A critical appraisal of Sustainable Consumption and Production research: The reformist, revolutionary and reconfiguration positions

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1. Introduction

Sustainable Consumption and Production (SCP) has become an important topic of policy and research agendas over the last ten years. Although early policy ideas can be traced back to reports by the United Nations, OECD and the World Business Council for Sustainable Development in the mid-1990s, policy attention accelerated after the 2002 World Summit on Sustainable Development in Johannesburg, where delegates called upon the United Nations Environment Programme and the United Nations Department for Economic and Social Affairs to develop a 10-year framework programme on Sustainable Consumption and Production, which was subsequently developed through the multi-stakeholder Marrakech Process (2003–2011), together with national SCP initiatives in Finland, Germany and the UK, before being adopted at the United Nations Conference on Sustainable Development (Rio + 20) in 2012. In parallel, SCP has been increasingly debated by academics, resulting in various special issues in the Journal of Industrial Ecology (2005, 2010), Journal of Cleaner Production (2008), Natural Resources Forum (2010), overviews (Lebel and Lorek, 2008; Tukker et al., 2007, 2008), and analyses of policy debates (Seyfang, 2004; Fuchs and Lorek, 2005; Clark, 2007; Berg and Hukkinen, 2011).

The appeal and importance of the SCP agenda is that it moves beyond the dominant focus on pollution control and green products, widening attention to the patterns of consumption that underpin the resource-intensity of everyday lives. The strength of SCP-research is its proposal to jointly consider production and consumption activities. In the context of climate change, environmental degradation, resource problems and declining bio-diversity, research on these two fundamental areas of human activity has intensified because of the recognition that both domains need to change in tandem to achieve large gains in environmental sustainability.

Yet, SCP research suffers from two related problems that stymie theoretical progress. First, the meaning of SCP is unclear, with the term acting as an umbrella concept for a heterogeneous set of concepts and approaches, e.g. sustainable product service systems, eco-labelling, new economics, community grassroots innovation. Second, SCP-debates are dominated by two intellectual positions,

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ABSTRACT

This conceptual review article provides a critical appraisal of Sustainable Consumption and Production research, which is currently framed by two generic positions. First, the ‘reformist’ position, which focuses on firms pursuing green eco-innovations and consumers buying eco-efficient products, represents the political and academic orthodoxy. Second, the ‘revolutionary’ position, which is a radical critique of the mainstream, advocates the abolishment of capitalism, materialism, and consumerism, and promotes values such as frugality, sufficiency, and localism. We find this dichotomous debate problematic, because it is intellectually stifling and politically conservative (in its outcomes). To move beyond this dichotomy, we propose a third position, ‘reconfiguration’, which focuses on transitions in socio-technical systems and daily life practices and accommodates new conceptual frameworks. For each of the three positions, we discuss: (1) the scale and type of change, (2) views on consumption and production in exemplary approaches, (3) underlying theoretical, epistemological and normative orientations, (4) policy implications, and (5) critical appraisal. The conclusion compares the three positions, provides arguments for the fruitfulness of the reconfiguration-position and offers four critical reflections about future Sustainable Consumption and Production research agendas.

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with one (which we label ‘reformist’) representing the orthodoxy in SCP policy documents and mainstream academic debates, and the other (which we label ‘revolutionary’) condemning orthodoxy, by offering a “critique of the consumer society model” (Webb, 2012: 210) and making pleas for “reducing consumption and adopting voluntary simplicity or downshifting” (Seyfang, 2004: 327). We are not the first to distinguish these two positions. In the context of earlier ecological modernization debates, for instance, Christoff (1996) distinguished between weak and strong ecological modernization, with the former characterized by an economic logic and technological solutions, and the latter by an ecological logic and broad changes to institutional and economic structures of society. Other (third-generation) ecological modernization theorists (Mol, 1999) distinguish between “the dark green romantic dismissal of modernity and the naive endorsement of market-driven liberal eco-technopias” (Spaargaren and Cohen, 2009: 257). Fuchs and Lorek (2005) further distinguish between weak and strong sustainable consumption with the former characterized by eco-efficiency (e.g. adoption of green technologies) and the latter by reductions in consumption levels and lifestyle changes. As we will indicate in Section 2, these dichotomies stem from deeper intellectual trends in western societies.

In our view, the dichotomy in the SCP-debate is problematic because of tendencies to reduce a complex debate to two extreme positions, which both have serious shortcomings. The reformist position, on the one hand, is limited in its potential to foster environmental sustainability and timid with respect to the urgency demanded by problems such as climate change, where scientists suggest that global CO₂ emissions should peak before 2020 in order to have a 50% chance of meeting the 2-degree target (Anderson and Bows, 2011). The revolutionary position, on the other hand, is politically unpalatable, especially in current socio-economic contexts, and carries risks of elitism (Miller, 2001).

Against this background, the paper makes two contributions. First, we aim to provide conceptual clarity in the SCP-debate by grouping heterogeneous approaches into three analytical positions that advocate different scales and depths of change, have different views on production and consumption, take inspiration from different academic disciplines, represent different views on policy, and embody different epistemological and normative assumptions. In the reformist position firms pursue green eco-innovations and consumers buy eco-efficient products and services. The revolutionary position advocates the abolition of capitalism, materialism and consumerism, and promotes values such as frugality, sufficiency, and community-orientation. The third position, which we label ‘reconfiguration’, argues for transitions in socio-technical systems and social practices in societal domains such as mobility, housing, agro-food, heating, and lighting. Such transitions entail co-evolutionary changes in technologies, markets, institutional frameworks, cultural meanings and everyday life practices, but do not necessitate the overthrowing of some hypostasized totality (such as capitalism, consumerism or materialism).

Second, we make a plea for the reconfiguration position because it, firstly, helps to overcome the dichotomized SCP-debate, secondly, offers greater sustainability potential than the reformist position and is more palatable than the revolutionary position and, thirdly, accommodates new conceptual frameworks that address important SCP challenges, notably around stability and change in social-technical systems and social practices.

The paper has a relatively simple structure. Section 2 elaborates our problem statement and discusses our choices regarding research design. Sections 3, 4 and 5 then discuss the three positions on several analytical categories and provide a critical appraisal. Section 6 draws conclusions and provides four critical reflections that indicate fruitful directions for future research.

2. Problem articulation and research design

The two dominant SCP-positions represent theoretical traditions and debates that can be traced to the nineteenth century and thus pre-date concerns regarding environmental sustainability. The first tradition includes debates about modernity, capitalism, the merits of markets and entrepreneurship, and the belief in progress through science and technology (Mokyr, 1990; Misa et al., 2003). The second tradition represents intellectual concerns that draw attention to (perceived) negative consequences of modernization, industrialization, ‘free’ markets, and consumption, and offer alternative visions of the ‘good life’. Early nineteenth century Romanticism, for instance, elevated folk wisdom and articulated a desire for authentic experience and direct interaction with nature and a longing for close-knit communities (Campbell, 1987). Late nineteenth century social theorists worried that conspicuous consumption and status displays eroded a sense of belonging (Veblen, 1899) and that impersonalized modes of market exchange undermined social cohesion (Simmel, 1903). Early twentieth century critiques further suggested that mass consumption provided distractions from more meaningful or morally valuable pursuits (Adorno and Horkheimer, 1944).

