Conclusion: Design's Tricky Future...

Lorraine Gamman and Tom Fisher

"the more I think, read, do and see, the more I view design as it is as part of the problem of an unsustainable mode of world-making. For this situation to change, what design is understood to be has to be remade..."

Tony Fry (2016 p.363)

"Or put simply, we need to challenge what design designs..."

Pedro JS Vieira de Oliveira and Luiza Prado de. O Martins, (2018, this volume).

The idea that design needs to *change* following the global financial crisis of 2008 and that market-led design may have had involvement in delivering "an unsustainable mode of world-making" is accepted by all the authors in this book. They have pursued this idea by engaging with the concept of "trickiness", discussing design in the sense of being able to address "awkwardly tricky" or "misleading tricky" things and problems with the ambition of offering an account of one aspect or another of this change. Following Guy Julier's acknowledgement that design's 'variegated practices' mean we must acknowledge that 'no one definition is enough' (2017 p.2), several of the chapters including Srinivas and Staszowski's (on p.x) discuss the fact that definitions of "design" are themselves far too tricky to be expressed in the singular. Moving from definition, to 'reach' – in terms of agency – Jeremy Kidwell (p. x) observes that design discussions should "focus on the need for designers to accept that we design in cooperation with (or in opposition to) other than human agencies". This is an argument supported by Tonkinwise (p.x) and challenged by Dant (p.x). Both authors in different ways engaging with Latour's account that 'design things'- the socio-material entities explored in the introduction - mediate our relation to the world. Put simply, this perspective proposes that design mediates by giving description to the world through applied form that feels like it is reality but which is artificial (Herbert Simon 1968) and constitutes merely a version of the possible.

The essays in this collection therefore unashamedly embrace the complexity of design's mediation and offer no simple focus on the past role of design in making and delivering (inadvertently or otherwise) unethical and unsustainable patterns of life. Nor do they focus on the designer as a negative Trickster or "cunning plotter laying his traps" (Flusser V,1999 p.17) to make huge profits for the few. Instead, in different ways, the authors explore "trickiness" not as deceit and /or deception, but as a critical aspect of the indeterminacy of *things*, as well as a much needed and ethically charged twenty-first century design focus, able to review what Keshavarz discusses as "tricky shape shifting artefacts" (on p.x) and problem contexts.

In trying to find new ways to address "wicked problems" (Rittel & Webber 1973; Buchanan 1992), and to make the case for ethical and decolonised design approaches to social challenges, all the essays attempt to identify why today's design and research landscape, is awkwardly tricky. The essays also explore why design practices that deliver the socially situated actions that are

necessary to 'design things' (Suchman 1987 p.3; Harraway 1988 p.591) require unavoidable ethical or unethical choices, that have political ramifications.

The State We're In

Writing ten years before the financial collapse of 2008, Will Hutton (1998) was one of a number of authors who raised concerns about the spatial distribution of the banking system in global economy. His book described the negative effects that post war experiments in neoliberal economics were having on social cohesion. Clearly capitalism has also had positive effects, its 'creative destruction' (Schumpeter 1942: 82) triggering the biggest and fastest surge in development the world has ever seen since 1750, improving living conditions for the majority in the West. However neoliberal economics has brought many problems, into which design is tightly bound. As Guy Julier has eloquently explained, beginning in the 1980s, neo liberalism has the following features:

"the deregulation of markets and the privileging of market forces; the privatisation of state-owned enterprises; the foregrounding of financial interest over others (commutarian, civic, social, environmental etc.); an emphasis on competitiveness and on individual, entrepreneurial practices." (2013: 217)

Design has had a leading role in neo liberalism, it is entwined with its values and where neo liberalism thrives, so does a design culture that is implicated in the identities neo liberalism makes possible. The design economies of the last forty years of capitalism have helped make the intensification of the free market possible giving credibilty to the the cultural and scientific narratives on which such economics have been built. Design has mainly operated to embody, and to reify, a world view based on competition and individualism, its hegemonic discourses have priveleged profit logic ("I", before "we") obscuring the value of collective action and the advantage of altruism (Wilson and Wilson 2007), and its critical ambitions often amounting only to flirtation with utopian narratives.

