Editorial

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1 Introduction

The drive for 'behaviour change' dominates public discourse on sustainability. Design is implicated by supplying 'sustainable' products intended to covertly influence users to enact more sustainable behaviours – such as saving water or energy – or by supplying overt 'educational' messages about what people should be doing differently. More often than not, sustainable designs are *unpractised* – emerging from problem contexts where people are conceived primarily as biomechanical entities, albeit desiring ones. From this perspective, the concept of 'behaviour' can be seen as highly individualised and radically disarticulated from the actual contexts of everyday life. Social practice theories challenge the change agency of 'behaviour' by offering a more nuanced picture of what holds everyday practices together. They offer an alternative way of understanding unsustainable practices by demonstrating that 'wants' emerge from social practices, rather than the other way around (Warde, 2005). More broadly, they reframe the scope of design as implicated in the generation and persistence of more sustainable everyday practices, by helping to reveal how design constrains people to continue practicing in certain ways. Social practices are complex rhythmic entities composed of human actors, material infrastructures, and social conventions enmeshed with histories, imaginaries, geographical, cultural and political contexts. Understanding practices as situated and social-material in nature presents a rich field of possibilities for design interventions to support change beyond the supply of products, and prompts a reinterpreting of design beyond reductively technical, 'creationist' or material conceptions (Ingram et al., 2007; Mellick Lopes et al., 2012).

The point of origin of this special issue was a symposium held in November 2012 at Melbourne's Royal Melbourne Institute of Technology (RMIT) entitled 'Beyond

behaviour change', which explored the implications of social practice theory for environmental policy and programs.[1] A special strand of the symposium responded to the interest emerging from the fields of science and technology and material culture studies in the relationship between design and social practice theory. It was clear from the eclectic range of papers gathered in the design strand that 'the role of things in social change' warranted further investigation and exploration. In interdisciplinary enterprises, the identity of each discipline shifts according to the actual contexts within which interdisciplinarity is practised. Design is not reducible to material infrastructure, nor is a practice a social prototype that can be replicated as such. Such re-framings and abbreviations are sometimes a consequence of an interdisciplinary approach. Design is not one thing; nor is social practice theory: through their various meetings and moments of exchange, the possibility of new perspectives and approaches may emerge. We felt that there needed to be a more focused dialogue on the relationships being forged between design and social practice theory, to tease out these nuances and possibilities. In this special issue, we aim to initiate this dialogue through a broad scope of articles that demonstrate how social practice theories are informing design thinking and practice in unique ways attuned to the relational, everyday lives of design. While the articles in this special issue present a diverse range of practical and theoretical propositions, they all share an interest in exploring the influence of social practice theories on sustainable design, and are governed by the promise of a fruitful collaboration.

We proceed from the position that the role of design in transforming social practices can be better understood and supported by research from the social sciences about design in everyday life (Shove et al., 2007). Sustainable design practitioners have followed social practice theory closely for its ability to illuminate the 'everyday' (Clune et al., 2012). The 'everyday' context is where design lives, where consumption happens (Warde, 2005) and where the relationships, dreams, fears and desires of people take shape. Social practice theories demand a closer look at this everyday context as a dynamic site of social and material conditions that are mobilised through embodied patterns of social "performance" [Schatzki, 1996; Reckwitz, (2002a), p.251]. Sustainable designers have also been attracted to social practice theory's affinity with material thinking and practice, as it seems particularly attuned to designs as more-than-symbolic forms of a culture. By observing practices in living contexts, we can see and better understand the contiguous material and immaterial relationships that form between people, practices and things as designs become social and socialised. Artefacts lose their ideal identities as products of individual design disciplines and become inextricably relational; the environments of the everyday are 'configured' by design. Design not only 'steers' (Jelsma, 2003) or 'scripts' (Akrich, 1992; Jelsma, 2003) or 'leverages' (Meadows, 1999) or 'scaffolds' (Sanders, 2006) social practices – all initiating moves – but more fundamentally resources, mediates and structures them.

