

Co-Producing Social Futures Through Design Research

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Contents

Executive Summary

Section One – The Context

- 1.1 The expansion of design and design research
- 1.2 Relevant professional specialisms
- 1.3 Researching social design
- 1.4 Co-producing research

Section Two – The Programme

- 2.1 Summary of the ProtoPublics programme
 - 2.1.2 Aims and approach
 - 2.1.3 Programme design principles
 - 2.1.4 Activities and outputs
 - 2.1.5 Summary of the grant-funded projects
- 2.2 Outcomes
 - 2.2.1 New research capacities
 - 2.2.2 New insights into contemporary life
 - 2.2.3 Concepts for future experiences/devices
 - 2.2.4 New research methods
 - 2.2.5 Research outcomes – in their own words
 - 2.2.6 Ongoing developments
- 2.3 Discussion
 - 2.3.1 Research limitations

Section Three – The Vision

- 3.1 Design research mediates actualities and potentialities
- 3.2 Design research makes issues and publics researchable
- 3.3 Design research sets up ambiguous and agonistic spaces and events
- 3.4 Design research has the potential to improve or innovate
- 3.5 Limitations

Section Four – Recommendations

- 4.1 Further invest in and enable two-stage research
- 4.2 Further invest in cross-disciplinary research
- 4.3 Reconfigure research infrastructures and processes
- 4.4 Recognise and value hybrid outputs
- 4.5 Future funding calls
- 4.6 Template for future funding calls for co-produced design research
- 4.7 Summary of main recommendations

Section Five – Supporting material

- References
- Appendix 1: ProtoPublics grant-funded projects
- Appendix 2: ProtoPublics timeline
- Appendix 3: List of ProtoPublics participants and organisations
- Research team
- Acknowledgements and contact addresses

Participation comes through people having a better sense of the systems that they are involved with. Design has quite a big opportunity to affect that.

Dan Lockton, Helen Hamlyn Research Centre,
Royal College of Art
Video interview, <http://protopublics.org>
13/03/2015

Executive Summary

This report summarises findings and outcomes from a 9-month, AHRC-funded research programme called *Developing Participation in Social Design: Prototyping Projects, Programmes and Policies* (henceforward ProtoPublics) that took place during 2015. A key aim of this report is to clarify how a design-oriented approach complements and is distinct from other kinds of cross-disciplinary, co-produced research in relation to social issues.

The starting point for the research was recognition of the emergence of what is loosely called ‘social’ design. Examples are the application of design methods and expertise within social innovation, public services, policy and healthcare. These fields of practice and emergent disciplines exist within a wider context in which design approaches are increasingly visible and integrated into business (e.g. customer experience design), entrepreneurship (e.g. lean start-up) and technological innovation (e.g. agile product development). Within academic research too, efforts to co-produce knowledge with partners, for example in RCUK funded research, have included design researchers within cross-disciplinary teams.

Developing Participation in Social Design: Prototyping Projects, Programmes and Policies was commissioned by the AHRC as a programme of activities and research between January and November 2015. It was led by Guy Julier and Lucy Kimbell with support from Leah Armstrong. The programme followed directly on from the authors’ report *Social Design Futures: HEI Research and the AHRC* (Armstrong et al 2014). The core aims of the ProtoPublics programme were:

- To build capacity and connections within arts and humanities and wider research communities.
- To try out new ways of undertaking research via design-oriented, cross-disciplinary, co-produced projects.
- To use the understandings and knowledge produced through the ProtoPublics programme to generate recommendations for the research community and beyond for developing co-produced, design research for societal issues.

Drawing on recommendations made in that report and shaped by findings from other RCUK programmes, ProtoPublics was devised as an experimental programme. The researchers undertook 14 video and blog interviews with key academics and practitioners in this field. These were published on the project website (<http://protopublics.org>) to contribute to the building of constituencies around it. A 2-day sprint workshop at Lancaster University in April 2015 brought together 45 academics and practitioners from which 5 projects were selected to be carried out during June-August 2015. The 5 projects that took place within the programme involved 34 people from 14 universities and 4 partner organisations working with 12 collaborating organisations. The researchers undertook several visits and participated with these projects through their duration. They then ran two follow-up workshops with project participants in September and October 2015 to draw out further findings from the process.

The **outcomes** of this programme were:

- New *capacities* (e.g. institutional and inter-personal connections between fields of practice and enquiry);
- *Insights* into areas of social practice (e.g. hitch-hiking or time-banking);
- New *concepts for future experiences* materialised in the form of mock-ups of products or services (e.g. a video describing a service for older people);
- New research *methods* (e.g. a kit to engage workshop participants).

Reflecting across these projects resulted in a clearer articulation of how design-oriented cross-disciplinary research results in co-produced, socially-oriented knowledge that shapes and informs change. Design-oriented research mediates between actualities and potentialities; it makes publics and issues researchable; it sets up ambiguous and agonistic spaces and events; and it highlights differences between improvement and innovation.

To further support the integration of this approach into RCUK programmes, there are three **recommendations**:

1. Enabling a **two-stage research processes**: with an alpha stage during which research designs, issues and publics are materialised, explored and defined via iterative prototyping, followed by a beta stage during which more conventional research processes take place.
2. **Recognising and addressing the barriers** to HEIs and partners in conducting design-led co-produced research by strengthening infrastructures and improving coordination between them.
3. **Recognising and valuing the hybrid and interconnected nature of the outputs** from such projects that engage with different publics.

It is one of the main responsibilities of sociological enquiry, in my view, to study and evaluate emergent future practices and effects of such reconfigurations, to fold insights into design at (ideally) all its locations, and to help put those with an interest in a position to notice, influence and, at least, debate the morality of innovation.

Monika Büscher

Lancaster University, interview, <http://protopublics.org>

25/03/2015

Section One

The Context

Section One reviews the emergence of a specifically ‘social’ design and its interconnections with other kinds of professional design practice and research.

It then outlines the exploration and mapping of social design research and summarises how it has been enabled and supported to date. This is set against the backdrop of other RCUK research involving communities and cross-disciplinary research relating to social issues.

1.1 The expansion of design and design research

Over the past 15 years the field of design has become much more visible within public policy, business and technological contexts. Often tied to narratives about, and hopes for, innovation and democratisation, design is frequently described as being about problem-solving from a human-centred perspective, engaging people in creating new solutions and reducing risk through visualising and prototyping them (e.g. Brown 2008).

As researchers the authors recognise that there are many kinds of design practice existing within different histories and locations – from professional expertise in designing luxury goods for manufacture, to creating video scenarios that speculate on future technologies, to focusing on the experiences of the users and staff of public sector organisations. Importantly, several fields of design *research* originated as applied expertise in professional *practice*, often operating within consultancy models that serviced business. These were tied to industrialisation and commercialisation as well as, more recently, public sector innovation.

We take one definition of design as ‘changing existing situations into preferred ones’ (Simon 1999: 111) but emphasise an orientation to reconfiguring social, material and technological resources. This orientation recognises how design has the potential to reshape people’s needs, capacities and identities through the ongoing improvisations that occur in practice as they engage with the ‘stuff’ of everyday life such as products, digital interfaces and service touchpoints.

In what follows we summarise key variants of contemporary design practice that exist in different contexts and in relation to different kinds of business, policy and societal challenges. Presented in a loosely chronological order, this is a limited account that ignores the complex genealogies through which these various types of design have emerged and the ways by which they co-exist. But it demonstrates the main similarities and differences between distinct kinds of designerly expertise and their relationship to organisational contexts and academic research.

1.2 Relevant professional specialisms

Design thinking. This term became visible over the past decade within management, business and policy contexts, chiefly through its promotion by the global innovation consultancy IDEO (e.g. Brown 2009; Brown 2015), the d-school at Stanford University (e.g. Stanford University 2011) and the Rotman School of Management in Toronto (e.g. Martin 2009). These accounts of design thinking foreground the experiences that people – ‘users’ – have with objects. They propose that the common design activities of visualising and prototyping future objects do not have to be limited to developing physical products but may be extended to services, strategies and policies. However the term ‘design thinking’ also has a history of academic research dating back over four decades. These have developed accounts of designers’ expertise (e.g. Cross 2011) and have been discussed in journals (e.g. *Design Issues* and *Design Studies*) and at academic conferences (e.g. Design Research Society). Although not without their critics (e.g. Nussbaum 2010; Kimbell 2011), these accounts of design thinking have popularised the idea that design is a key capability that organisations should develop and that non-designers can practice.

Participatory design/co-design is a field of design practice and research of which several variants exist. One tradition emerged in Scandinavia with the involvement of workers in software design, for example developing methods to involve people in democratic decision making about future products and services (e.g. Bjögvinsson et al 2012; Simonsen and Robertson 2012). Specialist academic conferences (e.g. Participatory Design Conference) and peer reviewed journals (e.g. *Co-Design*) and strong intersections with social science research mean that this field has an extensive research tradition.

Agile software development emerged over a decade ago emphasizing light documentation, many iterations, cross-disciplinary collaboration, a focus on the context of use and rapid development cycles (e.g. Agile Manifesto 2001; Scrum Alliance 2015). Agile is often set in contrast to the common waterfall process in software development in which research precedes design. Instead, within an agile process, research and design happen concurrently through the repeated cycles of creating and testing provisional solutions with users. The principles associated with agile software are now found in other areas of organisational activity such as product development and project management as well as in education.

Customer experience design. Closely associated with digital innovation, the concept of user or customer experience (e.g. Shedroff 2001) emphasises (1) the need to understand people’s experiences of products and services, and (2) the integration of such research into their design and development. It is closely associated with ethnographic approaches which highlight the customer’s context of use to produce insights shaping design decisions. Ethnographic perspectives are informed by anthropology (e.g. Halse 2008; Denny and Sutherland 2015) and peer-reviewed research including by researchers and

practitioners (e.g. EPIC 2016). But in many organisations quantitative approaches using data analytics/big data also drive and inform customer experience design.