The two dominant SCP positions continue these two long-standing intellectual strands. The problem is not so much that these positions have historical roots, but that some of the core ideas were developed in the context of other debates and are now being latched on to sustainability issues. In our view, it is risky, and probably unproductive, to approach new environmental problems such as climate change, biodiversity, pollution and resource problems through the uncritical appropriation of well-rehearsed and long-standing intellectual prisms. That is why we advance and further articulate a third position (reconfiguration), which accommodates new theoretical lenses and conceptual frameworks that address particular challenges presented by SCP.

The research process was iterative. In response to our increasing dissatisfaction with the SCP literature and conference presentations, we developed the basic idea of three SCP-positions based on an initial clustering of the most highly cited publications that explicitly address this topic. Subsequent comparison led to the formulation of analytical categories which helped to structure the comparison of the three positions. The labels for the three positions were selected to represent differences in scale and type of envisaged change. The reformist position, for example, envisages some changes in technology and purchase behaviour, but maintains core features of the status quo. The revolutionary position argues for a major overhaul of core societal features (e.g. capitalism, materialism, consumerism), and shifts to a new value-system. The reconfiguration position focuses not on ‘society’ or ‘economy’ as macro-entities but on more concrete transport, energy and agro-food systems. Because systems consist of heterogeneous components, change can happen through sequential component alterations that gradually reconfigure system architectures. We also chose the three labels because they alliterate, which is a stylistic motivation.

To provide sufficient coverage of all analytical categories, we then extended our literature review, asking several SCP-experts for literature suggestions and using snow-balling techniques from the reference lists of identified publications in order to expand our analytical reach. At this stage, we also examined journal articles that explicitly focus on sustainable consumption or production so that we could deepen our interpretations against each analytical category. We stopped our search when our analysis of the literature for each SCP-position and analytical category reached saturation point (Bertaux, 1981).

The discussion of the three SCP-positions also includes exemplary approaches that represent the main ideas of each
position. This was relatively straightforward for the reformist position, where approaches share a focus on individual actors (inspired by neo-classical economics, behavioural economics and social psychology), and for the reconfiguration position, where the Multi-Level Perspective and practice theory share a focus on heterogeneous meso-level configurations. For the revolutionary position this was more difficult, however, because of the greater variety of approaches, some of which represent orienting labels (e.g. new economics, grassroots innovation) and normative pleas (e.g. frugality, down-shifting, de-growth) rather than conceptual frameworks. For this position, we therefore clustered representative sets of approaches with regard to production (e.g. new economics), consumption (e.g. changing values) and new production-and-consumption systems at the local level (e.g. grassroots innovation).

The allocation of particular approaches to the three positions is a simplification, which suppresses inevitable differences and deviations. Real-world research is always more complex than stylized positions, because individual authors and theories can change their position throughout their career. For ecological modernization theory, for instance, with regard to which Mol (1999) distinguishes three generations, the first generation seems to fit well in the reformist position, because of its emphasis on technological innovation and market forces. Second-generation (with more emphasis on institutional and cultural dynamics) and, especially, third-generation ecological modernization theories (Spaargaren and Cohen, 2009), which pay more attention to concrete systems and consumption practices, would fit better under the reconfiguration position. Another complication is that some of the work on grassroots innovation (which we identify with the revolutionary position) draws on the Multi Level Perspective (MLP) and practice theories (which we identify with the reconfiguration position). So, we do not claim that each position is a completely coherent whole in terms of the allocated approaches. Nevertheless, we argue that the approaches have sufficient ‘family resemblance’ to be grouped together under particular positions.

With these qualifiers in mind, we now turn to the analytical discussion of the three SCP-positions. Although we acknowledge a diversity of approaches within each position (‘shades of grey’), the discussion primarily focuses on general characteristics and shared assumptions.

3. The reformist SCP-position

3.1. Scale and type of change

The reformist SCP-position presents environmental sustainability as a more resource-efficient version of contemporary forms of the status quo, with incremental changes in the organization of production, institutional arrangements or daily life practices. The reformist position envisages changes in technical products, e.g. hybrid-electric cars or energy-efficient light bulbs, which are produced by firms and bought by consumers, but otherwise assumes that transport, energy, and agro-food systems remain the same. Green consumption is mainly defined in relation to eco-efficient production, representing an end-of-pipe approach in which consumers should be persuaded, incentivised or ‘nudged’ to buy green products.

Lebel and Lorek (2008) provide a useful overview of general research topics that fall under the umbrella of this position. These include ‘eco-efficient production’ (improved production processes with less environmental burdens), ‘green supply chains’ (firms using their position to drive upstream environmental change), ‘responsible production’ (firms designing products to reduce waste at end of life), ‘buy responsibly’ (campaigns to educate consumers), and ‘certify and label’ (labelled products). The product-service system (PSS) approach (e.g. Morelli, 2006), which entails a shift from product to service-based consumption, is one of the newest streams in this line of research. While PSS is, in principle, more systemic and interested in changes in business models and user practices, most research remains focused on issues around service design and material recovery (Mylan, 2015).

3.2. View of consumption and production in exemplary approaches

This SCP-position largely emerged from the addition of consumption onto the traditional interest in green technologies in environmental engineering, green design, cleaner production, and industrial ecology. This traditional view emphasizes eco-efficiency and ‘win-win’ outcomes in which environmental and economic benefits are produced simultaneously (Porter and Van der Linde, 1995). From a firm or industry perspective, there are three main approaches: (a) cleaner production, which focuses on improving internal production processes (e.g. reduced waste or energy, closing material loops), (b) eco-innovation, which focuses on the production of greener products, (c) environmental supply chain management, which focuses on the greening of supply chains (Seuring and Muller, 2008). All three approaches assume the primacy of markets and, more or less, the continuation of existing economic arrangements.

Interest in consumption emerged from the increasing realization that many green technologies faced problems in market uptake (often conceptualized statically as ‘barriers’). Consumers are mostly viewed as individuals carrying around sets of preferences from which they select when making purchase decisions. Research (and policy), captured under the general banner of ‘pro-environmental behaviour change’, deploys analytical techniques associated with social marketing (McKenzie-Mohr, 2000) and choice architectures from behavioural economics (Thaler and Sunstein, 2008). These approaches investigate how consumers can be motivated or incentivized to purchase eco-innovations, focusing on the role of eco-labels, information campaigns, prices, subsidies and subliminal signals (McMeekin and Southerton, 2012; Barr and Prillwitz, 2014).