Our approach challenges some of the defining themes in the background of design: the agency of technological innovation; the role of intentionality in design (i.e., 'fit for purpose'); as well as strategies of 'behavioural change'. By attending to 'the dynamics of social practice' (Shove et al., 2012), a field of investigation is opened for design that goes well beyond the need, long called for by sustainable designers, for "accepting some responsibility for product impacts beyond point-of-purchase" [Lilley, (2009), p.718]. The papers gathered here evidence the scope of this field of investigation, identify challenges, and point to further dialogues that could help mature the transition to more sustaining everyday cultures, thereby building on recent discourse on sustainable design (see for

example, *Journal of Design Research* Special Issue on Design Research for Sustainable Behaviour, 2012, Vol. 10, Nos. 1/2).

2 Social practice theory and design: affiliations and affinities

Reviews of the now significant body of literature that shares an interest in 'practice theory' can be found in Reckwitz (2002a), Shove et al. (2007), Pettersen and Boks (2013), and Warde (2005), amongst others. These scholars analyse practices in order to re-examine and build on sociological theories rooted in the work of Pierre Bourdieu and Anthony Giddens that emphasise social dynamics as either the product of deterministic social structures or due to individual agency configured by an ever-changing interaction between structures and lived practices. This section explains how social practice theory offers design a lens through which to consider its roles in configuring socio-technical interactions and patterns of use, via products, services, messages and information. There is a growing branch of design research that draws from a variety of disciplines and screens literature for potentially relevant design strategies and opportunities [Pettersen and Boks, (2013), p.72]. We will point to the value of this interdisciplinary framework of theories of practice, for shifting the mediating approaches of design toward more relational analyses.

A brief outline of the numerous theoretical lineages that "place the interaction between things and humans at centre stage" [Pettersen and Boks, (2013), p.81], will help to frame affinities with design. Shove et al. (2007, p.3) argue that the antecedents of the sociology of consumption did not place material goods at the centre of social inquiry, and they redress the materialisation of social life in the increasing focus on the ownership and structural order of goods and things in material culture studies, anthropology, sociology and science and technology studies (STS). While trying to be fair to the work of entire disciplines that have often been agenda-setting, they argue that the theoretical concepts routinely deployed in material culture and STS to explain the technical or material stabilisation of domestic routines [such as 'domestication' (Lie and Sorenson, 1996), 'configuration' (Woolgar, 1991)], are largely deployed with reference to specific items and individual users, without due attention to cumulative or collective social dynamics [Shove et al., (2007), p.9]. Shove et al. (2007) emphasise an opportunity for design to consider its role in configuring socio-technical interactions of use practices, via products, messages and information. Inquiries into understanding design's users are far from new and are central to human-centred approaches in product design, computing and interaction design. But the design outcomes are largely artefactual responses to meeting perceived end-user needs. Design has understood its power and knowledge production technically, as inscribed in its instruments and outcomes.

Actor network theory (ANT) understands objects of human design as profoundly relational, therefore non-human entities like technologies are 'actors' that should receive equivalent attention to humans in a social-technical network (Latour, 1999, 2005; Law, 2009). This has specific relevance to design in accounting for the extent and direction of the mediating influences of products and technologies on users, conventions, and actions. For example, Akrich (1992) accounts for the ways in which technologies mediate and prescribe the actions of users in the influential concept of the 'script'. A product carries a script with a configuration of affordances that encourages certain uses and thwarts others,

and human users are capable of de-scripting and re-scripting in varying levels of both resistance and compliance. Jelsma (2003) nuances the concept of a script by calling for the design of technologies that steer users by inscribing things with 'doses of morality' to stimulate sustainable user behaviour on an unconscious level. Pettersen and Boks (2013) identify the potential of the script concept to be expanded with empirical analysis of what people actually do and why (the currently untapped realities of user configurations for re-scripting), for designers to research "knowledge about the world into which the objects will enter" (p.78). An important dimension of the sociological influence is that these deliberations cannot be worked out in advance of the social context, while design has traditionally sought to do just that.