Interaction design. This is a field of practice and research that exists in various forms, broadly concerned with the relationships between people and technologies. Variants include research that combines design-through-making or constructive design research (Koskinen et al 2011) in dialogue with interpretive social research. Other versions highlight uncertainties or concerns about future technological developments (e.g. Dunne and Raby 2015). Specialist conferences and intersections with the field of human-computer interaction drawing on social science research mean that this field often has a strong academic research tradition.

Design for public services. One of the sites in which the field of service design has emerged over the past decade has been public services (e.g. Meroni and Sangiorgi 2011). Examples include applying design expertise to public healthcare services (e.g. Bate and Robert 2008; Rodgers 2015), local government services (e.g. Public Collaboration Lab 2016; Design Council 2016) or government services (e.g. Government Digital Service 2016). Academic research into design for public services is fragmented but includes contributions from design, management and social science traditions.

Design for social innovation. This variant of design practice and research emphasises designers' responsibilities to a broader range of publics than those traditionally associated with industrial and product design. It proposes design expertise as a social resource for enabling local innovation in which designers are enablers of collective cycles of generating and exploring alternative futures (e.g. Jégou and Manzini 2008; Manzini 2015). The international Design for Social Innovation and Sustainability network (DESIS) brings together design schools and university departments actively involved in supporting students and staff to work in relation to sustainable change.

Lean start-up. In a context in which many organisations are prioritising innovation to address complex challenges, one development has been the argument that they should organise themselves to be more like entrepreneurs. Lean start-up is a popular approach increasingly visible in business and public sector contexts (e.g. Ries 2011; Blank et al 2012). The concept of 'lean' comes from the Toyota Production System which is then applied to contexts in which entrepreneurs are developing a new business. Lean start-up emphasises rapid cycles of developing and trying out ideas in order to scale a business, with limited resources. For example as in design, lean startup highlights regular prototyping with customers to develop successful products and services.

Design for policy is an emerging site for the application of design approaches currently being explored in local, central and regional government shaped by distinct local possibilities and accountabilities (e.g. Miller and Rudnick 2013; Bason 2014; Kimbell 2015). Examples are Denmark's MindLab, a cross-ministerial innovation unit set up in 2006; the Policy Lab, an independent organisation working in security and disarmament set up in 2011; and the UK

Policy Lab based in the Cabinet Office working across government departments, set up in 2014. These approaches exist within a context in which a range of emerging techniques, instruments and methods of governance are being deployed in government innovation labs (Williamson 2015).



1.3 Researching social design

Although there is a long history of design practice and research in relation to social issues, it is only in the past few years that design has come into view as offering something distinctive and important in relation to solving public problems. This is sometimes, and uncomfortably, called ‘social design’. Academic research is now emerging in dialogue with the design specialisms mentioned above with a focus on applying design expertise to social and collective issues. Examples of recent activities include:

- **Social Design Talks:** A series of lectures organised by the authors between 2012-14 in collaboration with Policy Connect, University of Brighton and the Victoria and Albert Museum. Web: <http://socialdesigntalks.org>
- **AHRC funded DESIS network:** This network led by University of the Arts London during 2013 brought together people working in UK HEIs using design approaches to shape social innovation. Web: <http://desis-uk.org>
- **AHRC funded Design in Innovation Research Fellowships:** This scheme offered design researchers the chance to work in collaboration with a business or public sector organisation that was interested in putting design principles into practice. Four awards were made in July 2014 resulting in three researchers working in relation to health/ageing and one in policy. Web: <http://www.ahrc.ac.uk/innovation/design-research/>
- **AHRC funded Public Collaboration Lab:** This is a one year project during 2015-16 involving a collaboration between University of the Arts London and London Borough of Camden to apply the capabilities of a design institution to local government challenges. Web: <https://publiccollaborationlab.wordpress.com>

Other research programmes have also emerged where social design has figured, though not centrally nor explicitly. One important example here is the AHRC-led Connected Communities programme. This was designed ‘to help us understand the changing nature of communities in their historical and cultural contexts and the role of communities in sustaining and enhancing our quality of life’ and provide ‘new insights into community and new ways of researching community’ (Facer and Enright 2016). By contrast, though, ProtoPublics and the projects cited above have explored a more explicit role for design research in both understanding and contributing to solutions that result in positive outcomes in relation to societal issues.

1.4 Co-producing research

Social design research has emerged within a broader context in which academic researchers are shifting towards co-producing knowledge in the context of use, working with non-HEI partners, and working in cross-disciplinary teams. This is shaped by developments sometimes called Mode 2 knowledge production (Gibbons et al 1994; Nowotny, Scott and Gibbons 2001). Here, knowledge is:

- 1) Generated in the context of application through collaboration between academia and society.
- 2) Trans-disciplinary, although not necessarily derived from pre-existing disciplines nor does it always contribute to the formation of new disciplines.
- 3) Produced in many different kinds of sites and ways.
- 4) Subject to multiple accountabilities.

Informed by these developments, this report also follows closely on from and is directly compared to two others. These are:

- Facer, Keri and Enright, Bryony (2016) *Creating Living Knowledge: The Connected Communities Programme, community-university relationships and the participatory turn in the production of knowledge*. Bristol: University of Bristol [henceforward: AHRC Connected Communities Report]. This report analysed and reflected on the AHRC Connected Communities programme, 2010-15, that funded over 300 projects, bringing together over 700 academics and over 500 collaborating organisations.
- Campbell, Heather and Vanderhoven, Dave (2016) *Knowledge That Matters: Realising the Potential of Co-Production*. Manchester: N8 Research Partnership [henceforward: ESRC Co-Production Report]. This analysed and reflected on the ESRC Co-Production of Knowledge programme that included 5 pilot projects that were run through 2015 and engaged with multiple, non-HEI collaborators.

A design-oriented approach complements but is also distinct from other kinds of cross-disciplinary, co-produced research in relation to social issues. The next chapter reviews the ProtoPublics research programme to highlight the distinctive qualities that emerged through it.

*There's a world of difference
between consulting with publics
and participation where it is an
active engagement of and with
[them] ... and which has
transformative potential.*

*We need to debunk
consultation. Civic
participation is yet to come.*

Rob Imrie, Goldsmiths, University of London
Video interview, <http://protopublics.org>
24/02/2015

Section Two

The Programme

Section Two reviews the processes, outcomes and principles that are derived from the ProtoPublics programme. It shows what is distinctive about doing co-produced, design-oriented research for societal issues and demonstrates how this was made evident through the programme.

2.1 Summary of the ProtoPublics programme

Developing Participation in Social Design: Prototyping Projects, Programmes and Policies (ProtoPublics) was commissioned by the AHRC as a programme of activities and research between January and November 2015. It was led by Guy Julier and Lucy Kimbell with support from Leah Armstrong.

The programme followed directly on from the authors' report *Social Design Futures: HEI Research and the AHRC* (Armstrong et al 2014). Drawing on recommendations made in that report and shaped by findings from other RCUK programmes, ProtoPublics aimed to support the emergence of new design-oriented, collaborative, cross-disciplinary research to address contemporary societal issues. The five projects that took place within the programme involved 34 people from 14 universities and 4 partner organisations working with 12 collaborating organisations. For the full list of participants involved, see Appendix 3.

Specialisms represented in the project included communication design, interaction design, sustainable design, design for policy, design history, education research, linguistics, mobilities research, participatory design and sociology. Informed by the developments in design research and practice listed above, the starting point was that academic research could and should be more closely intertwined with the design of new products, services, projects and policies to address societal challenges.

2.1.2 Aims and approach

ProtoPublics had three objectives:

- 1) **Capacity building** through developing engagement in arts and humanities research, and with other researchers and stakeholders, to become active participants in crafting new services, experiences, projects and policies;
- 2) **Experimenting** with new ways of undertaking research within design-oriented, cross-disciplinary projects including those that engage with local, regional or national public or community organisations, groups and issues;
- 3) **Producing recommendations** based on the insights and outcomes of ProtoPublics to inform future AHRC and other RCUK strategies, programmes and infrastructures.

To achieve these objectives, the authors staged and prompted a particular way of working. First, we produced a set of video interviews and blog posts with several UK-based academics working in or in relation to design for society.

Second, we set up conditions enabling new design-led research experiments to take place over a short time scale. To do this, with the AHRC we produced an open call to a Sprint Workshop held at Lancaster University in April 2015 to develop cross-disciplinary research project proposals involving at least two HEIs and one partner organisation. Of the eight that applied to the AHRC for funding, five were selected. These five projects ran for a three-month period during the summer of 2015.

Third, we convened a series of reflective workshops and invited blog posts from ProtoPublics-funded project participants to articulate the findings from the research. We then summarised insights and generated the recommendations that are made in this report.

2.1.3 Programme Design Principles

In constructing ProtoPublics the authors embedded the principles defined below in the design of the programme, its modes of engagement and participation, and the activities and outputs. This is a retrospective account of how the authors shaped the programme in close dialogue with the AHRC and other stakeholders.

Principle 1: Enable agile co-produced research

We intended for the ProtoPublics programme to be agile (see Kimbell 2015b) in these ways:

- By requiring participants to work across disciplinary/expertise silos including with at least one non-HEI partner.
- By inviting participants to produce provisional rather than definitive outputs.
- By acknowledging the social, digital and material processes that support and prompt cross-disciplinary and multi-partner collaboration.
- By asking HEIs to respond to a call for proposals within a short time frame, with implications for researchers *and* university back office systems and processes including research approval, ethics approval, finance and accounts.
- By asking the AHRC to minimise, where possible, its own administrative and peer review processes and systems.

Principle 2: Support experimental research

We intended for the ProtoPublics programme to enable and foreground experimental research.

There exist different kinds of experimentality in relation to different contexts and academic fields, supported by different research logics. These are contingent on particular historical resources and institutional arrangements. Within the arts and some other fields, the logic of abduction focuses on the creation of provisional insights, guesses and hypotheses at an early stage of research (e.g. Hansen 2008; Reichertz 2010). For our purposes, an orientation to design foregrounded ‘design experiments (e.g. Binder et al 2009) to generate insights about existing configurations of people and things by materialising and exploring new configurations.

In designing the ProtoPublics research programme, we invited researchers to conduct design experiments that involved:

- Working in teams to prototype new ways of doing research in relation to existing disciplinary norms and assumptions.