Yet since the 1970s this economic mode of organisation and industrial paradigm has started to falter, due to instabilities deriving from movements of global capital relating to industrial production that made it hard for some communities to survive without meaningful work. Nor is it possible to hold on to the dream that the free market can resolve all our complex problems, particularly after the collapse of financial markets in 2008. The exponential development of information technologies in the last twenty years has also impacted on global certainties. These innovations have delivered constant digitally connected communication and shifted numerous boundaries and expectations causing some traditional definitions about how best to do things to blur and blend. As Paul Mason points out, these changes have brought "inequality to a state of that close to 100 years ago and [...] triggered a survival-level event" (2015 p.xii). Neoliberalism has produced a privileged 1% elite, who despite the collapse of financial markets in 2008 have more wealth, and consequently power, than 50% of the rest of the world combined (Hardoon et al, 2016). In 2010 Davies et al. published similar conclusions

having measured the distribution of global household wealth in the year 2000, showing that 10% of adults in the world owned 71% of all household wealth, with massive inter-country differences.

To the extent that design 'is a process of change more than an endpoint' (Julier 2013: 8), it should be no surprise that design is a handmaiden of Neoliberalism. As a practice design has the inherent ability to envision and therefore help to bring about a positive future, conjuring up postive possibilities, different futures. However, this is a very different "brief" than reifying the present, which is what design for the market does. Consumerism has produced a design culture that has helped to transform production into consumption, simultaneously embedding a set of values that have colonised the world. Whilst this has provided physical wellbeing to many in the West, its material dimension is environmentally unsustainable, and its relationship to wealth disparity is socially unsustainable. Consequently, design needs to reinvent itself, and offer new visions that are feasible, rather than utopian. As Tonkinwise points out, understanding design's magical "constructivist powers...can make seemingly impossible things [equitable social change] not just possible, but materialized as what people take for granted".

Yet historically design seems to have imagined itself as a process with no inherent moral character. Tom Fisher takes up this point in detail in Chapter 1, when he reviews design's negative but normalised manifestations as part of the arms industry. Tim Dant's chapter also explores different normalising manifestations of guns and firearms, reinforcing the point that every artificial thing upon which civilisation is built is mediated and produced by human values. The effects of design are everywhere and some of these are decidedly unheroic and tricky, awkward. Whilst design might often pretend to be neutral, there are tricky responsibilities linked to designing things that demand ethical review.

The Trickster v Tricky Design Reasoning (as part of Ethical Design)

The Trickster, might seem an unlikely place to start such an ethical review, given that in the history of different cultures, tricksters play amoral tricks and personify instability as much as positive change. Yet the trickster figure offers powerful metaphors about how change happens. Lewis Hyde (2008) points to the trickster's boundary-crossing and occupation of hybrid cultural spaces, the ones where innovation can occur. The trickster is linked to mischief, transgression, disruption, deception, moral ambiguity, magic and play, drawing on a type of cunning intelligence, both inside and outside of the establishment, to deliver transformation. As Fisher (2012) emphasizes, Tricksters carry 'critical potential' that should not be underestimated. Lucy Kimbell's chapter draws on a similarly ancient concept in her discussion of the Greek concept of *metis*, wisdom, cunning, practical action in the moment, as a quality that can push against 'apparatus' in the Foucauldian sense. She suggests a metic approach to an 'anti-heroic design' that 'has the potential to craftily sidestep, decentre or otherwise manoeuvre'.

While casting the designer as a cunning Trickster may not be an obvious way to rethink what the world needs from designers and design, the tricky potential of design reasoning to ethically make, remake and unmake change, is certainly worth consideration, as it has the ability to impact on all that design

touches. Janet McDonnell defines design reasoning through the words of lan Hacking as 'reasoning that is done in public as well as in private by thinking, also by talking, by arguing and by showing' (Hacking (1992) in McDonnell 2015 p. 108). She also quotes Horst Rittel's (1987) account of the "Reasoning of Designers" a critical aspect of which is the way that by reasoning through making designers are easy with working with states of ambiguity or uncertainty. She points out that because their 'form-giving' operates in this way, designers are also 'highly skilled in reasoning critically and are well placed to challenge societal assumptions' (McDonnell, 2015 p.117). But designers as makers are not always clear about how to best manage the expectations of participating actors, and whilst the ambiguities that arise around this do not constitute duplicity, as Ann Light and Yoko Akama in Chapter 8 remind us, "if we are looking for trickiness, we have found it here".