3.3. Underlying theoretical, epistemological and normative orientations

The reformist view draws intellectual inspiration from neoclassical economics and rationalist business and management approaches, which see cost-benefit calculations as core mechanisms in decisions made by both consumers and firms, with markets providing the principal form of coordination between economic agents. Approaches in the reformist position also take inspiration from other theories such as: (a) behavioural economics, which looks at non-rational and non-calculative human behaviour, (b) social psychology, which assumes that shifting attitudes can lead to shifts in behaviour, (c) some versions of evolutionary approaches, which are used in studies of eco-innovation.

Research in the reformist position mostly uses a positivist epistemology, using quantitative models or experiments to test propositions and make predictions. At the margins, qualitative case studies are used to exemplify win-win outcomes for specific and technologies.

Underlying values of the reformist approach are cost-efficiency (how to achieve the largest environmental gains for the least amount of money) and a belief in progress through technology and markets, representing values of modernity and enlightenment. The focus is mainly on the environmental component of sustainable development (e.g. climate change, pollutants, waste). There is
little attention for wider social and institutional dimensions, which are assumed not to require any change.

3.4. Policy implications

The reformist view represents the orthodoxy in many national and international SCP policy documents (Fuchs and Lorek, 2005), in which the government’s principle role is to fix market failures. With regard to the EU Sustainable Consumption and Production Action Plan (2008), Stevens (2010: 16) concludes that it “focuses mainly on eco-labelling and fostering uptake of sustainable products by consumers”. Recent calls for ‘green growth’ (OECD, 2011), which suggest that investments in green sectors and eco-innovation may create new economic opportunities and growth (win-win), are examples of this position at the macro-economic level.

Opportunities for policy intervention are grounded in the belief that markets are largely efficient, with only marginal interventions required to deal with market failures associated with the public good characteristics of environmental protection. As such, there remains a tendency to split policy attention between production and consumption. On the one hand, policies aim to stimulate more eco-efficient production and products, e.g. through R&D subsidies into promising green technologies, economic instruments (e.g. environmental taxes or cap-and-trade schemes), and regulations (e.g. efficiency or emission standards). Measures that improve corporate transparency (e.g. assessments and reporting requirements, labels) are also thought to be influential, because they provide consumers with information that enables them to select or abandon poorly performing firms (Elkington, 1997).

On the other hand, policies aim to enhance consumer uptake of eco-innovations by fostering environmental consciousness and encouraging consumers to choose ‘green’ products from the market-place, whether by offering market incentives or penalties (through preferential pricing strategies for greener products), or appealing to attitudes through information and marketing campaigns. In the UK, for example, the Department for Environment, Food and Rural Affairs developed a segmentation approach (the Sustainable Lifestyles Framework) that divides the population into seven groups according to environmental attitudes, which have been used for differential targeting in information campaigns. Another indication of the policy appeal of the reformist position is that the UK Cabinet office created The Behavioural Insights Unit (also called the ‘Number 10 Nudge Unit’), which aims to use insights from behavioural economics to inform policy, e.g. regarding the Green Deal and sustainable mobility (Barr and Prillwitz, 2014).

3.5. Critical appraisal

The reformist position has several weaknesses, which have been addressed elsewhere (Jackson, 2009; Schor, 2010; Scholl et al., 2010). We emphasize two critiques that are particularly pertinent. First, reformist SCP policies have, so far, delivered limited sustainability outcomes. This arises from the tendency to focus on short-term efficiency gains on a product-by-product basis rather than on longer-term, multi-actor changes in socio-technical systems and practices. It is doubtful that eco-innovations and some tinkering with market instruments and information provision will be sufficient to address the scale and urgency of environmental problems mentioned in the introduction. Secondly, the intellectual basis of the reformist SCP-position is rather narrow, based on theories that focus on individual decisions and actions. SCP-scholars (Scholl et al., 2010; Fedrigo and Hontelez, 2010) have therefore called for the need to broaden the social science base of SCP research. In particular, we suggest it is important to pay more attention to the embeddedness of consumers and firms in social structures (routines, conventions, habits, rules), politico-economic structures (such as the institutional embeddedness of markets) and broader societal deep structures, which is where the other two SCP-positions offer relevant insights.

4. The revolutionary SCP-position

4.1. Scale and type of change

The revolutionary SCP-position advocates the comprehensive transformation of societal ‘deep structures’ that shape production and consumption. Although this position contains various approaches, many proponents share the diagnosis that contemporary environmental problems are symptoms of deeper (socio-cultural and politico-economic) problems in modern capitalist societies, particularly the pre-occupation with economic growth and ‘over-consumption’. In contrast to the reformist position, achieving sustainability is therefore presented as requiring fundamental and revolutionary change. The major challenge is to overhaul neo-liberal economic orthodoxy, in which the interests of a political economy centred on economic growth shape consumption. The resulting consumerism and materialism are held to provide for a ‘culture of consumption’ (Galbraith, 1993) without bringing any deeper senses of happiness or satisfaction, while generating inequalities that further drive competitive consumption (through the pursuit of the conspicuous display of social status). Deep structures preserve the status quo and therefore need to be up-rooted and replaced with more meaningful ‘higher value’ services that are less resource-intensive (Jackson, 2009; Schor, 2010), Vergragt (2013: 124), for instance, suggests that societies should “foster new forms of business ownership, emphasize local and informal economies (self-provisioning, collaborative consumption, local currencies, time banks, product-to-service alternatives, and others), and possibly shorter working hours with mandated living wages. (…) It would mean investments in things that we value most: fine education, arts, healthcare, childcare and elderly services, public infrastructure, renewable energy, and community development.”

4.2. View of consumption and production in exemplary approaches

We have grouped several (sets of) approaches under the revolutionary position, because they emphasize the need to change deep structures that underpin production and consumption. One set of approaches, which is often labelled ‘new economics (Cohen et al., 2013; Schor, 2014), suggests that SCP requires structural changes in capitalist logics, e.g. a shift from GDP growth towards greater happiness (Gough, 2010), replacing the growth focus with ‘de-growth’ (Kallis, 2011), placing greater emphasis on third sector and voluntary initiatives, a shift towards a ‘sharing economy’ (Belk, 2010) or a shift towards an economy with increased use of services (e.g. mobility services, energy services, recycling, re-using, leasing). Jackson and Victor (2011: 104) argue that: “The seeds for such an economy may already exist in thriving local or community-based social enterprises: community energy projects, local farmers markets, slow food cooperatives, sports clubs, libraries, community health and fitness centres, community music and drama, local training and skills, hairdressing, gardening and conservation.”

A second set of approaches highlights the need for changes in cultural values, e.g. a shift towards frugality, thrift, sufficiency, and simplicity (Maniates, 2002; Princen, 2005; Alcott, 2007), a shift from ‘over-consumption’ to ‘less consumption’ and ‘down-shifting’ (Hamilton and Dennis, 2005), or a shift from conspicuous consumption of status goods to greater emphasis on ‘meaningful’
activities, which are cultural or communitarian in form (Hofstetter and Madjar, 2003; Jackson, 2009).