- Using an approach that focused on producing insights and concepts in relation to the experiences of people ('end users') as they engage with products, services and policies.

Principle 3: Recognise different kinds of cross-disciplinarity

We intended for the ProtoPublics programme to enable and acknowledge different kinds of cross-disciplinarity.

In constructing the programme, the authors were influenced by the idea that various forms of cross-disciplinarity can co-exist in Mode 2 knowledge production in different ways that are informed by the logics of innovation, accountability and ontology (Barry et al 2008). These are:

- 1) In *service* mode, one discipline or field is in service to another, fulfilling a need or addressing a lack with a hierarchical division of labour.
- 2) In *partner* mode, two or more fields integrate to combine resources resulting in new hybrid forms of research, whose value is assessed according to the criteria of antecedent fields.
- 3) In *antagonistic/agonistic* mode, one discipline's way of approaching problems and solutions calls into question the assumptions, claims and methods of another. Such research springs from a self-conscious dialogue with or criticism of the limits and status of existing fields. Challenges can be antagonistic (in which the tensions are not productive) or agonistic (in which the tensions are productive).

Applying this principle to the design of the programme resulted in our recognising that

- All three modes might exist within the programme or within in one project
- The practices of institutions, disciplines or research groups might favour one or more of these modes.

Principle 4: Prototype the research programme

We intended for the ProtoPublics programme to be a prototype for how to do design-oriented, cross-disciplinary research.

Prototypes are proposals for future 'things-that-are-not-quite-objects-yet' (Corsin Jiménez 2013: 383). They draw together existing resources and knowledge to propose future possibilities. They are therefore constitutive of both actual and potential circumstances. Through prototyping, insights into what might be possible in the future emerge in relation to new configurations of resources, people and organisations. Such insights and concepts are provisional until they are confirmed or displaced as iterative prototyping continues. Sanders and Stappers (2014: 11) define prototyping as an activity that falls in the 'evaluative' phase of a design process, and can be used either for 'designing with' or 'designing for' people.

We built the concept of prototyping into the programme in two ways:

- By thinking of ProtoPublics itself as a prototype for organising a research programme which would generate insights into doing research and the implications for HEIs and partners.
- By recognising that the projects would be constituted by the on-going reconfiguring in practice of expertise, resources, objects and individual and institutional capacities.

Summary of ProtoPublics Principles

Principle 1: Enable agile co-produced research

Principle 2: Support experimental research

Principle 3: Recognise different kinds of cross-disciplinarity

Principle 4: Prototype the research programme

2.1.4 Activities and Outputs

Informed by these four principles, in the design of the programme the authors aimed to create the conditions for research that would produce high quality outcomes through the practical interfacing of kinds of expertise in relation to non-HEI partners and publics and their contexts and challenges. The programme's main activities and outputs were:

- ProtoPublics website/blog with 12 video interviews, short articles, resources and summaries of the five funded projects.
- Two-day sprint workshop (sandpit) event attended by 45 people from HEIs, independent artists/researchers, community and voluntary groups.
- Five new cross-disciplinary projects, each involving a community or public sector partner oriented towards societal issues awarded up to £15,000 each (Full Economic Costing). Each project produced a range of outputs such as reports, design artefacts, presentations, workshops, blog posts and videos.
- Two-hour presentation/workshop at AHRC Design Research Symposium attended by 18 people.
- Workshop event for award-holders attended by 12 participants in the projects and one guest academic.



Participants at ProtoPublics Two-Day Sprint Workshop, Imagination, Lancaster University, April 2015

2.1.5 Summary of the Grant-funded Projects

The five design-oriented, cross-disciplinary, co-produced projects that received funding through ProtoPublics took place between June and October 2015 (see details in Appendix 1).

- **Creative Temporal Costings.** Researchers from Northumbria University (communication design), University of Warwick (sociology), University of Dundee (interaction design) and Royal College of Art (design history) worked with the Leeds Creative Time Bank to explore creative collaboration and exchange.
- **Design Research Get Lost.** Researchers from Manchester Metropolitan University (education research), University of Sussex (community innovation studies), Nottingham Trent University (sustainable design) and Lancaster University (linguistics) collaborated with two groups of young people (Manchester CoderDojo and the Woodcraft Folk) to explore the extent to which young people could engage in self-organising activities in relation to a design challenge.
- **Dewey Organ.** Researchers from Goldsmiths, University of London (sociology; design research; interaction design research) and University of Dundee (design research) experimented with ways of making, materialising and performing publics and issues.
- **ProtoPolicy.** Researchers from Lancaster University (interaction design), University of Brighton (design for policy), Falmouth University (design; craft) and Cardiff Metropolitan University (design research) collaborated with think tank Policy Connect to explore how by materialising design fictions might change policy discussions about ageing and end of life care.
- **Rules of Thumb.** Researchers from University of Brighton (design research; mobilities research), University of Lancaster (ethnography, mobilities research), University of Edinburgh (design informatics) and Open University (participatory design) worked with the Glass-House Community Led Design to explore the rules of hitch-hiking and whether these might apply to other social contexts, in particular with a number of housing co-ops.

2.2 Outcomes

This sub-section presents the main results of the ProtoPublics programme and its five individual projects.

2.2.1 New research capacities

The projects generated new connections between participants and between research and community resources and capacities. In these, new capacities amongst participants were also produced.

- **Deepening connections between design research and the social sciences.** Recent years have seen strengthening of the intersections between design and the social sciences in particular within computer systems and participatory design research (e.g. Binder et al 2011; Suchman 2011; Simonsen et al 2010), science and technology studies (e.g. Shove et al 2012; Michael 2012; Farías and Wilkie 2015), mobilities (e.g. Spinney et al 2015), urban studies (e.g. Knox 2010) and social innovation (e.g. Björgvinsson et al 2012). The ProtoPublics programme brought into relation researchers working at these intersections with others less familiar with these developments. For example, the programme blog and several of the five projects staged and enabled new cross-disciplinary encounters.
- **Clarification of the importance of embodied making in building trust between collaborators.** All five projects emphasised the collaborative ‘doing’ and ‘making’ of the research, achieving this in different ways within short time frames. As one researcher put it, ‘In previous projects I’ve taken trust for granted. In this one we didn’t know each other and we had to create that trust in a very short time frame.’ Embodied work in workshops such as visualising concepts, crafting material mock-ups or representing issues enabled people from different backgrounds and with different capacities, many of whom previously did not know each other, to share information and perspectives, generate ideas and engage in sense-making together. For example, using the hitching kit in the Rules of Thumb project workshop enabled people from housing co-ops, who had not come together before, to share and develop new perspectives about housing.
- **Enhanced understanding of how prototyping enables discussion of and responses to complex social issues.** Used in different ways in the five projects, prototyping allowed for open exploration of materialised concepts and social interactions that remained provisional. As people engaged with and discussed mock-ups and visualisations, this revealed some of the implications of future proposals. It produced insights into the current situation and/or the past. Prototyping enabled participants in workshops to remain in a state of uncertainty about purposes and outcomes. For example, the video scenarios that

proposed a future service for older people in the ProtoPolicy project enabled people who watched them to share perspectives about contested and ethically complex aspects of end of life care without having to respond definitively. As one researcher put it, ‘The word prototype gives you the idea that you are activating something – it’s live ...but non-committal.’

- **Challenges to institutional ways of working.** While researchers (and their research offices and other staff) were willing to prompt their institutions to try to enable the experimental approach enacted in the project, they found disconnects between this intention and their organisational processes. For example, the small financial scale of the project grants did not reduce the effort required to secure the £15,000 FEC available. One experienced researcher commented, ‘Being PI on this £15k project was as much work institutionally as another one for £1 million.’ In short, being agile required institutions to be agile too. Another researcher observed that, ‘Even if we were operating in an agile way, the institution wasn’t. And this was multiplied by the number of institutions.’ During discussion at the end of the programme, researchers voiced concerns about how much ‘extra’ they had done in order to make their individual projects work. While they were willing to invest additional resources themselves in order to achieve a project, several were wary about the implications for research funding. One said, ‘We produced a huge amount of activities and research in relation to the funding received, but we don’t want that to become the new normal.’ In the context of time-pressure, the Design Research Get Lost project devised a way of incorporating ethical approval within the project process itself. The PI built ethical approval into the project by making one of the rules of the project’s ‘challenge’ that the young person’s parent would have to approve of the activity that would be planned. Thus informed parental/guardian consent became incorporated in a way to reassure the University’s Ethics Committee.
- **A wide range of interconnected material and digital outputs.** Although all the projects involved design researchers, they came from different specialist fields informed by distinct traditions. Outputs across the five projects included digital/physical mockups of future products, videos, written and illustrated reports, blog posts, tweets, workshops, events and talks. However, although ProtoPublics foregrounded design, for some of the cross-disciplinary research teams, producing a write-up was essential to conclude the project and formalise it as ‘research’. One commented, ‘I can only do my research if I give people something that looks like research to them – like a report.’

2.2.2 New insights into contemporary life

The projects produced insights by combining methodologies and methods from different disciplines in design, the humanities and the social sciences with a particular focus on how people experience products, services and issues. For example:

- **Creative Temporal Costings** showed that collaboration in and through the Leeds Creative Timebank involved multiple kinds of value and practices of valuing and accounting-for.
- **Design Research Get Lost** produced insights into what was required in order for two groups of young people (aged 10-13) who previously had not organised activities in order to respond collaboratively to a challenge, with an associated budget which they had to decide how to spend.
- **ProtoPolicy** generated insights into older people's perspectives on and feelings about end of life care including some of them developing a concept for a euthanasia wearable that the research team then went on to develop and mock up as a design fiction.
- **Rules of Thumb** produced an understanding of hitchhiking practices and summarised the 'rules' through which it practiced that was materialised as a hitching kit.