Being easy with holding competing and paradoxical perspectives as a way to bring about change is neither duplicity nor a lack of leadership, rather as Adam Thorpe argues in Chapter 9, it indicates 'comfort with contradiction and uncertainty, and familiarity with present realities and possible futures held in the same gaze', which 'equips the designer to be able to work together with diverse actors'. These elements of designers' creative skills that inform design expertise feature prominently in accounts of 'design thinking', (Schon 1991: 76-103, Brown 2009), a focus of Kimbell's chapter. She cites Mackay et al's (2014) accounts of organisation studies to describe the 'metis' – the wisdom in practical action – that is behind 'situated resourcefulness in organisational contexts'. Certainly, this requires feeling at ease with working in a state of what Keats called 'negative capability'. In a letter to his brothers of 1817 he talked about how the greatest writers had the ability to accept 'uncertainties, mysteries, doubts, without any irritable reaching after fact and reason'. This tricky ability to absorb contradictory ideas whilst not allowing any discourse to dominate or block creative response, is not duplicity but comfort with ambiguity. Edward de Bono's Lateral Thinking, (1999), Brian Eno and Peter Schmidt's Oblique Strategies (1975), IDEO's Methods Cards (2003) are other creative approaches available to design that embody tricky sideways thinking to both defamiliarise, or 'make strange' reality and potentially to deliver a critical view.

Tricky design approaches oscillate between different modes of operation and can be applied to many matters of concern, in various fields. For Janet McDonnell (2015, p. 112) the 'drawing, thinking and examining.... generating ideas, gathering information modelling and evaluating', involved in designing lead to 'better quality outcomes' that include new design forms and 'things' as social material assemblies (Björgvinsson, Ehn & Hillgren, 2012). The latter in particular can envision futures by materialising how the *probable* can become *possible* and thus help transform systems and people by making change seem *reasonable*. The current need for positive visions of change makes these design skills very relevant now. Herbert Simon (1968) reminds us that such skills, have always been transferrable, and present as many different professions including medicine, law, business apply their thoughts to designed outcomes.

Whilst a focus on such interventions in Simon's 'artificial' is important, it also requires recognition that the designer's actual agency in whatever field is very

limited, and that expectations of competing actors and discourses need to be managed carefully, and ethically, in the design making process to avoid losing trust and to share power. Answering this tricky challenge, designers help to materialise the probable next world, whilst living in this one, which raises a series of paradoxes (Rodgers, Innella & Bremmer 2017), and they need to be transparent in order to avoid being labelled deceitful. An ethical approach is therefore essential to be able deal with the contradictions that are part of the contemporary design landscape. However, such contradiction is the beginning not the end of tricky design because it requires change, implying that the designing subject is de-centred and the objectivity of the 'hero designer' is called into question. Practice is opened up in this way through dialogue, and questioning what design should engage with or address through practice, and who should be included in that process.

Social Design: Collaboration as a Response to Complexity

Concern with design's ethics and activity currently directed at making 'change happen towards collective and social ends, rather than predominantly commercial objectives' (Armstrong et al 2014 p.15) has antecedents that can be traced back to the 1970s. Part of the same strand of critical thinking about the purpose of design that produced the 'First Things First' manifesto covered in the introduction, Victor Papanek introduced Design for the Real World (1971) with the now famous warning there are 'few professions more harmful than industrial design', and suggested designers should address social issues. He was not alone in these thoughts and his recommendation coincided with various design initiatives during the 1970s. While a complete overview is not appropriate here, the Italian radical design efforts from Archizoom, Superstudio and UFO who imagined the changes that information systems could bring to consumer culture and to work and leisure, is a prominent example. The contributions of community architecture and permaculture movements, summarised by Nick Wates & Charles Knevitt (1987), and Scandinavian design engagements with the trade union movements from the 1970s (see Ehn 1992) are also relevant background to design's current preoccupations. Papenek and other designers who shared his views about their time and for the future attempted to transform the market led paradigm by designing against poverty and for need rather than profit. Their perspective was were radically 'user centred', designing for people, even if it has needed more recently emerged participatory and social design initiatives for designers to work with people, as reported in a number of the chapters in this volume.