A third approach, which highlights the importance of ‘grassroots innovation’, aims to understand and promote the emergence of local initiatives, decentralized production (of energy and food), self-sufficiency, and the use of artisan skills. Seyfang (2004: 327), for instance, advocates “the challenging of the existing capitalist economic system (since economic growth is the prime cause of the environmental problem) and replacing it with small-scale, decentralized participative democracies and self-reliant economies.” The transition town movement (Hopkins, 2008) is a real-world instantiation of efforts to develop and disseminate alternative production-consumption systems.

4.3. Underlying theoretical, epistemological and normative orientations

Approaches in the revolutionary SCP-position draw intellectual inspiration from a range of long-standing critiques of (western) societies, mentioned in Section 2. In the context of environmental problems, revolutionary ideas have been advocated by neo-Marxist ‘treadmill of production’ theory (Schnaiberg, 1980), which claims that capitalism has an inherent tendency towards growth and expansion which (inevitably) leads to environmental degradation and by philosophical critiques such as Deep Ecology (Nass, 1973), which claims that instrumental anthropocentrism should be replaced with a more holistic view of humans embedded in ecosystems, and Small-is-Beautiful (Schumacher, 1973), which proposes that appropriate technologies should be developed by and for local communities and civil society initiatives.

Epistemologically, revolutionary approaches often practice critical theory styles, aimed at debunking and criticizing the mainstream position and giving voice to neglected actors.

Revolutionary approaches promote a broad view sustainability that focuses not just on environmental problems, but also on wider socio-economic and political issues (e.g. inequality, technocratic decision-making, happiness, community life). Schor (2014: 15) represents the underlying values of ‘new economics’, which “advocates whole system change on the grounds that global capitalism is an anti-human, unsustainable and dysfunctional system. Unlike the dominant climate discourse it is not primarily technological in nature – its focus is on deep economic and social transformation. (…) At its core it references jobs, livelihoods and enterprise, along with other elements of well-being such as stable communities, healthy food systems, vibrant neighbourhoods. It locates fairness at its centre, arguing for more equitable distributions of wealth and power. It includes climate and eco-systems, but as part of an economic alternative, rather than just an ecological shift”. So, the revolutionary position suggests that addressing environmental problems requires changes in the economic (capitalist) system and shifts to a ‘better’ (fairer, egalitarian, happier) society. This raises the suspicion, however, that the preference for a ‘better’ society is the primary motivation for the revolutionary position with environmental problems tagged on to strengthen the argument.

4.4. Policy implications

Unsurprisingly, given its radical critique and calls for major change in deep structures, the revolutionary SCP-position offers relatively few direct policy applications. Because revolutionary approaches tend to present an “ideological concern to castigate society for its materialism” (Miller, 2001: 225), they have remained on the political margins. Where policymakers have started to support community initiatives (e.g. with regard to renewable energy), the policies tend to focus on instrumental aspects (e.g. enhanced deployment) rather than the more revolutionary aspects.

4.5. Critical appraisal

The revolutionary position has several weaknesses. First, many critiques that underpin revolutionary approaches are abstract, oriented at macro-level structures, and distanced from concrete experiences of real-world producers and consumers (Slater, 2010). Because of this distance from daily life, Brower and Leon, 1999: [8] suggest that: “At its core, ‘overconsumption’ remains an ill-defined political slogan that doesn’t help the overconsumers know how they should change either their individual behaviour or their institutions.” Second, those critiques that focus on emerging small-scale alternatives fail to account for how they can remedy environmental problems at the scale required. Despite strong advocacy, there is limited evidence to support the sustainability claims in such accounts. Claims of an upsurge of communitarian activities also seem somewhat misplaced when compared with empirical evidence on the decline of social capital (Putnam, 2000).

Third, various moralistic criticisms of consumption run the risk of elitism. As Miller (2001) so cuttingly points out, it is nearly always those who enjoy the greatest access to consumption who are most vocal in their derision of it. Some authors also tend to project middle-class outlooks as universally desirable or of higher cultural value, e.g. Vergragt (2013) in his celebration of fine education, arts, gardening, and slow food. Fourth, the revolutionary agenda is paradoxically static, restricting analysis to critiques of contemporary deep structures and advancing visions or utopias of future sustainable societies. But it offers little in terms of the pathways towards revolutionary new socio-economic systems or how small-scale initiatives can spread or scale up (recent research on grassroots innovation (e.g. Smith and Seyfang, 2013) increasingly acknowledges the difficulties in diffusing and up-scaling radical local initiatives). As such, this view argues for wholesale changes in the organization of societies, but offers little insights into the governance of processes that could feasibly facilitate such a revolution. In addition, there is little empirical evidence that the kinds of revolutionary shifts identified would lead to a significantly more sustainable (or necessarily happier) society.

5. The reconfiguration SCP-position

5.1. Scale and type of change

The reconfiguration position accords with Urry’s (2010) call for social scientists to articulate a middle way between approaches that focus either on macro-contexts (the nature of capitalism, nature-society interactions, modernity) or on individuals (choices, attitudes, motivations). Instead, Urry (2010) suggests that that a sociology of climate change (and sustainable consumption and production more broadly) “is not a question of changing what individuals do or do not do but changing whole systems of economic, technological and social practice. Systems are crucial here and not individual behaviour” (Urry, 2010). In line with this call, the reconfiguration position argues that SCP-research and policy should focus on the transformation of socio-technical systems and daily life practices in domains such as mobility, food, and energy provision and use (Shove, 2003; Elzen et al., 2004; Tukker et al., 2007). This unit of analysis is important, because mobility (automobile and air transport), food (meat and dairy), and domestic energy consumption (heating/cooling, lighting, washing, showering, appliances) account for 70–80% of lifecycle impacts in industrialized countries (Tukker et al., 2010).

Both socio-technical systems and daily life practices are conceptualized as configurations of heterogeneous elements
(Geels, 2004; Shove et al., 2012). Core elements of socio-technical systems are: technical artefacts, scientific knowledge, industry structures, markets, consumption patterns, infrastructure, policy, and cultural/symbolic meaning (Geels, 2004). In practice theories there is no single agreed typology of elements (compare options in Gram-Hansen, 2011, and Shove et al., 2012), but most scholars suggest that daily life practices consist of some combination of material objects, practical know how, and socially sanctioned objectives or meanings.