2.2.3 Concepts for future experiences/devices

The projects synthesised concepts for future experiences by realising them in material and digital form. They also gave stakeholders opportunities to engage and make sense of them. By using the word ‘concept’ we highlight how constructive design research produces ideas for future products, services, systems, processes and policies that will shape people’s usages, experiences and identities and which may co-constitute future social practices. In contrast to some concepts produced in social science and humanities research (e.g. ‘social capital’ or ‘assemblage’), such research produces concepts that are irreducible to and inseparable from their material and digital form and the contexts in which people engage with them. For example:

- **Design Research Get Lost** resulted in a design and plan by young people from two distinct cultures/groups for an event/process aimed at other young people which combined playing a game and giving things away. The event was realised in a community centre garden using an app as well as turning a shed into a community book zone and café.
- **Dewey Organ** produced a new physical/digital device/installation for materialising problems by enabling people in a public setting such as an event to give form to their matters of concern and to situate individual issues within a dynamic, materialised public that can be reshaped and interrupted.
- **ProtoPolicy** crafted physical/digital artefacts connected with fictional future services for end of life care. These were informed by discussion and ideas with older people with the intention of enabling a different kind of conversation with stakeholders about ageing policy. The resulting artefacts included: (1) a euthanasia wearable realised through a physical/digital mock up, video and marketing materials, and (2) a smart object therapist, realised an explanatory video, job description, therapist intervention report and user guidance.

2.2.4 New research methods

The projects generated methods that foregrounded the material and generative activities through which academic researchers engage with publics/co-researchers.

- **Creative Temporal Costings** showed that the Leeds Creative Timebank itself could become a medium for doing situated research about collaborative exchange, rather than predominantly an infrastructure to facilitate collaborative exchange.
- **Design Research Get Lost** configured spaces/processes for two groups of participants who did not know each other to engage. This was explored through a hands-off approach in which the researchers stepped back from their usual way of working and engaged in open-ended dialogues with young people.
- **Rules of Thumb** discovered the value of taking an analysis of one social practice (in this case hitch-hiking) and inserting it into another domain (in this case housing co-operatives). This took the form of a material/visual kit that enabled participants in the second social world to reflect on and analyse how it operates and discuss the challenges they were facing. As the research team put it on the programme blog, ‘The ‘sprint’ experiment therefore seemed to suggest that there is a definite space for exploring how high-level abstract concepts could be interpreted and explored within specific contexts and transposed into new domains as experiments in future making.’

Thus far the emphasis has been on discussing outcomes that are likely to be of more interest to researchers, funders and commissioners of research, rather than people in partner organisations. We note that with the resources and time frames available in this programme, we did not anticipate significant impacts on partner organisations except where there were strong existing links and/or ‘practitioners’ with extensive experience of, and openness to, collaborating with design researchers such as at the Leeds Creative Timebank and Policy Connect.

2.2.5 Research outcomes – in their own words

We asked each Principal Investigator (PI) to summarise the research outcomes of their project in their own words, allowing for different voices and perspectives to be included in this report.

Creative Temporal Costings

Exposure to the messiness of participatory and co-design methods...

The project involved a the huge amount of practical organisation, involving finding suitable and affordable venues, and ways of paying for resources through what can be very bureaucratic institutional processes (e.g. raising umpteen purchase orders etc.), booking trains and equipment etc. It's fair to say that we would, on the whole, have preferred to have been much more imaginative and exploratory about how the material output - the two publications - worked together conceptually, in terms of design and division of labour. The publications do however represent the huge amount of time and effort that we invested, and begin to capture and even unpick some of the research questions we had posed on time, value, collaborative exchange and cross-sectoral research.



The less tangible outcomes would require a more thorough evaluation - on a practical level Creative Temporal Costings generated interesting insights on timebanking as a constituent part of alternative and parallel economies. Other academic researchers and the Leeds Creative Timebank (some of whom were working in higher education) were, perhaps, exposed to some of the messiness of participatory and co-design methods and wider research, through the two events: a participatory design workshop and a seminar-type mini-art conference with invited guests.

Jo Briggs, University of Northumbria

Design Research Get Lost

Moving beyond contrived participation
produces new capabilities...

The project team aimed at redressing young people's contrived participation in research projects. In response, the project brought young people together to self-organise the project according to a series of rules (e.g. you have £3,000) and a deadline. Thus the young people were provided with the space to self-organise anything they wanted, and to succeed or fail in doing so. The fixity of the process proved effective in protecting the young people's agency to self-organise, enabling them to demonstrate considerable care and skill in working together but they struggled to self-organise the planned project within the time constraints of the small-scale project.



When the deadline passed and the project should have concluded the young people and their obvious striving to achieve something remained and thus the underlying relationships and dispositions of respect, obligation and care between the young people and the research team also remained. We found the notions of becoming and becoming-with instructive in orientating the interactions between adult researchers and young people focused on learning and moving towards a newer mode of existence in the pursuit of engaging in new and interesting activities, advancing what each and the group collectively were capable of doing and being.

James Duggan, Manchester Metropolitan University

Dewey Organ

Materialisation and physical engagement with ideas presents them differently in ways that raise questions as to the thresholds of agency...

The Dewey Organ was a co-design experiment to prototype ways of problem and public making. It featured three main events: first, a co-hacking maker workshop in collaboration with the Civic Workshop and Makerversity in London, which was attended by designers, event organisers, researchers, architects, sewers and coders. The aim was two-fold: to discuss social issues that the project might draw upon and to materially think through what kinds of machines might be possible. Second, drawing on these ideas a 'Problem and Public Making



Machine' was built in collaboration between Goldsmiths, Duncan of Jordanstone College of Art and Design and the Civic Workshop. Third, the Organ was 'played' over a three-day event at the Imagination Festival in Glasgow. Participants were invited to materialise an issue/problem by writing

it on a hashtag and feeding it into the machine, which also tweeted them. Over the course of the event, a digital/physical body of issues emerged that catalysed many discussions about what was considered important by these people, at this event, at this time.

Over the course of different events the Dewey Organ generated many discussions about issues and problems. When you have to make and/or physically engage with ideas you start to see and entangle with them differently. The project raised questions such as where/what are thresholds for agency? At what point do we start to see different problems and change our behaviour? Another key idea related to the classic blackboxing of technology - how do we get to see into the machinations of ideas and we trace the processes of ideas through systems? There were also related discussions about scalability and the nature of evidence - what counts and why? The project also brought to light ideas around the nature of labour - how much work is involved in making problems and publics and who does it? We were ambitious in what we thought was possible to achieve in a short time and the machine itself, in its cumbersome material form, was challenging to make and move. In this way we discovered in rich physical detail many ways in which making problems is problematic! Overall, the project in its different machinations produced valuable landscapes for thinking about the analytics built in problem-making methods and the materialisation of ideas, voices and agency.

Kat Jungnickel, Goldsmiths, University of London

Rules of Thumb

Contextual transposition allows high-level abstract concepts to be interpreted and explored within specific settings...

The chief planned outcome of this project was a two day workshop that was held at the University of Brighton in July 2015. There, members of housing co-operatives or co-housing schemes came together to test the materials produced in the research. There were nine people from five different organisations: Brandrams Wharf, London Community, Sandford's, Rosa Bridge Housing Co-op and Sussex Co-Housing. The team also produced a peer reviewed paper for the 50th Conference of the Design Research Society (June 2016), entitled: 'Rules of Thumb: An Experiment in Cultural Transposition'. This was published as conference proceedings.

That the 'contextual transposition' of the knowledge implicit in the practice of hitchhiking into the field of social living through co-operative housing could, at the very least, be seen to function to produce new insights into the nature of the latter was seen as significant. This is because it reveals the nature of contextual transposition as a process that is distinct from the use of analogies or metaphors in such interventions. That the participants reacted to the specificity of the hitching situation may also suggest that they engaged with the intrinsic aspects and imperatives of hitchhiking rather than a collection of abstract concepts such as reciprocity, risk or time. In this way this 'sprint' experiment thus suggests that further fruitful study may be made of the way in which high-level abstract concepts may be interpreted and explored within specific contexts and then transposed into new domains as an inventive method for future making.

Damon Taylor,
University of
Brighton

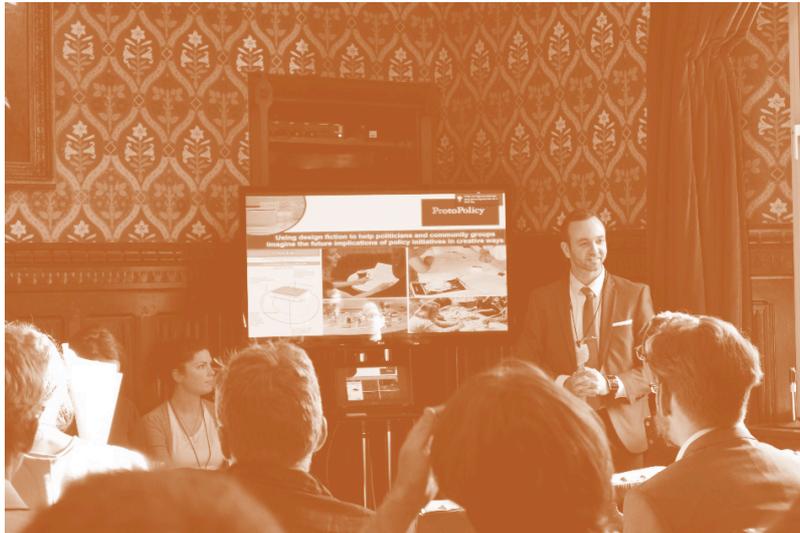


ProtoPolicy

Design methods contribute to shorter decision-making cycles through rapid problem-definition, co-development and prototyping of solutions...

The research team ran a series of creative workshops with older people to respond to the 'Ageing in Place' policy agenda by co-creating future design fictions that envisage what a future of 'flexible living' – a space that has the benefits of independent living without the downsides of loneliness and vulnerability – might look like. Through this engagement, the design team created two design fictions with older people and community groups. The design fictions were shared with civil servants and one MP at an event hosted in Westminster by the All-Party Parliamentary Design and Innovation Group (APDIG) as well as through telephone interviews.

Through additional advocacy and research, the ProtoPolicy team sought to demonstrate that design methods, particularly design fictions, could contribute to a shorter decision-making cycles through rapid problem definition, co-developing solutions with citizens, rapid prototyping and refining concepts before full-scale deployment.