Social design refuses easy definition, as Armstrong et al (2014) discuss at length, and perhaps because it overlaps with some aspects of 'design activism' (Markusson, 2013) there is little meaningful data about it. In a 2014 paper for Nesta ¹Geoff Mulgan points out that 'there is very little hard evidence on what works'. Over twenty years ago, Nigel Whitely (1993) showed that a social design philosophy existed in some aspects of commercial and public sector operations, as discussed over twenty years ago when reviewing accounts of social responsibility, but not their extent and the real impact of design that seeks to avoid market determination and to change

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¹ Nesta is the UK's National Endowment for Science, Technology and the Arts.

the world remain hard to quantify precisely in terms of actual *effects* on the world. The difficulty of gauging their effect has not stopped design movements emerging over the last 15-20 years around the world (Raimirez 2014) to address a multitude of issues, energy crisis, housing crisis, environmental impacts of product lifecycles, accessibility and inclusivity, challenges in healthcare and education, crime prevention, ageing, marginalized people and communities in the developing world, sustainability, poverty and democracy among them. These approaches have delivered innovative design strategies and numerous toolkits to address social issues, in ways that are highly creative, and potentially useful, but their methodological diversity offers a fragmented overall picture. The definition of their objectives in 'social innovation', 'social entrepreneurship' and 'social design' are also often entangled. Markussen's 2017 paper analyses the aims, methods and effects of these approaches to addressing the wicked problems that are part of today's tricky design landscape.

Whilst there are clearly some shared collaborative and participatory design understandings embedded in competing social design approaches, between them, they have yet to instigate the 'massive change' that Bruce Mau advocates (2004). Within design education the design approaches identified above have changed some of the ways design is taught not least because 'challenge based education programmes' are popular (Mulgan, Townsley & Price 2016). Many design projects that address social issues draw on participatory techniques, as the global DESIS labs demonstrate, in order to promote openness and find new ways to democratize innovation, that are not reliant on market forces (Borgivinsson et al 2012), inspiring young designers to take such ideas into mainstream practice. As can be seen from the entries to the 2017 Beazley Design Awards² at the UK's Design Council, successful design agencies are addressing social issues, some using alternative finance such as crowd funding to get their projects off the ground.

Scaling up such initiatives is problematic, but Manzini (2015 p.11-12) nevertheless suggests design for social innovation is becoming more widespread because people in many parts of the world find themselves in situations where they need to reinvent their lives. This could be due to financial crisis where they need to find a way to live well, if possible, with less income and less consumption, or it could be due to people being displaced. Chen et al (2016) offer a different perspective on why design is embracing social issues. They suggest that the financial crisis of 2008 pushed designers to look for new opportunities from the public and non-governmental sectors because of the shrinkage of design's traditional home in manufacturing. The growth of design education too, may have impacted on the push towards designers engaging with complex social challenges, with education initiatives promoting engagement with social challenges and providing designers with tools to address services and communities. One consequence of this shift is that many designers recognize the ethical challenges ahead and are inspired to design for good, seeking new sectors to engage with, and proactively forging new opportunities to use their training on alternatives to the market led design that they no longer see as ethically valid.

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² https://designmuseum.org/exhibitions/beazley-designs-of-the-year

Design for Democracy: Reframing political issues as design problems

Design understandings, methods and perspectives (Martin & Harington 2012) are multiple; they draw on many possible points of view held by a variety of potential stakeholders/actors. This means that design engagement with social issues inevitably embraces tricky encounters with issues raised by complexity, indeterminacy and democracy. What is most tricky about design's predicament is not just that there are multiple ways address and barriers to resolving social issues, but because the degree to which capitalism is embedded in every type of human meaning linked to self and society, design culture most often does not function to bring about change things but tends to reify prevailing customs. This reification is rearticulated via the 'intimate level' at which design's 'visual, spatial and temporal qualities' engage with economic action (Julier (2017: 21). Neither the process of this engagement nor its ethical consequences are necessarily evident, a fact that aligns with Clive Dilnot's characterisation of ethics as 'a concept does that not contain within itself the operative criteria by which it can become manifest' (2017), so the job of design can be to visualise and make transparent the ethical contradictions at work in the settings that normally determine it.