The promise for SCP-research is that transitions from current configuration to new ones offer the promise of substantial sustainability gains. Transitions towards new transport, electricity, heat or agro-food systems and practices are more radical than the solutions in the reformist position, but do not necessarily presume the abandonment of capitalism, economic growth or the embrace of frugality. Transitions to new systems and practices will entail new connections between new and existing elements, with the new configuration having more sustainable production and consumption characteristics. These transitions are multi-actor processes that go beyond individual consumers and firms (which are the main actors in the reformist SCP-position) to also include social movements, media, public opinion, advisory bodies, researchers, and special-interest groups. Transitions are not brought about by ‘silver bullets’ or single drivers, but entail (re)alignments between multiple elements and interactions between multiple actors. Major reconfigurations can happen fast when multiple changes happen or align simultaneously, but can also take a long time when elements are changed successively because of innovation cascades and knock-on effects (e.g. new policies leading to new markets, which stimulate diffusion of new technology, which changes cultural discourse and behaviour).

A concrete example in the mobility domain is a transition towards a reconfigured system with the following elements (Banister, 2008; Geels, 2012; Spurling and McMeekin, 2015): (a) cars with alternative power sources (battery-electric vehicles, biofuels, hydrogen fuel cells), (b) new fuel or charging infrastructures, (c) congestion charges in urban settings and tolls for motorways, which would privatize road access, (d) reduced car use, because of high oil prices (e.g. Peak oil), high carbon taxes, congestion charges and parking tariffs, (e) changes in vehicle ownership (as this becomes more expensive) towards car sharing, car-rental and car-pooling schemes, (f) modal shift towards trains, trams, buses and cycling, (g) more developed public transport modes can eventually be linked into integrated transport systems with better modal connections.

5.2. View of consumption and production in exemplary approaches

The two most prominent approaches within the reconfiguration position are the multi-level perspective (MLP) (Rip and Kemp, 1998; Geels, 2002, 2011) and social practice theory (Warde, 2005; Gram-Hansen, 2008; Shove et al., 2012). The MLP and practice theory investigate reconfigurations from different angles, with the former often following the biography of socio-technical innovations moving from production into application domains, and the latter focusing on the dynamics of daily life practices, including the appropriation of new technology.

The MLP and practice theory are intellectual projects in the making. We present them as belonging to a broadly coherent position (reconfiguration), because, despite different substantive orientations, they have several significant similarities. First, units of analysis (socio-technical systems and practices) are conceptualized as heterogeneous configurations with co-evolving elements. Second, agency is seen as structured by routines, rules, habits, conventions (although this assumption is not shared by practice scholars using a flat ontology, e.g. Shove et al., 2012). Third, they address the analytical tension between the reproduction of current systems and normal ways of life (‘stability’) and the emergence of alternatives that can form the seeds for transition (‘change’). Finally, they share a processual orientation (Abbott, 2001), emphasizing co-evolution, social interaction, alignments, and struggles between new and old configurations. Both approaches see the world as dynamic and filled with interacting social groups that have beliefs, interests, strategies and resources, and respond to each other’s moves.

The reconfiguration position is informed by theories that conceptualize consumption as a ‘moment’ in almost any social practice (Warde, 2005). It thus shifts the analytical focus from the purchasing of products and services (which are central tenets of the reformist and revolutionary SCP-positions) towards the accomplishment of daily practices such as showering, driving to work, eating, cooking. The attention for ordinary consumption also shifts the analytical focus from ‘conspicuous consumption’ towards everyday practices (Warde and Sout'herton, 2012). These practices consist of configurations of elements, which are recursively reproduced and adapted through routine performances (McMeekin and Sout’herton, 2012). Stability in practices is seen to arise from the taken-for-granted reproduction of established routines and habits (Warde and Southerton, 2012).

From the viewpoint of the MLP, consumer practices are part of wider socio-technical systems which include all the elements needed to fulfill societal functions such as mobility, thermal comfort and sustenance (Geels, 2004). Socio-technical systems are reproduced by many actors (firms, policymakers, universities, consumers, wider publics), whose actions and beliefs are shaped by existing regimes (semi-coherent regulative, cognitive, and normative rules). Socio-technical systems are hard to change because of various ‘lock-in’ mechanisms, e.g. taken-for-granted rules and institutions, sunk investments, policies that create a non-level playing field, and active resistance by incumbent actors using power and politics to stabilize existing systems (Geels, 2004, 2014).

Reconfiguration at the scale of systems and practices is not easy because existing configurations are characterized by internal coherence (alignment of elements), path dependence and lock-in (Unruh, 2000). Both the MLP and practice theory have developed multi-dimensional understandings of how major change can nevertheless occur. The MLP argues that radical innovations emerge in ‘niches’, which are protected space at the edges or outside of existing arrangements (Kemp et al., 1998). Niche-innovations initially have low price/performance characteristics, may be perceived as ‘weird’ because they deviate from normality, may lack appropriate infrastructures or supply chains, and may experience limited consumer demand or policy support. Niche-innovations also face uphill struggles against existing socio-technical systems and practices, which are stabilized in many ways. Despite these problems, niche-innovations may gradually develop through learning processes (e.g. through local experiments and demonstration projects), expansion of social networks and supporting constituencies, and the articulation of appealing visions and expectations (Kemp et al., 1998; Hoogma et al., 2002).

Although each transition is unique, the MLP argues that a general dynamic is that transitions come about through the interaction between processes at different levels (van Driel and Schot, 2005; Elzen et al., 2004; Geels, 2002, 2012): (a) niche-innovations gradually build up internal momentum (through positive interactions between learning processes,
vision articulation, and social network building), (b) exogenous changes (at the so-called landscape level) create pressures on the regime, and (c) destabilization of the regime (cracks and tensions) creates windows of opportunity for wider diffusion of niche-innovations. The breakthrough of niche-innovations triggers further adjustments in socio-technical systems and practices, e.g. the rise of new firms (and possibly the downfall of established industries), creation of new infrastructures and markets, articulation of new discourses and social practices. The MLP denies simple causality in transitions. Instead of a single 'cause' or driver, there are processes on multiple dimensions and at different levels which link up and reinforce each other ('circular causality'). While empirical studies in the transitions literature often focus on the emergence and diffusion of niche-innovations (probably because of an innovation bias towards novelty), a reconfiguration perspective would pay more attention to adoption and adjustments in existing systems and the (re)alignments between multiple new and old elements that reconfigure system architectures.

To understand changes in everyday practice, scholars have elaborated practice theory by distinguishing various change mechanisms. Warde (2005), for instance, proposes: (a) social differentiation and processes of distinction, in which social groups perform the same practice in different ways thus creating struggles for legitimation that change those practices; (b) multiplication where products move across practices (e.g. entertainment systems entering cars), leading to changes in the form of the practice, (c) diversification, in which a practice such as car-driving for commuting may diversify into off-road driving thus creating demand for new kinds of vehicles such as SUVs, (d) improvisation and innovation by enthusiasts who challenge the orthodoxy of a given practice. Practices may also change because of the incorporation of new technologies (Gram-Hanssen, 2008), which may stimulate practitioners to acquire new skills, develop new meanings, and articulate new kinds of performances. Furthermore, practices have external linkages to other practices (Mylan, 2015), which means that a change in one practice (where people work) can trigger changes in another practice (e.g. mobility). Shove et al. (2012) suggest that the various elements of practices have dynamic trajectories of their own, which through co-evolution and interaction may substantially reconfigure practices. And Southerton et al. (2004) suggest that forms and patterns of consumption may change because of alterations in the modes of provision (e.g. whether goods and services are provisioned through the state, markets, civil society or personal networks). Most of the above change processes tend to be gradual because they entail practical and social learning. But, accumulating over longer periods, they may lead to substantial changes in ways of living.