Emanuel Tseklevs,
Lancaster University

2.2.6 Ongoing developments

The authors recognise that the short duration and small-scale investment in the ProtoPublics funded projects did not allow for longer-term development and exploration of outcomes. However, the projects have led to a number of other possibilities that have unfolded since the end of 2015, including:

- **Design Research Get Lost** has fed into an AHRC-funded project: An Enquiry into the Practice of Community Philosophy through the Lens of Democracy and Community.
- The researchers in the **ProtoPolicy** project were awarded a £5,000 Knowledge and Impact Grant from the Faculty of Arts and Social Sciences at Lancaster University to continue its work as a direct result of the project. The follow on project, called WhatIf (Jan – July 2016), further explores the use of design fictions as a tool to facilitate political questioning and conversation between diverse community groups.
- **Rules of Thumb** has maintained its relationships between the HEI researchers Brandrams Wharf Housing Co-op, London Community Housing Co-op, Sandford's Housing Co-op, Rosa Bridge Housing Co-op and Sussex Co-Housing with a view to exploring future collaborations.

2.3 Discussion

Returning now to the objectives of the programme and the principles that shaped its design, in what follows we make observations about this research and its outcomes. Overall the programme achieved its aims of building capacity by enabling new connections between researchers and disciplines, enabling open-ended experimentation and contributing to better understanding of the outcomes that result from design researchers in HEIs collaborating with researchers from other disciplines and with partners in relation to social challenges. The projects demonstrated that design approaches add something distinctive within cross-disciplinary, co-produced research.

- In design experimentation, researchers to some extent improvise as they go along and are comfortable with ambiguity about purposes, methods and outcomes.
- The design approach enabled teams and projects to gel and move forward when they made physical/digital things.
- The speed/brevity/size of the projects allowed people to try things out that were low risk in terms of reputation but still involved significant personal and institutional effort.
- Some of the social scientists got deeply engaged in the projects they were involved in. Some were able to step away from a stance of ‘this is how to do it’ towards ‘let’s do something unknown to all of us’.
- Design research can produce hybrid outcomes that may vary widely in their registers, locations and audiences.
- Outputs may sometimes be in tension with each other, and don’t necessarily represent a consensual, coherent whole. For example the Creative Temporal Costings project produced two reports aimed at different publics.
- Some outcomes may be embodied, tacit or collectively expressed and, yet, individually unknown.
- The job of Principal and Co Investigators may be to synthesize this hybridity and make sense of these differences and unknowns; but this may not be fully achievable.

These research experiments showed that small-scale projects of short duration could produce outcomes of value to researchers and to partners. But an enduring problem in design research, that is also true in its intersections with cross-disciplinary, co-produced projects, is how poorly articulated and understood it remains from the perspectives of people who are not already familiar with it.

2.3.1 Research limitations

As ProtoPublics was a small-scale programme with five short sub-projects, it is not necessarily generalisable. As the timeline in Appendix 2 shows, the five funded projects within the programme, most of which ran for just three months, were preceded and followed by discussions and workshops with a broader group of participants in the programme. The authors and the third researcher visited all the projects at key moments. However we were not able to participate in all the project workshops, events or meetings or engage with all of the detail of each project. Data gathered through such participation was triangulated against discussion with participants and in relation to their reflections captured on the programme blogs and on Twitter.

In design research, the project as a frame is outdated. The project is too short-term. There is always something that needs to go on after the project. And that could be just as important as what goes on within the frame of the project.

The project presupposes that you know who the stakeholders are and, maybe also, what the stakes are.

Pelle Ehn, Research Lab for Collaborative Media, Design,
and Public Engagement, Malmö University
Video interview, <http://protopublics.org>
03/02/2015

Section Three

The Vision

Section Three articulates a vision for design-oriented, cross-disciplinary research addressing societal issues that co-produces new insights, concepts for future experiences and new methods and reconfigures connections and resources between participants.

3.1 Design research mediates actualities and potentialities

The ProtoPublics programme enabled participants to resource particular ways of doing open-ended, cross-disciplinary research with a strong design orientation. But as we have argued, what actually comes with ‘design research’ is poorly understood by people who are new to it.

Central to the practices of *designing* is the generation and exploration of futures. This makes it distinct from *researching* which is in essence about understanding the past or the present but which may be used to inform decision making about the future¹.

Design research, in both its academic and practitioner variants, is concerned with the mediations between how things are now and how they could be. Scholars in many fields emphasise that the transitions from knowledge now to a change in the future is far from linear, far from smooth and often does not result in the intended outcomes. For example the field of design studies has produced insights on how professional designers mediate these transitions, drawing on philosophy, cognitive science, sociology and the humanities (e.g. Cross 2011; Binder et al 2011; Dorst 2014; Gaver et al 2015).

Some researchers have turned to science and technology studies to describe what happens in the mediations between current situations and future ones. For example in his discussion of studios, Michael (2015) uses the philosopher Whitehead’s (1929) process philosophy to highlight how studio practices associated with design, the arts and other forms of cultural production produce material proposals for how things could be *that are at the same time* events that bring entities into relation with one another. Michael argues that a device produced by architects in a studio such as the maquette (a visual model of a proposed design) ‘encompasses the not-as-yet, while also being rooted in the actual here and now – it is actual and potential’ (Michael 2015: 212).

Borrowing from Whitehead and Michael, we could say that design-oriented research specialises in exploring the socio-material mediations between research and action and between potentialities and actualities. Expressing this visually, Figure 1 shows how in Mode 1, research is produced in ways that are not deeply oriented to shaping or informing future change. Mode 2 research in contrast more closely overlaps between actualities and potentialities, since knowledge is co-produced with a range of participants and in relation to the context in which it is will be used. Figure 3 shows how a possible ‘Mode 3’ design research is concentrated at the intersection between research and change, with a focus on mediating between actualities and potentialities.

¹ See Simon (1996). This is of course a simplification and there are aspects of research that are more closely tied to informing the design of policies, programmes, systems, processes, services and products for example in social policy or health.

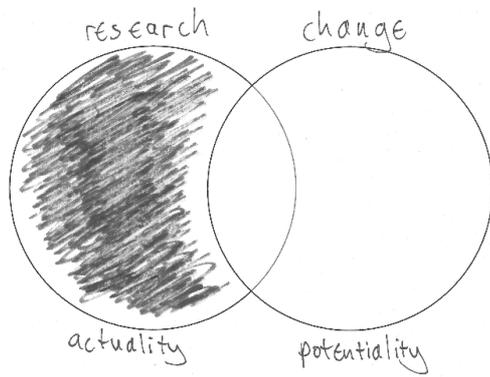


Figure 1
Mode 1 research



Figure 2
Mode 2 Co-produced
research

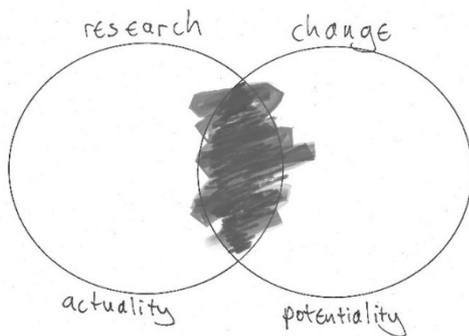


Figure 3
Mode 3 Co-produced
design research

3.2 Design research makes issues and publics researchable

In the mediations between actualities and potentialities, constructive design research emphasises the situated, embodied and material processes which shape and co-constitute future action and change. By creating visual outputs that foreground people's current experiences of a social issue (e.g. photographs capturing user practices) or creating digital/material sketches, mockups or prototypes that project how things might be in the future, design researchers instantiate in the present provisional aspects of the future in material and digital form. Design's expertise in materialising future possibilities has two key aspects which are of value in cross-disciplinary, co-produced research.

The first aspect is how materialising concepts such as future products also produces *uses* and *users*. Research in the social sciences has highlighted how, along with future objects and their proposed uses or interactions, so too are particular users brought into view with the capacities required to engage with the service or product (e.g. Woolgar 1991; Wilkie 2014). For example the video scenario for a future service developed in the ProtoPolicy project articulated particular kinds of older people for whom this service would work in particular contexts. In other words, as well as producing concepts for future products, services and systems, researchers are at once designing future users, organisations and contexts of use.

The second aspect of the work of materialising future possibilities is how it gives form to issues and publics. This is particularly relevant given the shift from designing products to designing for services, social innovation or policy contexts. Within sociology, the emergence of multiple new sites of social life has been accompanied by new kinds of social research, which sometimes is not informed, shaped or claimed by sociology (e.g. Guggenheim et al forthcoming; Adkins and Lury 2011). Social enterprise, social media and social design, for example, are all implicated in producing different kinds of 'social' which jostle for attention and dominance with other kinds of 'social'. In discussing these developments sociologists attend to how sites of the social are capable of reconfiguration and the importance of digital and material stuff in the formation of issues and publics (e.g. Marres 2012).

Participatory Design involved a pre-formed public such as users of software. But more recent design research emphasises that 'heterogeneous and evolving networks that cut across organizational and community borders' are in play (Emilson and Hillgren 2014: 68). Collaborative design-oriented research can work with and bring into view *yet-be-formed publics* that come into being as part of the process of the materialisation during the research itself (di Salvo 2012). Publics may coalesce and identify themselves around emergent, shared issues or matters of concern materialised by design researchers. The 'socio-material design thing' (Binder et al 2011) of interconnected people, stuff and practices that is explored through design research emerges through the enquiry. By 'making researchable', therefore, we mean the capacity of this approach to

bring into being and make explicit assemblages of publics, issues (and their consequences), data, methods and outputs for researchers.

In summary, with its emphasis on the material and the visual, design research in cross-disciplinary contexts materialises issues and publics along with product or service concepts and future users.

3.3 Design research sets up ambiguous and agonistic spaces and events

Practices associated with design research set up spaces and events where commitments, perspectives and resources are open for re-configuration and re-alignment. The word 'space' here does not assume a pre-determined physical location. Rather, as the projects in ProtoPublics showed, temporary locations from a makerspace to a motorway service station or an art festival can be animated to provide opportunities for generating insights, developing concepts for new experiences, producing new methods and connecting capacities and resources. The value of such spaces in cross-disciplinary, co-produced research can be understood in two ways: ambiguity and agonistic participation.