To attend to the dynamics of everyday 'change', Shove et al. (2012) have developed a methodological schema to decipher the configuration of elements of which practices are composed, to implement Reckwitz's (2002a, p.249) proposition that practices comprise interdependent "forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge". The triangulated schema deciphers the elements of *materials*, *competences* and *meanings* as they activate the relational trajectories and distributed agencies of a practitioner/practice (see Glover, 2015, in this issue); in the moment of performing a practice, one simultaneously reproduces the practice in which one engages and the elements of which this doing is made [Shove et al., (2012), pp.22–24]. Often it is necessary to bundle one practice with others, and it is not always clear how one can delineate beginning from end [Pettersen and Boks, (2013), p.81].

Practice theory 'decentres' the actor or technology as the dominant object of inquiry and knowledge in the social sciences. Shove et al. (2012) show how taking the practice of driving rather than the car or the driver as the central unit of inquiry, attunes one to the relational dynamics between the vehicle (along with the road and other traffic), the meaningfulness of driving (or 'passengering') and the know how required to drive (p.31). Accordingly, they argue that novelty can come from any quarter and at any time, instead of being assumed to be an innovation of the actor-driver or in the car's design [Shove et al., (2012), p.31].

In this example, it is *driving* that is designed, rather than merely the object, the car. Driving is the designed (and designing) consequence of various historical, socio-cultural and technical moves. Yet, as Mellick Lopes and Gill (2015) discuss in this special issue, the object-oriented focus and interpretation of design prevails. Undue store is placed on the agency of 'green' things to deliver 'green' practices. Central to opening up inquiries of practices is the opportunity to observe the 'dynamics of appropriation' of things in use giving rise to rich socio-technical systems, routines, conventions and material taxonomies, where the inscriptions of object-oriented designers are counteracted or modified. Further, there are historical and cultural contingencies that shape practice in decisive ways. Ethnographic studies informed by social practice theory and design are uniquely 'decentred' and potentially give rise to novel insights about the complexity of agential elements in practices. Lorber-Kasunic's (2015) study of farming families in the Maranoa in this special issue offers a cogent example of how practices are 'designed' and held together by the weight of intergenerational legacies as much as they are by farming infrastructures and the everyday exercise of skill. As an extension of this subsidiary understanding of design, it follows that if design can lead or contribute to change, it involves a deeper knowledge about the complex elements that hold practices together and

a reconfiguration or even 'curation' of such 'complexes' in the materialisation and resourcing of new practices.

The significance of a uniquely relational conception of design is underscored when we remember that practices are social not specifically because they entail social interactions, but because they are *shared*. "A practice ... is a 'type' of behaving and understanding that appears at different locales and at different points of time and is carried out by different body/minds" [Reckwitz, (2002a), p.250]. Practices are 'socially standardised' ways of understanding and knowing [Reckwitz, (2002b), p.211]. They have a certain social form and what Glover (2015) in this special issue calls *topography*, because they take place within and through the same sorts of configured designed environments.

The broad scope of practice theory's approach to shared practices has been mobilised by Warde (2005) to consider post-acquisition consumption, to call for further attention to 'use' as the generation of wants and competencies in practices, and to extend the corpus of work on consumption. He argues that the analysis of consumption must extend beyond the point-of-retail and acquisition of goods to the appropriative 'moments' of use, and we propose such analysis can reconfigure what Pettersen and Boks (2013, p.72) calls the 'incompatible, patchy understandings of consumption and use' that exist in design. An object-orientated design theory is not sufficiently equipped, according to Pettersen and Boks (2013), nor is the sociology of consumption (Ingram et al., 2007; Shove et al., 2007), to extend the analysis of 'processes of consumption' into the complexes that products enter post-acquisition. Supplementary methods from social practice theory, are more adequate to explain how the nexus of practices mediate the effects of production on consumption, whereby reigning conventions are taken to partly insulate consumers from the influences of producers (Warde, 2005; Pettersen and Boks, 2013).

