibility in modern society, the economy is responsible for the regulation of scarcity, the political system generates and legitimises collectively binding decisions, the legal system stabilises normative expectations, and science generates new knowledge. In contrast to Habermas, Luhmann makes no value judgements about whether this process of social differentiation is positive or negative. Rather, he uses it as an analytical framework to ask a question which is important to our topic: how, and with what likelihood of success, can modern society respond to humanity's unfolding self-induced ecological crisis?

Another important difference in theory construction is that Luhmann conceptualises these subsystems of society as systems of communication. He argues that each subsystem creates its identity around a specific code which ultimately allows us to identify the system to which any communication belongs. For the economy, the code is about ownership or not owning, and being able to pay or not being able to pay. For the political system, the code is constructed around having or not having power and for science it is about true/false (Table 2.1). There is no third option in the code of any subsystem other than the binary distinction which serves as a filter to identify and relate communication to one of the subsystems.

Every communicative action has two aspects, of containing information and of being coded as belonging to one of the subsystems. The subsystems are conceptualised as self-referentially closed, which refers to the fact that they interpret information according to their specific operations and understanding. They operate according to their code which enables them to maintain their identity even in the case of changes in the structure of the subsystem. Each subsystem establishes programs and creates roles which further stabilise expectations for future communication or behaviour.

The main price modern society pays for its internal complexity is the rising interdependence between subsystems. This is often overlooked, meaning that important phenomena in the environment may remain unobserved. This conceptualisation of social subsystems of communication that interpret information according to their experience and identity makes communication and the exchange of important information or observations about important factors in a society's environment between subsystems more likely to fail. One way to overcome gaps in communication between subsystems is structural coupling, that is, a way in which subsystems are linked and hence can function as cooperating parts of the overall social system. Examples of structural coupling between the legal system and the economy include property rights and contracts; political and legal systems are structurally coupled through constitutions; taxes and levies couple the economy and

Table 2.1. Functional differentiation and self-reference as a characteristic of modern social systems

	Economic system	Political system	Legal system	Science system
Function	Regulation of scarcity	Establishment of collectively binding decisions	Stabilisation of normative behavioural expectations	Generation of new knowledge
Medium	Ownership/ money	Power	Law	Truth
Code	To own/not to own; able to pay/not able to pay	In power/not in power (government/ opposition)	Justice/injustice	True/false
Program	Investments, purchases	Political programs	Laws, precedents, contracts	Theories and methods
Communicative operations	Transactions	Political decisions	Legal practice, jurisprudence	Publications
Examples for structural coupling	Taxes and charges as structural coupling with the political system	Constitution as coupling with legal system	Ownership and contract as coupling with economy	Scientific consulting as coupling with the political system

the political system; and scientific consultancy is an example of structural coupling between the political system and science.

For Luhmann, in contrast to Parsons (Parsons 1977), structural coupling does not necessarily result in integration of society and does not follow any normative principle. He does not assume that structural coupling results in harmonious development of subsystem relationships. For Luhmann, many interdependencies are in fact left unattended, hence communication between subsystems may occasionally be dysfunctional. Moreover, modern society has no single individual function to observe the interface of society with nature. This gap is filled by observations of different subsystems which interpret problems that may arise at the society–nature interface. For example, natural resource depletion or climate change is a problem of the ability to pay and to financially compensate for risks as would be the case for economic communication, the legal system observes these issues from the perspective of lawfulness or unlawfulness, and the political system interprets the issue from the point of view of maintaining political power and government. Differently from the other subsystems, science may debate whether the assertions of an environmental problem are true or false.

The communication gap that exists in society is also replicated in practice when policy agencies responsible for economic affairs, legal matters and science fail to connect their programs and coordinate their responses to an environmental problem. An additional challenge for modern society is the fact that it has not developed an understanding of itself, that is, of society as whole and a notion of what integrates society. Leaving open the overarching identity of what constitutes modern society as a whole is very powerful for dealing with complexity in so far as it frees up the independent self-regulating structuring and steering capacity of subsystems (Luhmann 1997a).