In constituting of such spaces and events, an extended engagement with ambiguity about the methods and the constituents of a project is a necessary condition within design research. There are several research traditions that shed light on this. For example in design research Buchanan (1992) argued that designers engage with a 'quasi subject matter' because they work with the particular and specific, rather than the general. Cross (2011) described how designers treat problems as if they are ill-structured, even if they are not. Elsewhere, design researchers describe the practical and imaginative work of reframing an issue (e.g. Schön 1983; Dorst 2015), making an issue other than it is thought to be at the outset. Within sociological research examining studio practices, Fariás and Wilkie (2015: 9) describe the studio as a centre of synthesis, arguing '...studio processes consist to a large extent in actually finding and defining a problem Arguably, then, a typical studio situation is one in which practitioners do not quite know what they are searching for.'

The second aspect associated with much design research is that it produces possibilities for agonistic encounters between participants that enable them to move beyond established positions (e.g. Barry et al 2008; Björgvinsson et al 2012; di Salvo 2012). For example, in one of the projects, researchers from different disciplines had to find ways to connect their expertise and capacities together in a short time frame. One researcher commented, 'One design researcher [in our team] had the idea of buying a car to do the research and the sociologists said "That isn't a method." But we just didn't have time to really fight it through so we let go of our usual ways of doing things and produced something that was new to all of us.'

In short, the 'studio' approach associated with much design can, at times, bring to research a material, embodied practice that supports the negotiation of ambiguity about intentions, methods, and constituents that is part of the production of knowledge. Further, rather than smoothing away differences, design research foregrounds agonistic participation in co-producing understanding and new solutions.

3.4 Design research has the potential to improve or innovate – but recognises that they are different

Designing and design research are often tied to a logic of innovation (e.g. Cox 2005; Barry et al 2008; Brassett 2015). For example ‘design research’ appears in the AHRC’s own website within the category of innovation whereas the independent UK Design Council’s website also foregrounds design’s role as contributing to innovation.

But research suggests that the picture is more complex. For example in design studies, Norman and Verganti (2012) highlight the different results to which design expertise can be put. They argue that ‘human-centered’ design, with its emphasis on iterated observation, ideation, and testing is suited for incremental innovation – or improvement – and is unlikely to lead to radical innovation. In contrast they argue that radical innovation comes from changes in either technology or meaning, to which design can also contribute but using different approaches and methods.

Within sociology, interest in inventiveness, again drawing on philosopher Whitehead, emphasises *invention* which further problematises a simplistic association between design research and innovation. As Barry puts, it ‘invention should not be equated with technical change, but with forms of practice which serve to open up rather than determine possibilities for further thought and action’ (Barry 2001: 33). In this account, inventiveness is about the opening up of possibilities rather than problem solving. Similarly Lury and Wakeford’s (2012) description of ‘inventive’ methods points to how some research methods respond to or address a situation and in their use of the method, produce capacities that change it.

Reflecting on their projects and collaborations through design with the partner organisations during an end-of-programme workshop, participants agreed that design is not necessarily tied to a logic of innovation although it can be. As one researcher put it, ‘There’s a difference between experimental and developmental research.’ When setting up a project with a non-HEI partner, along with the common misalignments about purposes and understanding academic research and organisational contexts, a complication in the case of design research is how it may have the potential to support the redesign of products and services in an instrumental way as well as in their potential to exceed current possibilities.

In short, while design research is often tied to innovation, this claim can be more nuanced in the context of cross-disciplinary, co-produced research. Adopting Fraser’s (2010: 78) terminology, we could say that design research enables ‘inventive problem-making’ and ‘inventive public-making’ associated with innovation that exceeds current actualities, not just problem-solving within a logic of improvement.

3.5 Limitations

Thus far we have argued that design research can have positive outcomes in cross-disciplinary co-produced research but this is not always the case. We propose the following limitations for design-oriented, co-produced research.

When to use a design approach

When an issue exists at many different scales (e.g. policy/strategy, organisational resourcing, lived experience) which are not well linked

When there is no clearly formed public, audience or stakeholders and there is recognition and understanding that these can co-emerge with the issue

When researchers want to go beyond their existing methodologies/methods/skills

When there are few or limited partner relationships in place

When not to use a design approach

When there are strong linkages between people's lived experiences and other aspects of a social challenge or issue at other scales e.g. institutional, policy, service provider, local authority

When there are clearly defined publics, audiences or stakeholders with effective accountabilities and representation and few marginal or hidden publics

When current methodologies/methods/skills are seen as adequate to addressing the research question in hand

When some of the academic partners already have trust-based partner relationships in place



Asset Mapping at ProtoPublics Two-Day Sprint
Workshop, Imagination, Lancaster University, April 2015

Publics are formed around issues. We need to think about what methods can we develop to detect issue-publics, to visualise publics assembling around issues in ways that are un-obvious. How can we stage these issues? In this, collaborations between social and political theorists and people from creative backgrounds is where much exciting work can be done.

Noortje Marres, Centre for Interdisciplinary Methodologies, University of Warwick
Video interview, <http://protopublics.org>
11/03/2015

Section Four

Recommendations

Section Four outlines what steps need to be taken for design-oriented approaches to be fruitfully combined into existing and future RCUK research programmes and schemes and HEI infrastructures.

4.1 Further invest in and enable two-stage research

Mode 2 research is oriented to co-producing knowledge informed by more than one discipline with a range of participants in the context of use. For projects involving complex social issues and multiple publics, we recommend that a two-stage research process is used. While this exists, for example, in the Connected Communities programme or others which use a sandpit model to build consortia, we think there needs to be a clearer understanding of (a) what could happen within a first phase and (b) how design-oriented, cross-disciplinary research can contribute here.

Design-oriented, cross-disciplinary research – perhaps ‘Mode 3’ research? - involves constructing an analysis of actual circumstances and reconfiguring them through the generation of future potentialities. It involves an intense, iterative process of evaluation and prototyping and requires a high degree of contingency and open-endedness. In future-oriented research relating to societal issues, it is vital to explore potential material/digital platforms, publics, issues and actual practices in an open-ended way through which new possibilities might emerge, *prior to* moving further forward with the work. In design-oriented research, issues and publics are made, not given. It mediates between current conditions and future potentialities and can contribute this capability to cross-disciplinary, co-produced research that aims to generate and test future solutions with publics.

Here, we adopt the terminology familiar to those using agile work practices. The first ‘alpha’ stage is where the preconditions for a process of change are explored through fieldwork, workshops, exploratory prototyping, creative interventions, social media activity and other events. This is where the possibilities and limitations of various material and social conditions relating to the focus of enquiry and its publics can be brought into view and explored. Having an alpha stage recognises that an issue or challenge is not pre-existing and self-evident but comes into view through the mutual interaction of stakeholders, contexts, different kinds of evidence, organisational priorities and policy agendas, and may exist at different scales and over different time frames. Such a discovery stage avoids jumping to conclusions as to the optimum modes of doing research or in relation to pre-determined stakeholders and publics.

The second, ‘beta’ stage is where these outcomes are further developed *in situ* with collaborators and emergent publics. Here design research plays a more conventional role as a specialism that focuses on exploring, materialising, prototyping and testing potential solutions and how they are experienced by and co-produced with potential users and stakeholders, and adding expertise associated with particular research fields such as product, communication or digital design.

To bring this distinction to life, we highlight the differences in approach between the ProtoPublics programme and the ESRC Co-Production programme during 2015. Both involved setting up and running smaller projects. In the ESRC Co-Production programme each project ran as a pilot. The dominant logic was that the publics, issues, methods, processes and their material circumstances *were pre-determined* in advance by each project rather than being understood to emerge through the projects themselves. In contrast in ProtoPublics, the foregrounding of design research recognised that the publics, issues, methods, processes and material possibilities of each project co-emerged during the research.

Action

Build two distinct stages into future research calls.
See the template in section 4.4 which proposes how this can be described.

4.2 Further invest in cross-disciplinary research

In the *Social Design Futures* report, we asserted that in design, research skills in user observation and behavioural interpretation are strong, while understandings of the macro-economic, social and policy drivers are weak (Armstrong et al 2014: 44). In ProtoPublics, we were able to seed the programme with academics from design, who already had strong understanding and knowledge of the latter issues, along with social scientists with a track record of engaging with design. For design-oriented, cross-disciplinary, co-produced research to flourish, new infrastructural initiatives need to take place that stimulate dialogue and research practice. To that end, we recommend the following.

- **Set up schemes to enable more design-oriented research projects configured over different timescales, engaging varied collaborations and publics and focused on building capacity by making new interpersonal and institutional connections across domains of practice and research, as much as new knowledge.** The time-scale and number of projects within ProtoPublics was limited, as compared, say to the ESRC Co-Production and AHRC Connected Communities pilots. There is potential for the reach of ProtoPublics to be extended, engaging more disciplines and more varied collaborations.
- **Set up schemes to critically explore the conjunctions of design thinking and the macro-contexts of policy, economics and society.** At present there are plenty of initiatives created to develop the practice of design (thinking) or service design in specific policy contexts or to provide training. Examples here include the Design Council's Knee High programme and the recently established Design Thinkers Academy, supported by the Design Museum. However, there is a danger that short-term innovation platforms such as these do not take in, explore or articulate how they set up particular kinds of participation in the 'social' and exclude others, and they lack input from policy, governance and social and cultural research expertise. Case studies written by design researchers or practitioners without extensive knowledge of other relevant scholarly fields will limit understanding about where design research and expertise intersects with policy, economic and social issues.
- **Set up schemes to assess and evaluate the longer-term impacts of design research in public sector and business.** Design thinking is prone to cheerleading among its advocates. The longer-term impacts of some of the initiatives discussed in Section 1 and, indeed, the ProtoPublics projects are not fully explored or understood. Opportunities to reflect on and evolve more mature forms of design research through deep collaboration with social, economic and policy researchers is essential to broadly, critically

and historically understand the potential and implications of these developments.