These theoretical affiliations and affinities present significant implications for design as a research-based practice. Jelsma (2003, p.105), for example, points to the gap between attitudes and behaviours that a cognitive approach brings about and underscores the importance of direct observation, interview and mapping user experience in order to position his moralising technologies as responsive to real user contexts. There is potential for ethnographic inquiries to not only thickly describe 'what is' (Geertz, 1973) but to look for patterns of practice that can inform more adequate and nuanced understandings about unsustainable design and move on from problematically atomised conceptions of use.

3   Design as a research-based practice

Design geared toward supporting more sustainable practices must by necessity draw on a broader horizon of conceptual and methodological influences than has been usual to 'interrogate geographies of the familiar' in new ways (Kaika, 2004). In this special issue, Pink and Leder Mackley (2015) describe the design research disposition thus: "design scholars seek novel paradigms through which to conceptualise the making of change". One of the defining characteristics of the papers gathered together here is the deep interest they share in understanding the social contexts of design, and the methodological inventiveness of their approaches. The emphasis on *making change* is important. As Fam and Mellick Lopes (2015) point out in their article, design research is a modality of

practice-oriented research with an interventionist bent. Design research shares an affinity with action research (Swann, 2002; Clune, 2009), transdisciplinarity (Mitchell et al., 2014) and transition management (TM) (Mellick Lopes et al., 2012), which sets it apart from traditions of scientific research bound to and by the truth claims of empirical evidence. Increasingly methodological inventions, and the shifts in perspective and understanding these afford, are understood as creative output in design – new ways of interrogating, sharing, communicating. In this section, we tease out some of the novel methodological approaches mobilised by the papers in this special issue, as a particular contribution to the promising dialogue.

Glover's (2015) research uses constructivist grounded theory to look at the 'divestment practice' of charitable donation, a potentially important counterforce to wasteful consumption. His on-the-ground investigations prompted a supplementary extension of the constituent elements of practices in Shove and Pantzar's (2010) model of materials, images and skills, to a spectrum of characteristics central to divestment practices, namely topography, trajectory, intensity and form. These characteristics support a more nuanced account of how practices are sustained, and how material elements can function as 'critical nodes' in determining the scope, nature and meaning of a practice. In his article, they help to reveal the location and design of charity bins as critical to the potential of preservation of material value in the practice of donating. The idea that durable material goods are constant or uniform elements in a practice is called into question, and frames an opportunity for targeted design interventions in relation to particular material elements, for example the design of the charity bin is shown to problematically facilitate 'forgetting' vis-à-vis material divestment. As Shove et al. (2012) point out, the identification of 'bad' elements in a practice helps to deflect the emphasis placed on 'bad' behaviours as the source of problems such as wasteful consumption, and as the site of change. Glover goes further to question the role specific elements might play in determining the character of the practice and the possibility of reshaping the practice.

There is a product bias in the design interests of social practice theorists and sociologists of consumption, who routinely invoke handleable objects (hotel keys, taps, mixing bowls, and cameras) as synonymous with design. Images on the other hand are transparent forms of documentation, simply representations of actions rather than acting in their own right. The focus of sociological imagery for example, has been on specific moments of human-technology interaction, or objects that 'describe' an absent user. Lorber-Kasunic's (2015) paper takes the dialogue into new territory with her visual ethnographic study of marginal farming families in the Maranoa. Her detailed black and white images work with the text to become illuminating elements in understanding how the everyday social practices of these farming families are held in place. The images describe multiple temporalities and flows of activity in which human beings are mediators and innovators of practices that extend into the past and into an uncertain future, providing a 'receding vision of pastoral idyll'.[2] The land that both sustains and challenges is a powerful actor in this study. Lorber-Kasunic's focus is the ontological designing of practices, understood as a lived reciprocity between structurally embedded conditions and ways of being. The 'virtuous practices' of these farmers are shown to contribute, in a heartbreakingly unintentional manner, to the ongoing reproduction of 'unsustainment'. This resonates with the misguided efforts of society at large to live a good life. Lorber-Kasunic shows how possibilities for design-led change arise as hard won and worn conceptions of the good life begin to breakdown. The article reflects

underplayed dimensions of the dialogue between social practice theory and design, for example the role of the image in practice-oriented design ethnography, and also shows how the lens of social practice theory magnifies the ontological significance of design. This is an observation touched on by several of the papers gathered in and beyond this special issue (for example, Clune et al., 2012), and invites future dialogue.