Designers have easy access to strategies that can be appropriated for social good, involving designers in visualising contradiction, or creating spaces for revealing and challenging power relations. This offers a form of design for what Chantal Mouffe (2000) calls agonistic democracy – a condition of political contestation and dissensus, between different actors and competing discourses, that involves disagreement and confrontation. As Mouffe puts it:

"What is specific and valuable about modern liberal democracy is that, when properly understood, it creates a space in which this confrontation is kept open, power relations are always being put into question and no victory can be final. However, such an 'agonistic' democracy requires accepting that conflict and division are inherent to politics and that there is no place where reconciliation could be definitively achieved as the full actualization of the unity of 'the people'". (Mouffe 2000, p. 15).

This process is not necessarily *ant*agonistic, but intends to engage with poitical debate through diverse struggles over meaning. According to Carl Disalvo 'those who espouse an agonistic approach to democracy encourage contestation and dissensus' (2012 p.4). When design visualises such contradictions, generating alternative ways of living and being, often as part of critical participatory design approaches, it is rarely given significant mainstream attention, unless as part of some profit-led production, for example, a film, a housing development project, product range or brand promotion.

Consequently, as the essay above by Thorpe explains today's designers increasingly draw on participatory or collaborative methods to address wicked challenges, as useful ways to address their complexity and also to encourage participatory democracy. For many designers involving diverse actors in design processes is a way of giving them agency to respond to complex problem contexts and offers a way of empowering them as citizens - the design objective may simply be to make contradictions apparent. This puts 'social' designers and design activists in a tricky position, for engaging with a

design processes may 'reframe' (Dorst 2015) dominant accounts by making diverse voices manifest and so identifying more equitable relationships underlying 'what we want less of and what we want more of'. As Agid points out above, 'shifting the understanding of the problem shifts ideas of who might be best positioned to address or rethink it, and shapes possibilities for imagined futures'. This shifting and re-shaping means that small scale social design and innovation projects are able to rehearse 'large changes' (Manzini E & Rizzo F. 2011). They can offer agonistic approaches through participatory design that accommodates diverse voices and can produce new ways of working via contestation to achieve a participatory democracy.

Reframing political issues as design problems that need to be understood, addressed, or challenged through design activism and participatory engagement, is a radical approach. It may never have been more urgent, given our democratic systems are under threat as Ezio Manzini and Victor Margolin have recently pointed out (see the introduction) (2017). But nor has it ever been trickier to deliver effective design in this way, in highly networked consumer orientated societies. While activists may be able to organize quickly they may not be able easily to prevent the decimation of the public realm, the welfare state (cf Julier 2013, Mulgan 2014, Chen et al, 2016,) or, ultimately, 'spaceship earth' (Buckminster Fuller 1968). Nonetheless, social issues, the multiple causes of which are unfolding in time *are* being raised and addressed by designers. Consequently, signals of concern and ideas about what to do to bring about change emerge from within design education, design activism as well as design theory and practice.

Design as Dialogue

The essays in this collection, in different ways, confront diverse dilemmas and ethical design challenges that require dialogue. By enacting new ways of doing design, design research, and designing new futures, such design projects, offer hope regarding ways of organising ourselves and the public realm, including cooperative, self-managed, non-hierarchal and sustainable approaches. As Tom Fisher observes in Chapter 1, designs construct expectations about the future, 'expectations which themselves have agency'. This is of course, part of the *power* of applied thinking through design and the use of design dialogue in the sort of community engagements, with its consequent political influence, that design can deliver. This applied capacity to dialogue the tricky issues of the day through design visualisation and participatory design workshops, can help us better understand what design can offer and what its future role might be.

As Light and Akama suggest above, in opening up such discussions design is accompanied by an obligation to help to find new ethical ways to 'to devise courses of action aimed at changing existing situations into **preferred** ones' (by the majority), to paraphrase Herbert Simon (1969). But design must seek to facilitate emergent solutions not simply provide them and relinquishing control in this way de-centres the power of the designer as a consequence of building collaboration. This is *design as dialogue*, as process of collaboration rather than the monologue of the perfect/object, system or building.