This is not an exhaustive list of mechanisms that account for changes in practices and sociotechnical systems. Rather, they are presented here as an indicative account of the types of mechanisms studied within the reconfiguration position. The reconfiguration position is intentionally open to the elaboration of further significant mechanisms, some of which may have wider generality, whereas others may be restricted by specificities of historical time, geographical location and the domain of social life in question.

5.3. Underlying theoretical, epistemological and normative orientations

The reconfiguration position, as a project in the making, is open to theoretical elaboration from diverse sources. To date, it has drawn principally on core concepts from evolutionary economics, sociology of technology, and neo-institutional theory for the MLP (Geels, 2004), and on general practice-theoretical approaches in social theory (Bourdieu, Giddens, Schatzki) for the study of consumption (Warde, 2005).

Theories in the reconfiguration position are more processual, often using qualitative, interpretative and comparative methodologies (such as case studies), aimed at uncovering recurring patterns and social mechanisms. Poole et al. (2000) make a useful epistemological distinction between ‘variance theories’, in which generality depends on laws or correlations across contexts (preferably large-N datasets), and ‘process theories’, in which generality depends on versatility of patterns and mechanisms across cases. Process theory is particularly suitable for understanding the temporarily unfolding patterns of social and technological change in systems and practices, deriving from recursive interactions between agency and structure. Because of its interest in patterns and underlying mechanisms, the reconfiguration position also fits well with critical realism.

The reconfiguration approach has had a primary focus on environmental sustainability, assuming that reconfigured transport, energy, agro-food systems may lower environmental pressures. It does not aim to simultaneously solve wider socio-economic problems as such poverty, inequality, problems in democratic accountability, happiness. It does, however, analyze how broader issues (e.g. societal debates, economic crisis, public acceptance) compete or align with the focal environmental issue (e.g. through ‘issue linkage’) and shape particular innovations and practices. It also accepts that ‘green’ innovations or practices should not only be environmentally sustainable, but also economically viable and socially acceptable. So, social, economic, political and cultural issues are analyzed with regard to specific systems rather than with regard to society or economy as a whole.

5.4. Policy implications

The reconfiguration approach takes the view that policymakers cannot steer transitions at will, because these are open, uncertain and contested processes, involving multiple social groups and co-evolving elements of systems and practices, many of which are outside the immediate control of policymakers. The state is not an all-powerful and all-knowing actor, which can steer transitions by pulling levers from an outside ‘cockpit’ (Smith and Stirling, 2007). Rather, policymakers are one social group amongst others, dependent on firms (for knowledge, resources, innovation, jobs, and taxes) and wider publics (for legitimacy and consent). In political science, this awareness has led to a shift in focus from ‘government’ to ‘governance’ (e.g. Rhodes, 1997). Governance means that there is directionality and coordination at the systems level, but that it has an emergent character arising from the interaction between multiple groups and actors. The political science literature further distinguishes three policy paradigms based on different assumptions and intellectual backgrounds (Table 1): the market model (which has clear affinities with the reformist SCP-position), the classic steering model (which appeals to those revolutionary SCP-researchers that privilege decisive policy action), and the network governance model (which suggests that policymakers can modulate interactions between multiple groups).

The reconfiguration position does not privilege a single policy paradigm, but argues that the effectiveness and feasibility of policy instruments depends on contexts and configurations. Since transitions cannot be brought about by a single policy instrument, they require a mix of policies that may have to change over time. Policy instruments from the network governance paradigm are likely to be most important in early phases of system transitions, which are characterized by uncertainty, open-ended learning, and network building. In later phases, when there is more clarity (about technical performance, consumer practices, infrastructure
different academic tradition (with an appreciative qualitative accuracy, specificity. But the MLP and practice theory come from a scope, generality, (2) simplicity, parsimony (Ockham's razor), (3) two of three important criteria for good theory (Weick, 1999): (1) some validity for those academic traditions that emphasis the first produce generalizable parsimonious knowledge. This critique has that the associated conceptual approaches may not be able to reconfiguration position is too differentiated and complex, and psychologists associated with the reformist position, would be that coalition for substantial change, and inspiring visions.

of societal urgency, the availability of feasible solutions, a support can only come about under certain circumstances, e.g. high sense of systemic urgency and provision, policies, cultural meanings, consumer practices). Nevertheless, it remains important to first identify the positions in order to fully explore synergies and address critical tensions within different accounts.

The SCP-agenda has made important contributions and counterpoints to overly optimistic green technology and eco-innovation perspectives. While appealing, SCP is still an ambiguous ‘umbrella’ concept with different meanings and conceptualisations. This ambiguity is also a strength, because the concept’s interpretive flexibility allows different researchers and stakeholders to latch on to it. By grouping together different SCP-approaches in relation to several analytical categories we have identified three ideal-typical positions, each with different characteristics, which are summarized in Table 2. As an analytical exercise it should be clear that empirical, as well as some theoretical, SCP accounts often range across these analytical categories in their exposition, which suggests that potential insights can be gained by examining points of crossover. Nevertheless, it remains important to first identify the positions order to fully explore synergies and address critical tensions within different accounts.

The three ideal typical SCP-positions frame the core SCP-problem differently: (1) the reformist position argues that market failure is the problem, which leads to efforts to correct these, (2) the revolutionary position sees the market itself as the core problem, leading to pleas for abandoning the capitalist logic, (3) the reconfiguration position argues that ‘system failure’ is the core problem, leading to interest in transitions towards new systems. The three SCP-positions also have different foundational views on the interaction between consumption and production (Fig. 1).

5.5. Critical appraisal

The reconfiguration position can be criticized from the perspective of the other two positions. We present these criticisms, but also provide some defence of the reconfiguration position, which we advocate in this paper. The criticisms in this section are about the reconfiguration position, not about the particular approaches, which we will critically revisit in the discussion section. As a first criticism, advocates of the revolutionary position may doubt that system reconfiguration will deliver sufficient sustainability gains at the required speed. They may argue that experimentation in niches and subsequent up-scaling and diffusion is likely to proceed too slowly to prevent further deterioration of global environmental problems like climate change. They may hold that the emphasis in the reconfiguration position on learning, experimentation, stakeholder engagement, network building and legitimacy do not convey enough urgency and need to be replaced by decisive government action and value change that limit consumption and capitalist growth. They may also claim that the MLP and practice theory tend to say more about the ‘process’ of change than about sustainability ‘impact’. As a rejoinder, however, reconfiguration proponents would not necessarily argue against decisive government action or value change, but claim that these can only come about under certain circumstances, e.g. high sense of societal urgency, the availability of feasible solutions, a support coalition for substantial change, and inspiring visions.