This lack of an ethical position and overall integration, however, means that many values that exist in social communication (or discourse) cannot be decided upon and the debate and competition over appropriate values often degrades to opinion and moral judgements which are not based on ethical arguments (Luhmann 1989). The lack of overall integration, and the plurality of observations that count, is both a strength and a weakness of modern society and needs to be taken at face value when we analyse the means modern society possesses to confront and solve global sustainability problems.

It needs to be mentioned that the institutions of modern society co-exist with other forms of social integration which are hierarchically structured or are structured around kinship relations. This phenomenon of co-existence of different forms of social integration is even more pronounced in developing countries, where the modern state and its institutions usually co-exist with customary law (McCarthy 2014), creating additional complexity for managing society's natural relations.

Each social subsystem, moreover, has a different understanding of time (Luhmann 1979). The economy has a certain understanding of how long it may take for an investment to yield profit, the political system orients its understanding of time with regard to the electoral cycle, in science an investment into research may take many years before publication of new insights, and legal conflicts may be fought over many years as well. All of these processes, however, operate at altogether different timeframes compared to major environmental problems. There are mismatches between subsystems of society, but also between the social understanding of time and time in society's natural relations and in nature.

Each subsystem resonates to different phenomena in its environment and cannot be steered or guided by the actions of other subsystems. A system, or organisation, can only be irritated by communication that aims to change its capacity to resonate to new phenomena through new information that has so far remained unobserved. For Luhmann, an important feature of modern society, and perhaps of any social arrangement, is its inertia which is based in the self-referentiality and operational closure of each subsystem. This explains why it is hard to change social arrangements even if it is felt that a problem is well understood. One important feature of his systemic approach to society is that the system needs to be understood in its entirety if interventions that plan to change the fundamentals of social organisation are to have a good likelihood of achieving the desired outcomes (Fischer-Kowalski and Rotmans 2009). Chance and failure prevail even if best intentions have guided the intervention.

One important feature of Luhmann's theory, and perhaps the aspect hardest to digest for many social and natural scientists, is the theoretical decision to situate people in the environment of the social system. Social systems rely on communication and establishing a boundary towards an environment. For Luhmann, social systems do not consist of people and actions but of communications. This is a very consequential decision: it allows Luhmann to situate everyday life interactions at the periphery of the social system and hence consider them meaningless and irrelevant for social discourse. It establishes communication as an independent feature of society that follows its own rules. People drive cars, they get drunk and may get married, they have kids and rent a house. But none of these activities really matter for social discourse. They are the noise that oscillates over the broader underlying trend of socially accepted expectations of how people communicate, consume and spend their time, which is regulated and determined by larger discursive patterns and structures at the level of social subsystems.

Social scientists who favour an approach associated with individual choice and human agency as the main driver of social change have criticised the concept of excluding people from society, claiming that Luhmann takes a reactionary stance with regard to people's

potential to change their own circumstances and contribute to positive social change (Leydesdorff 2000). Natural scientists who have viewed people as a main factor of disturbance to well-functioning ecosystems have also tended to view them as individual agents, and have often used a simplistic attitude–behaviour model to argue that attitudinal change is required for individuals to change their behaviour to achieve better system outcomes. It is proven that there is only a weak relationship between attitude and actual behaviours (Shove 2010), and little evidence that the amount of change required to put global society on a sustainable development path could result from aggregate individual action.

For Luhmann, in essence, society can be understood as a mechanism that reduces complexity to such a degree that expectations, and expectations of expectations, can be solidified to reduce the pressure of making decisions for individuals and groups of people.

The level of abstraction of expectations rises at different levels of social organisation. At the person level, expectations are usually closely related to previous experiences with that person. If expectations are addressed to roles then it is, in principle, irrelevant who performs the role. There need not be a previous relationship and related experience, to relate certain expectations to someone who fills a role. A third level of abstraction is reached when roles become exchangeable. This is the case for programs such as investment programs of large corporations, research programs of scientific institutions or planning of public investment for transport infrastructure or urban development. In such cases, program objectives and implementation can be identified without specifying in advance which roles in an organisation are responsible for implementation (Luhmann 1997b).