Whilst the essays in this collection do not address all the political challenges of our times or even the issues different communities are grappling with, the

accounts of (i) *tricky thinging*, (by Dant, Fisher, Kersharvarz, Srinavas, Staszowski and Tonkinwise) the descriptions of (ii) *tricky processes and tricky principles* (by Agid, Akama, Light, Martins and Oliverier) as well as discussion of the (iii) potential of design to help address *tricky policy* issues (by Gamman, Gunasekera and Kidwell, Kimbell and Thorpe) signal new design approaches and agendas. All the chapters therefore engage with the shared understanding that design must address social issues in new ways, with new forms of collaboration, and use its political influence beyond current consumer market profit-led limits to innovate for social change and social good. We locate change as being fashioned within already existing environments rather than being imposed by experts from on high or from outside.

There is no finished object here, instead we want to open up the space between the designer and the designed *for*. Ultimately, we question the function of this space. For that reason, we hope this collection, on many levels, begins to offer accounts of how to reinvent what sort of "world making" design can deliver, as Tony Fry (2016) quoted at the beginning of this chapter, demands. Whilst the essays herein certainly do not conform to the prescriptive requirements of design that Fry promotes in *Design as Politics* (2011) we hope our essays offer a glimpse at what sort of tricky design thinging and reasoning sustainable modes of world making might need to consider. If design has any "gifts to the future" (to paraphrase McDonnell (2015) who paraphrased Tony Fry (2011)) it is to embrace, discuss and understand the ethical complexity all actors need to understand to adequately address the tricky challenges involved in creating the new times to come.

Bibliography:

Armstrong, Leah, Jocelyn Bailey, Guy Julier, Lucy Kimbell (2014) Social Design futures: HEI Research and the AHRC, Brighton: University of Brighton.

Fuller, Buckminister (1968) *Operating Manual for Spaceship Earth*, Baden: Lars Muller Publishers.

Björgvinsson, Erling, Pelle Ehn and Per-Anders Hillgren (2012) "Design Things and Design Thinking: Contemporary ParticipatoryDesign Challenges," *Design Issues* 28, 3: 102.

Buchanan, Richard (1992) 'Wicked Problems in Design Thinking', *Design Issues*, 8, 2, 5–21.

Chen, Dung-Sheng, Lu-Lin Cheng, Caroline Hummels and Ilpo Koskinen (2016) 'Social Design; An introduction', *International Journal of Design* 10, 1: 1-5.

Davies, James, Susanna Sandstrom, Anthony Shorrocks, and Edward Wolff (2009) 'The Global Pattern of Household Wealth', *Journal of International Development*. 21: 223–54.

De Bono, Edward (1990) *Lateral Thinking: creativity step by step*, New York: Harper Perennial.

Dilnot, Clive (2017) "Care" as a problem: How to begin to create, for design, an adequate theory of model of care', proceedings of *Does Design Care...?*, Imagination, Lancaster University, 12 & 13 September.

Dilsavo, Carl (2012) Adversarial Design, Cambridge Mass: MIT Press.

Dorst, Kees (2015) *Frame Innovation: Create New Thinking by Design*, Cambridge Mass: MIT Press.

Ehn, Pelle, Elizabeth Nilsson & Richard Topgaard (2014) *Making Futures – Marginal Notes on Innovation, Design and Democracy*, Cambridge Mass: MIT Press.

Ehn, Pelle (1992) 'Scandanavian Design: on participation and skill, in Paul S. Adler & Terry A Winograd (Eds) *Technology and the Future of Work*, New York: Oxford University Press, pp 96-132.

Eno, Brian and Peter Schmidt (1975) Oblique Strategies, hand produced deck of cards. See website: http://www.rtqe.net/ObliqueStrategies/retrieved 31.10.17.

Fisher, Tom (2012) 'Design as Trickster', *DRS Conference DRS2012*, Chulalongkorn University, Bangkok, Thailand, 1-4 July.

Flusser, Vilem (1999) "About the Word Design", in *The Shape of Things A philosophy of Things*, London: Reaktion Books.

Tony Fry (2016) "Configuring Design as Politics Now" in Penny Sparke and Fiona Fisher (Editors), The Routledge Companion to Design Studies, Routledge, Oxon.