A second critique, which could come from economists and psychologists associated with the reformist position, would be that the reconfiguration position is too differentiated and complex, and that the associated conceptual approaches may not be able to produce generalizable parsimonious knowledge. This critique has some validity for those academic traditions that emphasis the first two of three important criteria for good theory (Weick, 1999): (1) scope, generality, (2) simplicity, parsimony (Ockham’s razor), (3) accuracy, specificity. But the MLP and practice theory come from a different academic tradition (with an appreciative qualitative style) that gives more emphasis to accuracy and specificity to accommodate real-world complexities and actor’s experiences. They also emphasize general knowledge, but in the form of recurring patterns and mechanisms rather than in the form of laws or correlations.

6. Conclusions and discussion

The SCP-agenda has made important contributions and counterpoints to overly optimistic green technology and eco-innovation perspectives. While appealing, SCP is still an ambiguous ‘umbrella’ concept with different meanings and conceptualisations. This ambiguity is also a strength, because the concept’s interpretive flexibility allows different researchers and stakeholders to latch on to it. By grouping together different SCP-approaches in relation to several analytical categories we have identified three ideal-typical positions, each with different characteristics, which are summarized in Table 2. As an analytical exercise it should be clear that empirical, as well as some theoretical, SCP accounts often range across these analytical categories in their exposition, which suggests that potential insights can be gained by examining points of crossover. Nevertheless, it remains important to first identify the positions in order to fully explore synergies and address critical tensions within different accounts.

The three ideal typical SCP-positions frame the core SCP-problem differently: (1) the reformist position argues that market failure is the problem, which leads to efforts to correct these, (2) the revolutionary position sees the market itself as the core problem, leading to pleas for abandoning the capitalist logic, (3) the reconfiguration position argues that ‘system failure’ is the core problem, leading to interest in transitions towards new systems. The three SCP-positions also have different foundational views on the interaction between consumption and production (Fig. 1): (1) the reformist position conceptualizes them as separate domains which interact via the market (through transactions, advertising, marketing), (2) the revolutionary position conceptualizes them as separate domains that are linked by a deep structural logic (capitalist mass-production requires consumerism and the continuous generation of material desires), (3) the reconfiguration position conceptualizes them as mutually constitutive and overlapping domains arising from alignments between multiple elements (infrastructures, technical artefacts, modes of production and provision, policies, cultural meanings, consumer practices).

With regard to these SCP-positions, we make a strong plea for the reconfiguration position for four reasons. The first reason is to avoid the dichotomy in much of the current SCP-debate with the reformist position representing the mainstream orthodoxy and the revolutionary position critically responding to it. This dichotomy is intellectually stifling and has politically conservative effects in the
sense that policymakers are likely to opt for the reformist approach if revolution is the only alternative. The second reason is that changes in (transport, energy, agro-food) systems offer more sustainability potential than changes in technologies or behaviour (as in the reformist position) and are more socially and politically feasible than whole-sale changes in societal deep structures (as in the revolutionary position). The third reason is that the reconfiguration position is analytically more flexible and multi-dimensional than the reformist and revolutionary positions which both have more reductionist views on causality (with the reformist position highlighting incentives, prices and information and the revolutionary position highlighting changes in societal values without explaining how these changes take hold at sufficient scale). The fourth reason is that interactions between production and consumption can be more fruitfully studied in the reconfiguration position than in the reformist and revolutionary positions (which treat them as analytically separate domains).

For these four reasons, we contend that the reconfiguration position presents a stronger entry point into analysing SCP than the reformist and revolutionary positions. Various SCP-scholars (Tukker et al., 2008; Lebel and Lorek, 2008; Spaargaren and Cohen, 2009) have recognized this potential, with Tukker et al. (2010: 16) noting: “An interesting development, though, is that changes consistent with many of the recommendations advanced under the rubric of SCP are increasingly being viewed as emblematic of sustainability transitions or system innovations.” Although the SCP-concept has become ‘locked in’, we would, somewhat provocatively, suggest SSP (Sustainable Systems and Practices) as a new conceptual framing in order to highlight the orientation of this new agenda and to move away from the economistic framing that tends to connect consumption with production as matters principally of supply and acquisition.

It will not be easy to bring about sustainable reconfigurations in real-world systems and practices associated with eating, mobility, thermal comfort and electricity production and use, because that will require significant financial and political resources and may challenge vested interests. Bringing about such reconfigurations probably also require a new policy style, which is bold in ambition to rise to the challenge of sustainable development, but is self-consciously experimentalist (to facilitate learning processes) and adaptive in the face of unpredictable dynamics and unintended consequences. Additionally, substantial reconfigurations are likely

![Fig. 1. Schematic representation of production and consumption in the three SCP-positions.](image)

| Scale and type of change | Reformist | Revolution | Reconfiguration |
|-------------------------|-----------|------------|-----------------|
| View of production | Change in technical products and purchase behaviour (encouraging consumers to buy green products through market incentives and information). | Overhaul of economic and socio-cultural deep structures. | Transitions in socio-technical systems and practices. |
| View of consumption | Focus on firms, ‘green’ products, eco-efficient production processes, and ‘greening’ of supply chains. | – Critique of capitalism, growth and GDP obsession. | Focus on firms and industries, technological regimes, routines, capabilities, mindsets. |
| Exemplary approaches | Cleaner production, eco-innovation, environmental supply chain management, green growth, pro-environmental behaviour change (nudge, social marketing, labels, choice architectures). | New economics, de-growth, value changes (frugality, sufficiency, simplicity), lifestyle change (down-shifting), grassroots innovation, deep ecology, small-is-beautiful. | Multi-Level Perspective, social practice theory. |
| Underlying theoretical inspirations | Rational choice theory (economics), behavioural economics, social psychology, industrial ecology. | Treadmill of production (neo-Marxist); critical (social) theory. | Evolutionary economics, sociology of technology, neo-institutional theory, social theory (Bourdieu, Giddens, Schatzki). |
| Policy implications | Adjust prices and incentives (taxes, subsidies), provide information. | Limited concrete policies (but some calls for major policy reform). | Policy mix: gradual shift from network governance (learning, network building) to market-based instruments and regulations. |
| Agency-structure | Emphasis on agency (behaviour and choice), which are influenced by incentives, prices, and information. | Emphasis on deep-structures operating ‘behind the backs’ of individuals. | Process theories with recursive interactions between agency and structure. |
| Static-processual | Static: existing systems and institutions remain (largely) unchanged. | Static: criticisms of deep structures and moralistic or utopian appeals, without addressing pathways of change. | Processual: focus on co-evolution, interaction, alignment, trajectories, event-chains. |