Actions

1. Set up a programme to build capacity in design-oriented research, by making deeper connections between social and cultural researchers and design researchers and local organisations in some key emerging areas: data science and data visualization; health and well-being; ageing; and local economies.
2. Set up a programme to commission cross-disciplinary, design-oriented, co-produced research that combines sociological, management, data science, sustainable economics and policy researchers with design researchers working in collaboration with one or more of these sectors: (a) local government; (b) community and voluntary groups, activists and think tanks; (c) policy makers in central government.
3. Set up a programme that invites cross-disciplinary consortia to study the impact of design interventions in business and public sector contexts. Consortia should combine one or more fields including sociology, economics, management, data science, and policy researchers collaborating with design researchers.

4.3 Reconfigure research infrastructures and processes

In the *Social Design Futures* report, we made the recommendation for the creation of a ‘Social Design Research Observatory’ (Armstrong et al 2014: 49). Its remit would include providing support to projects and coordination between overlapping initiatives in this space. The ProtoPublics research has surfaced more specific issues regarding these recommendations.

Our ProtoPublics research, as well as the experiences of programmes such as AHRC Connected Communities, AHRC Design in Innovation Research Fellowships, AHRC Community Heritage and ESRC Co-Production, have shown that undertaking research of this nature often involves mis-matches or frictions between collaborators. This may produce early difficulties in terms of temporal and spatial coordination between them. Different organisations have their own rhythms and velocities as well as their distinct geographical distributions. Frictions are unavoidable and may even produce interesting results. However, partners involved in co-produced research recognize that there are procedural norms, for example relating to financial management, accounting, governance or ethical clearance, that have to be coordinated between actors. At the same time, meaningful and useful points of contact between actors in the co-production of research have to be created.

We therefore recommend **making investment in further research into the provision of infrastructures that enable stronger collaborations**. This includes the need for a thorough review of actual and potential ‘flash points’ that occur. It would include, for example, focusing on differing expectations regarding financial management, human resources and career progression, ethics, IPR and the different values of distinct research outputs and outcomes.

Actions

1. Review ‘project journeys’ and map the interconnections (or lack of them) between the actors involved within and across institutions and partners.
2. Prototype and pilot enabling solutions to facilitate more efficient coordination between organisations.
3. Review the different ways that institutions address collaborating on projects with individual freelancers and small firms, community groups, local government and businesses, as well as the ethical issues and status of intellectual property rights when involving a range of participants in designing new devices, methods, tools or outputs from co-produced research.

4.4 Recognise and value hybrid outputs

In the *Social Design Futures* report (Armstrong et al 2014), we recommended the establishment of a 'Social Design Research Archive' to act as a communication platform between research and practice. Here, we emphasise the hybridity of outputs in this field.

The outcomes of research programmes may be distributed and dynamic. Together, outputs may include digital artefacts, reports, performances, refereed journal articles, products, spaces, systems, toolkits, workshops, events, prototypes, blog posts, tweets and so on. In collaborative research, new knowledge may be spread across various actors and in different formats. While these may 'survive' on their own, it is in their hybridity that the totality of outputs makes sense. Each element is interdependent with the others. In the constellation of collaborative work, knowledge is also dynamic in that it is constantly emergent.

Current orthodoxies in research reporting (e.g. REF and ResearchFish) emphasize individual research outputs that do not capture the distributed and dynamic characteristics of co-produced, design-oriented research. We accept that this issue may not be exclusive here and may be found in other domains of research. However, we urge that further exploration as to how to best support and show the holistic outputs from research and their interconnections.

Actions

1. Make explicit in future funding calls the expectation that outputs from research will exist in a variety of media and formats that are hybrid.
2. Enable the connections and interdependencies between hybrid outputs to be recognised and reviewed with reporting about research.

4.5 Future funding calls

We recognise the vision for research that we are setting out proposes an active role for design research. However, we believe that it presents possibilities that are enabling and ‘fit-for-purpose’ in the current research landscape. In particular, we draw attention to three key aspects of Lord Nicholas Stern’s review of the UK Research Excellence Framework (Stern 2016) that relate to it.

1. The emphasis it makes on research impact opens up opportunities to re-structure university research systems and priorities, strengthening collaborations and external networks.
2. The shift away from individuals to research outputs will also involve greater consolidation of institutional research environments and networks.
3. The inclusion of all research, not just a selection, may allow for greater variety and hybridity in publishing findings and in generating accounts of outcomes.

Notwithstanding Stern’s suggestions and their possible implications, within the remit of this particular report we offer a speculative template for funding calls in the following Sub-Section 4.6 that, we believe, will facilitate more agile and effective co-produced social design research.

4.6 Template for future funding calls for co-produced design research

The aim of this sub-section is to bring to life the recommendation discussed earlier about enabling two-stage research. It takes the form of a brief template that can be used in the creation of invitations for expressions of interest or applications for future funding schemes. Although this would not be the only way to communicate what two-stage research could look like, the application form is a key touchpoint for academic researchers and the non-HEI partners they work with. In the template below, we flesh out only the novel contribution we are arguing for.

Applicants should design their project based on a two-stage research process using some or all of the categories and concepts that are described below.

Alpha
phase:
discovery

Beta phase:
research development

Cross-disciplinary design-oriented research

Alpha stage: Discovery

Objectives

- Assemble a consortium able to participate in the research bringing different perspectives and expertise together
- Explore the issue from different perspectives and using different expertise, methods and data and turn it into a researchable issue
- Define and engage with the publics, co-researchers, users and academic beneficiaries of the research
- Produce a research brief and plan for the beta stage of the research

Activities

Describe how this stage will achieve the objectives and lead to the outputs and outcomes that are necessary to proceed to the beta stage. Describe the theoretical and conceptual challenges as well as material/practical ways that you will engage across the consortium and if relevant with wider publics to do the early stage research.

Outputs from the alpha stage

Select these or other outputs

- Analysis of the issue
- 'Project journey' narrative and visualisation including discussion of cross-disciplinary and collaborative working including with non-academic partners
- Discussion of ethical and IPR policies and procedures
- Discussion of communications and engagement
- Preparation for beta stage
 - Research summary and 'brief' for the beta stage: problem/challenge statement; publics, users and co-researchers; approach, methods, data to be developed or used
 - Description of research team, expertise, roles and justification of participants including non-academic partners
 - Timeline, plan and resource allocation for beta stage

Outcomes

Select these or other outcomes

- Shared understanding of issue or problem terrain and its publics
- Capacity to collaborate across different kinds of expertise/discipline/location
- Commitments to carrying out the shared plan for the beta phase with the proposed resources

Cross-disciplinary design-oriented research

Beta stage: Research development

Select from the categories below to describe the beta stage

Vision

Users, stakeholders and publics for the research including academic beneficiaries and how to identify, reach and engage with them

Pathways to impact for policy, strategy, improvement and/or innovation with and for different publics, stakeholders and users

Background/context

Approach

Project journey for participants and implications for carrying out the research

Objectives

Activities

Expertise and resources required; team structure, co-ordination and governance

Outputs

Outcomes

Ethical policy

IPR policy

Project plan

Budget

Risks and how to mitigate them

Justification of resources

Criteria for making funding awards

Applicants should design their project so that it meets the criteria described below.

Problem-based

- Applicants demonstrate how the project's understanding of the research problem or issue emerges in dialogue with different players in the ecosystem.
- Applicants show that their emerging understanding of the problem will be shaped iteratively by combining different disciplinary and practice perspectives.
- Applicants discuss the extent to which a problem or issue which may exist as an operational or organisational challenge intersects with research questions in one or more academic disciplines.
- The research is intended to produce a range of outputs in formats and media suitable for translation and engagement with different actors and publics in the ecosystem around the issue.

Co-produced

- Applicants are able to describe how they will engage with publics, stakeholders including other researchers and potential future users of the research.
- Applicants demonstrate that the activities, outputs and outcomes are co-produced with players involved in the issue – although not necessarily all the way through.
- The consortium and project plan are designed to make the best use of resources and expertise during the project journey and build up trust and enable critical dialogue and collaboration among consortium members.

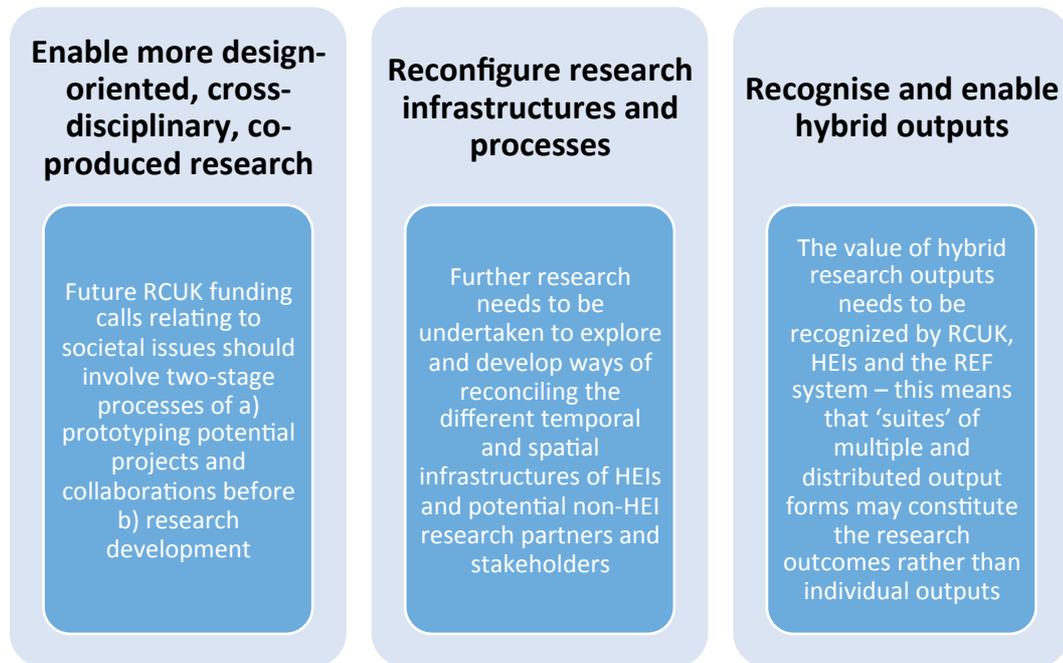
Experimental

- The consortium makes a commitment to and has suitable competences and resources for developing or trying out new research methods, data or processes, or for trying new combinations of research methods, data or processes.
- The applicants are able to describe to what extent they expect their research might lead to improvements in relation to operational or organisational challenges and to what extent it will be innovative resulting in new ways of doing things that may not fit in existing categories.
- The research design is attentive to the operational, infrastructural, ethical and IPR implications of conducting the research relevant to different non-academic partners as well as research organisations.