Ton Fry (2011) Design as Politics, Berg, Oxford.

Hardoon, Deborah, Ricardo Fuentes-Nieva & Sophia Ayele (2016) *An Economy For the 1%: How privilege and power in the economy drive extreme inequality and how this can be stopped*, Oxfam International.

IDEO (2003) Method Cards, William Stout Publishers, Richmond, CA.

Julier, Guy (2013) 'From Design Culture to Design Activism', *Design and Culture*, 5, 2:, 215-36.

Julier, Guy (2017) Economies of Design, Sage, London.

Keats, John (1817) 'Letter to George and Tom Keats, December 1817', in Robert Gittings, (ed.) *John Keats Selected* Letters, Oxford: Oxford University Press, pp41-42.

Klein, Naomi (2015) This Changes Everything, Penguin Books.

Lewis Hyde (2008) Trickster Makes This World: How Disruptive Imagination Creates Culture, Canongate Book, Edinburgh, UK.

Manzini, Ezio & Rizzo F. (2011) 'Small projects/Large Changes: Participatory Design as an Open Participated Process', *CoDesign*, 7, 3-4: 199-215.

Manzini, Ezio (2014) 'Making Things Happen; Social Innovation and Design', *Design Issues*, 30, 1: 57-66.

Manzini, Ezio (2015) Design When Everyone Designs: An introduction to Design for Social Innovation, Cambridge, MA: MIT Press.

Markussen, Thomas (2013) 'The Disruptive Aesthtics of Design Activism: Enacting Design between Art and Politics', *Design Issues*, 29, 1: 38-50.

Markussen, Thomas (2017) 'Disentangling 'the social' in social design's engagement with the public realm', CoDesign, 13, 3: 160-174:

Mason, Paul. (2015) Postcapitalism: A Guide to our Future, London, Penguin.

Mau, Bruce (2004) Massive Change: A Manifesto for the Future of Global Design: A Manifesto for the Future Global Design Culture, London: Phaidon.

Martin, Bella & Bruce Hanington (2012) *Universal Methods of Design*, , Beverley MA: Rockport Publishers.

Mulgan, Geoff (2014) 'Design in Public and Social Innovation: what works and what could work better', London: Nesta, available at:

https://www.nesta.org.uk/sites/default/files/design in public and social inno vation.pdf

McDonnell, Janet (2015) 'Gift to the Future: Design Reasoning, Design Research and Critical Design Practitioners' *She Ji, The journal of Design, Economics and innovation*, 1, 2: 107-117.

Mouffe, Chantal (2000) The Democratic Paradox, London: Verso.

Ramierez, Mariano (2011) 'Designing with a social conscience: an emerging area in industrial design education and practice', *International Conference of Engineering Design ICED11*, Technical University of Denmark, 15 - 18 August, 2011.

Papanek, Victor (1971) Design for the Real World, New York, Pantheon Books.

Rittel, Horst, and Melvin Webber (1973) 'Dilemmas in a General Theory of Planning', *Policy Sciences*, 4, 2: 155-169.

Rodgers, Paul, Giovanni Innella & Craig Bremner (2017) 'Paradoxes in Design Thinking', *The Design Journal*, 20, available on line at: http://dx.doi.org/10.1080/14606925.2017.1352941

Simon, Herbert (1996) *The Sciences of the Artificial*, Cambridge Mass: MIT Press.

Schon, Donald (1984) *The Reflective Practitioner – How Professionals Think in Action*, New York: Basic Books.

Schumpeter, Joseph (1975 (1942)) Capitalism, Socialism and Democracy, New York: Harper.

Suchman, Lucy (1987) *Plans and situated actions: the problem of human machine communication*, Cambridge: Cambridge University Press.

Thorpe, Adam & Lorraine Gamman (2013) 'Walking with Park: Exploring the 'reframing' and integration of CPTED principles in neighbourhood regeneration in Seoul, South Korea', *Crime Prevention and Community Safety Journal*.

15/3", p207-223 Palgrave Macmillan.

Wates, Nick & Charles Knevitt (1987) Community Architecture: How People are Creating Their Own Environment, Penguin, London.

Wilson, David S. & Edward O. Wilson (2007) 'Evolution: Survival of the Selfless', *New Scientist*, 31, 10.