### Table 2
Summary of three ideal-type SCP positions.

| | Reformist | Revolution | Reconfiguration |
|---|-----------|------------|-----------------|
| Scale and type of change | Change in technical products and purchase behaviour (encouraging consumers to buy green products through market incentives and information). | Overhaul of economic and socio-cultural deep structures. | Transitions in socio-technical systems and practices. |
| View of production | Focus on firms, ‘green’ products, eco-efficient production processes, and ‘greening’ of supply chains. | – Critique of capitalism, growth and GDP obsession. | Focus on firms and industries, technological regimes, routines, capabilities, mindsets. |
| View of consumption | – Focus on individual consumers as buyers and shoppers. | – Focus on consumerism and materialism. | Focus on practices and daily life, embedded in routines, habits, rules. |
| Exemplary approaches | Cleaner production, eco-innovation, environmental supply chain management, green growth, pro-environmental behaviour change (nudge, social marketing, labels, choice architectures). | New economics, de-growth, value changes (frugality, sufficiency, simplicity), lifestyle change (down-shifting), grassroots innovation, deep ecology, small-is-beautiful. | Multi-Level Perspective, social practice theory. |
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| Static-processual | Static: existing systems and institutions remain (largely) unchanged. | Static: criticisms of deep structures and moralistic or utopian appeals, without addressing pathways of change. | Processual: focus on co-evolution, interaction, alignment, trajectories, event-chains. |
to require new cultural discourses to provide societal legitimacy for the change processes.

Further development of the reconfiguration position as a research endeavour would also require significant effort, e.g. conceptual innovation and a willingness to ask questions that deviate from the classic problems that typify social-scientific approaches to climate change, e.g. the definition of social problems and the politics associated with discourses, conceptual reflections on the nature-culture divide, raising critical questions about capitalism (Shove, 2010). Reconfiguration research also requires greater inter-disciplinarity, which may face difficulties from discipline-oriented research evaluation exercises and journal publication procedures. And reconfiguration research may require a shift in the unit of analysis, from a disciplinary focus on particular actors (firms, consumers, policymakers) towards multi-actor interactions and field-level analyses.

Although we presented the three positions as analytically distinct, Section 2 already acknowledged the existence of complexities and ‘shades of grey’, with some theories making crossovers between multiple positions (e.g. ecological modernization theory, grassroots innovation theory). Here, we add that real-world instantiations of the three positions can exist simultaneously. In most empirical domains, the reformist position currently seems to be dominated by incumbent firms and mainstream policymakers (focusing on green technologies and ‘behaviour change’ campaigns). The reconfiguration position is sometimes embodied by city authorities (e.g. via on-the-ground efforts to change urban transport systems via a range of measures). The revolutionary position is currently often embodied by NGOs, social movements and radical scientists. More interestingly, real-world instantiations of the three positions may interact dynamically. In particular, revolutionary visions, demands or initiatives may exert pressure on mainstream actors to implement further reform or may make reconfiguration proposals seem respectable (through the so-called ‘radical flank’ effect). So, the three positions are not absolutist categories, but analytical heuristics that aim to make sense of the complex field of SCP research and real-world instantiations.

We would like to end with some critical reflections about the specific conceptual approaches we discussed under the reconfiguration heading (MLP, practice theory). These reflections aim to articulate some directions for future research. The first reflection is that both approaches still focus too much on either the production or consumption side of SCP. The MLP often takes technical innovation as its entry point, which means that the socio in socio-technical transitions tends to be more about the social shaping of innovation than about the dynamics of user practice (this problem is less pertinent for longitudinal studies that follow the biography of innovations from initial development to diffusion, uptake in user practices and societal embedding). Social practice theory as applied to the study of sustainable consumption, on the other hand, focuses mainly on daily life and pays relatively little attention to supply side dynamics (firms, innovation systems, technical capabilities). There is an emerging research stream that aims to go beyond the sometimes antagonistic positioning of both approaches by exploring crossovers (McMeekin and Southerton, 2012; Cohen et al., 2013; Hargreaves et al., 2013). One fruitful topic for future SCP research is to elaborate these crossovers.

A second criticism is that the role of politics and power can be strengthened in both approaches. The MLP has been criticized on this point (Meadowcroft, 2009; Smith and Stirling, 2007), leading to attempts at conceptual elaborations, e.g. a review of various theories of power and their relevance for transitions (Avelino and Rotmans, 2009) or the inclusion of political economy ideas into the MLP (Geels, 2014). In practice theories, politics, power and political economy are, so far, noticeably absent (Warde, 2014).

A third issue relates to styles of theorizing and the accommodation of the multi-dimensionality of SCP. The MLP practices ‘appreciative theorising’ and is a heuristic perspective (or middle range theory). It is a rather open framework, which is happy to accommodate insights from auxiliary theories to address under-developed aspects. Consumption dynamics, which are part of the MLP but have remained under-developed, could be better accommodated in the framework. Practice theory is more self-consciously a theory with a specific theoretical lens (see, for instance, Shove et al., 2012, on flat ontologies). While this style may complicate the adoption of insights from other theories, it may be possible to develop more comprehensive views by extending social practice theory beyond the consumption domain: “Next to the routine consumption practices of everyday life, there are practices implied in the reproduction of markets, politics and civil society as well” (Spaargaren, 2011: 815). Scholars could reflect further on the appropriateness of these theoretical styles for (aspects of) the SCP-agenda.

Fourthly, both approaches can do more to address the directionality of transitions, namely towards sustainability. The MLP often assumes that ‘green’ niche-innovations will lead towards sustainability, but rarely discusses the size or dimensions of sustainability impacts. The relevance of social practice theories for sustainability transitions can also be elaborated, since most empirical studies are about practices developing in unsustainable directions, e.g. more laundry, more showering, more energy for indoor climate control. To address the “S” in SCP, we suggest that it may be fruitful to discuss specific environmental problems (e.g. climate change, declining fish stocks, biodiversity, air pollution, water scarcity) in relation to specific socio-technical systems and related social practices. While the MLP and practice theory already investigate the biographies of innovations and practices, such analyses may be complemented with studies of biographies of environmental problems (Gee and McMeekin, 2011; Geels and Penna, 2015) that investigate how problems are framed, how they rise (or fall) on policy agendas and how they give rise to a societal sense of urgency (or may suffer declining public attention). So, rather than discussing ‘sustainability’ in the abstract, we suggest that each environmental problem and transition will require specific social mobilization processes, framing struggles and political contestations. This way it is possible to analyze competing or aligned social and economic problems (such as safety concerns for automobile or rural development for the agro-food system) in terms of issue-linkages that can dampen or amplify efforts to find solutions for environmental problems.

We hope that these critical reflections on problems stimulate creative contributions to future SCP research. “Problems are more important structurally than solutions, in that they can better muster the energy and interest of a community of intellectuals” (Collins, 1986: 1346). More generally, we hope that scholars will help further advance the reconfiguration position to overcome current dichotomies and develop more substantial, yet politically feasible, responses to the manifold sustainability problems.

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