Practice theory as Reckwitz (2002a) suggests is not a grand theory, it is not claiming to be 'true'. Rather, it can be taken as a heuristic device, leaning toward speculative enterprises, prompting us to ask what can it help us to do? This potential in social practice theory provides an opening for design improvisations and speculations. It is a particularly important question for sustainable designers, who are acutely aware of the embedded and path dependent nature of design. A new design imaginary that moves out of the technological solution space hitherto informing design is needed. Explorations of this kind have started to take place in the field of HCI where social practice theories are informing design fictions (see for example, *ACM Transactions on Computer-Human Interaction* Special Issue on Practice-oriented Approaches to Sustainable HCI 20[4] 2013). As defined by Wakkary et al. (2013) these are design concepts in the form of narratives or prototypes projected into a future situated action. Wakkary et al. (2013, p.47) explore the potential for everyday DIY and repair practices to inform design fictions that present 'plausible prototypes of a proximate future' for sustainable practices.

Mellick Lopes and Gill in this issue take a conceptual approach to communicating promising social practices, departing from the idea that practices are first and foremost embodied. Certain patterns of bodily action are represented in social practices [Reckwitz, (2002a), p.251]. They therefore suggest that practice-oriented models of the user present promising opportunities for reorienting sustainable design by demonstrating ways of *doing and saying* (Schatzki, 1996) that might take place within a sustainable practice. The article describes conceptions of use at work across industrial design, visual communications and fashion design, and contends that Akrich's (1992) concept of 'scripts', which as Pettersen and Boks (2013, p.98) suggest have not been fully exploited by design researchers as a means for discussing and contextualising interventions, presents new directions for sustainable communication design. The authors argue that a visual language responsive to the insights of social practice theory is yet to be developed. There is potential for the rhetorical strategies of visual communication design to amplify performative techniques of sustainable practice identified through careful observation and diagnostics of design research. More work in this area might prompt more inventive, practice-oriented user representations and dislodge the object-identity of design so prevalent in visual culture.

Pink and Leder Mackley (2015) employ visual-sensory ethnography to explore the situation of co-design processes for the future context of showering. They challenge the appropriateness of the theoretical abstraction of 'practices' in design's engagement with practice theory. Via Ingold and design anthropology, the article develops an understanding of design as foresight to recognise the creative improvisations of people within the ongoing flow of everyday activities of which showering is a part, rather than approaching showering as a discrete unit of practice for starting inquiry and leveraging change. The article shows how nuanced ethnographies of everyday life might offer a viable, alternative platform for investigating design interventions through the 'crafting of continuity' rather than disruption. The authors explore an alternative platform for co-designing more sustainable outcomes by eliciting the improvisatory capacities of

participants. In this they delineate the limits and opportunities of a practice approach for design.

Pettersen and Boks (2013) suggests that in order to get beyond specific situated practices, links need to be made to other actor groups and socio-technical landscapes – therefore 'system innovation theory' is required. They articulate a potential synergy between theories of social practice and transition theory to support social change and argue that bringing these together has "significant implications for the understanding of the potential role of design in changing patterns of consumption" [Pettersen and Boks, (2013), p.98].

In considering how transitions toward more sustainable cultures might be facilitated, emerging theories of TM provides some insight. Large-scale transformations toward sustainability are perceived not only as a process involving technological innovation but also mutually reinforcing institutional, socio-cultural innovation (Geels, 2005). This process of transition is envisaged by TM scholars through a means of 'learning by doing' (Van de Kerkhof and Wieczorek, 2005) with significant importance placed on formulating a space for learning by a range of stakeholders including policy makers, scientists and technologists (Mellick Lopes et al., 2012). What has only recently been discussed in the TM literature is the importance of encouraging learning by users and a consideration of everyday habits of practice (Hargreaves, 2011).