Cross-disciplinary

- Applicants can demonstrate that the consortium and project plans recognise and enable particular kinds of cross-disciplinarity to unfold during the research.
- The consortium is able and willing to reflect on and manage differences between different understandings about data, knowledge, evidence and research methods, from the perspectives of different academic researchers and non-academic partners.

4.7 Summary of main recommendations



Section Five

Supporting Material

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Appendix 1

ProtoPublics Grant-Funded Projects

Team	Project
<p>Dr Jo Briggs (PI) Research Fellow in Media and Communication Design, Northumbria University</p> <p>Sue Ball Director, Media And Arts Partnership</p> <p>Professor Celia Lury Director of Centre for Interdisciplinary Studies, University of Warwick</p> <p>Dr Graham Pullin Course Director, Digital Interaction Design, University of Dundee</p> <p>Dr Sarah Teasley Head of History of Design, Royal College of Art</p>	<p>Creative Temporal Costings This was an experimental design intervention that explored the practices of collaborative exchange through a collaborative study undertaken with Leeds Creative Timebank (LCT). It investigated the values of creative collaborative exchange in this emerging parallel economy. The project employed methods that allowed the researchers to work within the ethos and economy of the LCT. Each investigator had an equal number of hour-long denominations deposited for them in the bank to enable participation in it. They explored how collaboration supports the creation of multiple values from within the LCT, while affording a position from which to develop critical approaches to collaborative exchange.</p>
<p>Dr James Duggan (PI) Education and Social Research Institute, Manchester Metropolitan University</p> <p>Dr Sabine Hielscher Research Fellow, Science Policy Research Unit, University of Sussex</p> <p>Dr Giuseppe Salvia Research Fellow, Nottingham Trent University</p> <p>Shaimaa Zaher El Nagggar PhD Candidate, Linguistics, Lancaster University</p>	<p>Design Research Get Lost This project explored how adult researchers might create spaces and opportunities for young people to come together and self-organise to do or achieve something in which they are interested. It brought together two groups of young people from Manchester CoderDojo and the Woodcraft Folk to respond to a ‘challenge’ to self-organise a project with a £3,000 budget. The research team reflected on the process of letting go of power in a project and how the young people engaged with the challenge. In parallel, the young people documented the project, using the approach and media they most preferred.</p>
<p>Dr Kat Jungnickel (PI) Lecturer, Sociology, Goldsmiths, University of London</p> <p>Dr Jennifer Ballie Postdoctoral Research Assistant, University of Dundee</p>	<p>Dewey Organ This was a ‘co-design’ experiment to prototype ways of making problems and publics. The research directly addressed issues critical to practice-based researchers, designers and policymakers, namely: what counts as a social ‘problem’ and what publics do problems bring into</p>

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being? These concerns were explored by two interrelated practice-based research objectives. First to ‘make the organ’ with which to render issues tangible, material and debatable in new ways. Second to ‘play the organ’ in a context where publics could interact with, add or make their issues, problematize and customise problems and in doing so make their publics known or indicate new publics that arise around issues.

Dr Emmanuel Tseklevs (PI)

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Jocelyn Bailey

PhD student University of Brighton/Senior Consultant UsCreates

Dr Fiona Hackney

Associate Professor of Design Cultures and Community Engagement, Falmouth University

Anna Whicher

Lead Researcher, Design Wales, Cardiff Metropolitan University

Naomi Turner

Senior Manager, Policy Connect

ProtoPolicy

This investigated how ‘design fictions’ (provocative artefacts, images and films) that materialise scenarios about, or provide clues to, future ways of living could be used to help politicians and community groups imagine the future implications of policy initiatives. For the purposes of this pilot, this project focused on issues of ageing and isolation. It ran a creative workshop with older people to respond to the ‘Ageing in Place’ policy agenda by co-creating future design fictions that envisage what a future of ‘flexible living’ might look like. The team then produced material and digital mock-ups of artefacts from these fictions. These were presented online and at a panel discussion held in Westminster and with ageing specialists.

Dr Damon Taylor (PI)

Senior Lecturer in Design, University of Brighton

Dr Lesley Murray

Senior Lecturer, Applied Social Science, University of Brighton

Professor Monika Buscher

Senior Lecturer in Sociology, University of Lancaster

Professor Chris Speed

Chair of Design Informatics, University of Edinburgh

Dr Theodore Zamenopoulos

Senior Lecturer, Design, Open University

Louise Dredge

Outreach and Impact Manager, The Glass-House Community Led Design

Rules of Thumb

The research identified, through ethnographic methods and historical inquiry, the ‘rules’ that pertain to hitch-hiking. From this the project team built a ‘Hitching Kit’, a design tool or facilitating device to make it possible to transfer what has been learnt from hitching into another context. This Hitching Kit was explored and used in a workshop involving people who participate in another form of cultural activity (in this case living in housing co-operatives). It tested the kit to see how the concept of hitch hiking might help participants negotiate the challenges they faced in running and being part of housing co-ops.

Appendix 2

ProtoPublics Programme timeline, 2015

Jan-Feb	March-April	May-October	Sept-Nov
Production of 12 video position statements to see the discussion shared on blog.	Selection of workshop participants with AHRC.	Cross-institutional applications to AHRC for agile projects.	AHRC Design Research Symposium, 25 Sept. reporting on projects.
Development of ProtoPublics blog/website.	ProtoPublics Sprint Workshop, 16-17 April, Imagination Lancaster, University of Lancaster.	Selection of follow-on projects.	Project updates on blog/website.
Call for Expressions of Interest for ProtoPublics Sprint Workshop (April).	Reporting on Sprint Workshop via website.	Five projects carried out between June-August. Teams update ProtoPublics blog.	Final reflective workshop, 6 Nov., Central Saint Martins, University of the Arts London.
		ProtoPublics team visits to projects.	

Appendix 3

List of participants in ProtoPublics

Video Interviews (2015)

<https://protopublics.org/videos>

Rob Imrie, Professor of Sociology at Goldsmiths, University of London

Rachel Aldred, Senior Lecturer in Transport, University of Westminster

Tim Schwanen, Lecturer in Transport Studies and Human Geography,
University of Oxford

Noortje Marres, Associate Professor, Centre for Interdisciplinary
Methodologies, University of Warwick

Pelle Ehn, Professor Emeritus, Malmö University

Alex Wilkie, Lecturer in Design, Goldsmiths, University of London

Cat Rossi, Senior Lecturer in Design History, Kingston University, London

Dan Lockton, Senior Research Associate, Helen Hamlyn Centre for Design,
RCA

Graham Pullin, Course Director, Digital Interaction Design, DJCAD,
University of Dundee

Aylish Wood, Reader in Film Studies, University of Kent

Sue Ball, Director, Media and Arts Partnership, Leeds

Nicola Hughes, Senior Researcher, Institute for Government

Guest blogs (2015)

<https://protopublics.org/blog>

Monika Büscher, Professor of Sociology, Lancaster University

Justin Spinney, Lecturer in Human Geography, University of Cardiff

**Participants at ProtoPublics workshop, ImaginationLancaster,
Lancaster University, 16-17 April 2015.**

	Jocelyn	Bailey	BOP Consulting
	Sue	Ball	Media And Arts Partnership
Dr	Jen	Ballie	DJCAD, University of Dundee
	Simon	Bell	Open University
	Christopher	Boyko	Lancaster University
Dr	Jo	Briggs	Northumbria University
Dr	Monika	Buscher	Lancaster University
Dr	Stephen	Clune	Imagination Lancaster, Lancaster University
	Sophia	de Sousa	The Glass-House Community Led Design
Dr	Nicola	Dempsey	University of Sheffield
	Stephen	Douch	Plan Strategic
Dr	James	Duggan	Manchester Metropolitan University
	Shaimaa	El Naggar	Lancaster University
Dr	Bianca	Elzenbaumer	Leeds College of Art
	Duncan	Fairfax	Goldsmiths, University of London
	Nick	Gant	University of Brighton
	Giuseppe	Salvia	Nottingham Trent University
Dr	Fiona	Hackney	Falmouth University
Prof	Jonathan	Harris	Winchester School of Art, University of Southampton
Dr	Sabine	Hielscher	SPRU, University of Sussex
Dr	Thomas	Jun	Loughborough University
Dr	Kat	Jungnickel	Goldsmiths, University of London
	Bastien	Kerspern	Design Friction / Casus Ludi
	Constance	Laisné	Altgen
Dr	Dan	Lockton	Royal College of Art
Prof	Celia	Lury	University of Warwick
Dr	Justin	Marshall	Falmouth University
	Andy	Milligan	DJCAD, University of Dundee
Dr	Lesley	Murray	University of Brighton
Dr	Kathy	Pui Ying Lo	Loughborough University
Dr	Graham	Pullin	DJCAD, University of Dundee
	Guido	Robazza	University of Portsmouth
Dr	Rebecca	Ross	Central Saint Martins
Dr	Tatjana	Scheider	University of Sheffield
Dr	Justin	Spinney	University of Cardiff
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Policy Lab

Professor Guy Julier, University of Brighton/Victoria and Albert Museum

Challenge Panel Guests

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Nicola Hughes, Institute for Government

Dr Cat Macaulay, Scottish Government

Professor Jeremy Myerson, Royal College of Art

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Professor Lucy Kimbell (Co-Investigator)

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In the UK, and globally, the role of design in addressing societal issues is receiving increased attention. New opportunities are emerging for combining academic disciplines and working collaboratively with non-HEI partners.

This report was commissioned by the AHRC to help guide its future plans for supporting design research, one of the Council's priority areas.

It presents the findings of a nine-month study in which new methods of co-producing design research were explored.

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