At the highest level of abstraction of expectations, the need to link expectations to a specific context in which expectations may be realised is not necessary. Luhmann speaks about general considerations for specific actions that are preferable to others, i.e. values. Programs can be discussed, evaluated and changed by applying certain values. There may be discussion, for example, around whether it is better to grow economically at the cost of environmental degradation (in order to become rich enough to clean up the damage) or if it is preferable to take a more benign social development path which simultaneously looks after the environment. Conflicts about which paths to choose are difficult to settle because modern society has no overriding principles that enable conflicts between values to be solved. It is important to note that, for Luhmann, values are not a property of individuals but are situated at a higher social level of abstraction of expectations. Because of this, societal values can change without affecting roles or the identity of individuals. Values can change to reflect social change without unravelling expectations at every level of social organisation. In a similar vein, roles can be filled by different people, without affecting the implementation of programs or the larger value set of a society.

The evolutionary advantage of a distinction between people, roles, programs and values as levels of abstraction to which expectations are linked lies in establishing relatively independent variability at each level. Through this, modern society gains greater flexibility compared to traditional society because changes of expectations at one level of abstraction are not necessarily strongly linked to changes of expectations at any other level of abstraction. They are hence easier to achieve. It also enables a larger number and more diverse set of expectations to be institutionalised, which again raises societal potential for building structural complexity and dealing with greater complexity in the environment. However, it also affects the ability of society as a whole to make binding decisions. In the end it remains an open question for modern society: who is in charge of important social decisions? While the political system may appear to have a monopoly on governing society, most evidence points to a multifaceted interplay of different social subsystems providing steering capacity to society (Lemos and Agrawal 2006). The positive side of this is that

coalitions for specific social agendas are easier to form since they do not necessarily require integration into an all-encompassing view of the world.

Going beyond actors and agency: a truly sociological approach to society's natural relations

Addressing the very serious ecological crisis that has unfolded globally (Steffen *et al.* 2015) requires a social theory and analytical frameworks that explain processes of social change and how they are related to changes in the environmental relations established by certain social configurations. Such a theory, based on sociological thinking, enables us to explore the self-endangerment of modern society and identify means by which modern society might address the environmental crisis.

Such a theory needs to depart from an oversimplistic and pre-sociological understanding of individuals who make choices to maximise utility; those choices are guided by motives and attitudes that favour certain behaviours and the idea that if attitudes were to change, this would result in more environmentally benign and responsible behaviours (Shove 2010). This means acknowledging that even a biographical single person represents a social category because they are determined by their life context (Wehling 2002). The way individuals consume, spend their time and make political decisions needs to be seen as a process of social choice rather than individual choice where people pick from predetermined, socially acceptable ways of leading their life (Duesenberry 1949). We have also seen that environmental relations in modern society are organised in larger socio-technical systems (Geels 2004) such as the energy system, the water supply and sewerage system, the transport system and the food supply system. They consist of specific institutional arrangements, and require large infrastructure that depends on large public and private investments to provide the supply and distribution of natural resources. They can be seen as structural coupling between society and nature in a very technical sense and are embedded in the processes of labour and technology.

These systems need to be represented in social communication and are seen as an issue of cost and rent-ability in economic communication, of rules and regulations in legal communication, and of legitimacy and fairness in political communication. The ways such services are provided to society are determined by broader social values such as equal access, and are rolled out through specific programs and organisations. Most importantly, they are beyond the influence of single individuals and individual choice.

A similar argument can be made for consumer behaviour. We identify this as a social phenomenon with socially formed expectations and aspirations which are filtered by the class structure of society and realised through available supply of housing, mobility and food options and a variety of products that households and individuals can consume. It can be argued that once a set of fundamental decisions has been made, including where to live, whether to marry and have kids, and what kind of work to engage in, a lot of other decisions unfold quite naturally (Duchin 1998). Does the place where someone lives have public transport and shops within walking distance or do people need to rely on private transport? Can distances be met with a bicycle or do people need to go by car? The social position of a person and household will further determine which practices people engage in, which consumer products they choose to furnish a certain way of living, and how they spend their time. Complexity is reduced by expectations, and expectations of expectations, to such a degree that people can manage their lives and do not have to capitulate in the face of never-ending possibilities and the constant pressure of needing to make a choice. In modern society, despite the notion of personal freedom, choice is reserved for domains