The question debated (Rotmans and Kemp, 2008; Shove and Walker, 2010) has been whether our complex world "... is really capable of deliberately shifting technologies, practices and social arrangements – not to mention their systemic interaction and interdependencies – onto an altogether more sustainable track" [Shove and Walker, (2010), p.763]. Van Assche et al. (2011, p.38) reiterates these concerns in stating that the manner in which "socio-political changes are represented within transition studies, is an often non-reflexive, latent belief in the possibility of steering transitions or 'social engineering'. Transitions are represented as a set of factors or conditions that, if they all work together, will cause a desired change – as if they are the result of more or less mechanical, instrumental processes."

Fam and Mellick Lopes' article is positioned within traditions of interventionist research, and reveals the potential of bringing theories of TM into a dialogue with social practice theory and design. The article explores emergent social practices in a niche experiment trialling a novel system of sanitation facilitating nutrient recovery and reuse, in which design played a decisive role. Using Pantzar and Shove's (2010) 'materials, images and skills' framework, the research attended to the tensions between existing and new toileting practices, by way of tailored forms of data collection which generated a wealth of open commentary about the new technologies in use. By consciously reflecting on the experience in process, participants offered insights into how a radically new technological system imposes on existing practices, but also innovatory ideas on how both the technical and social dimensions of the system, understood as malleable and open in the research context, might be better coordinated. From this commentary, insights about how practices might first take shape were inferred. The project showed how design moves are not encountered as such, but are path dependent, involving a broad scope of actors, structural conditions and conventions. The article details a unique action research methodology that recognises the importance of transdisciplinary configurations for sustainability research, as well as the importance of design across its tacit socio-technical and more explicit symbolic dimensions. This methodology enabled innovation at the

level of collaborative process and for the somewhat unforeseen assets of situated, socio-material learning (as knowledge) to emerge (Gherardi, 2012).

4   Conclusions

While transition studies are concerned with identifying when and how transformations can be "initiated, facilitated and influenced" [Van der Brugge and Van Raak, (2007), p.34], design has sought to inscribe more and more social intelligence into technological systems with the implication that "if we can steer and shape future technological development we may be able to create a more sustainable environment in which to live" [Shove and Walker, (2010), p.272]. However, like TM, design is beginning to understand that sustainability can't be steered into being through upscaled and unconsciously adopted technological innovations any more than it can be better rationalised by way of strategically positioned messages. What we discover in reading these articles is that allied theoretical devices such as social practice theory help to conceptualise the development of a rich field of new possibilities for design interventions to support the transition to more sustainable ways of living. Design has a capacity to engage theory to serve the objectives of 'change making' in Pink and Leder Mackley's (2015) terms. Design research inflected by social practice theory brings a unique material thinking and knowledge, a tendency to notice small material details but also styles and standards of practicing that might be overlooked in more conventional sociological analyses. An obvious benefit is that social practice theory helps to 'demythologise' sustainability by locating it in everyday life: we do not 'save water' or 'mitigate against climate change' in practice – we simply wash or commute or cook. There is also the generative quality of design investigations, a keenness to propose ways forward and to elicit the creativity of others through co-design processes. As the articles in this special issue show, this anticipatory motivation is brought to fruition in innovative and collaborative research practices that question normative conditions and conventional 'ways of doing'. Several lines of future inquiry are proposed to further develop the thought of practice-oriented design in relation to ontological design and TM in particular. It will also be important to codify practice-oriented design methodologies for more 'designerly' replication and sharing. In grappling with new disciplinary configurations, all the papers in this special issue demonstrate a reflective openness to uncertainty and a preparedness to put existing knowledge on the line in order to advance learning on how more sustaining everyday cultures may be ongoingly interrogated, imagined, shared and practised: that is, designed.

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Notes

1　The symposium, held on 12–14 November 2012, was convened by Yolande Strengers, Ralph Horne and Cecily Maller from the Centre for Design at RMIT University and Gay Hawkins, from the Centre for Critical and Cultural Studies at University of Queensland (now at the Institute for Culture and Society, University of Western Sydney).

2　This is the evocative title of Lorber-Kasunic's (2011) doctoral thesis.