Everyday Futures
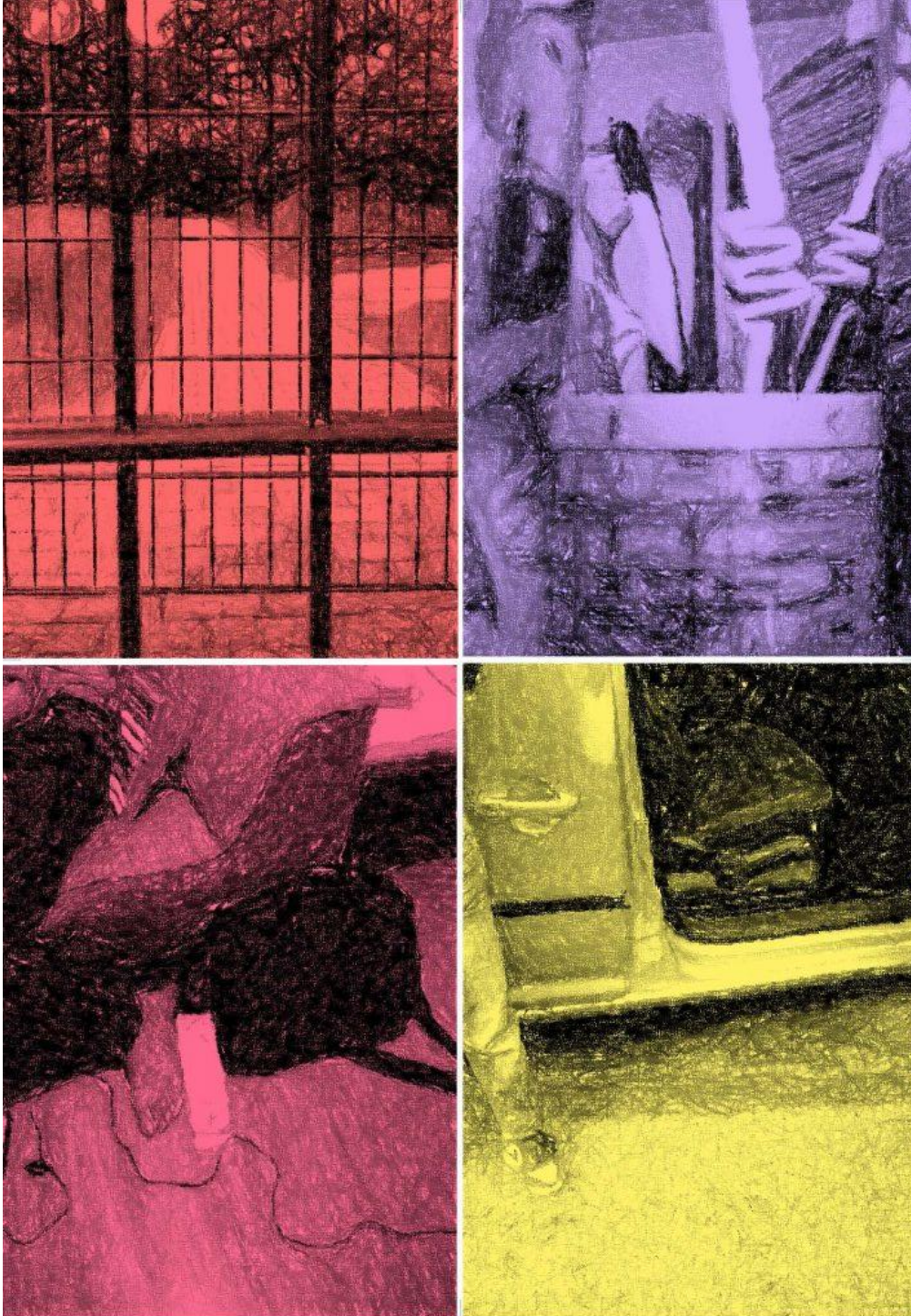
Edited by Nicola Spurling & Lenneke Kuijer

Institute for Social Futures, Lancaster University

Everyday Futures, Edited by

Nicola Spurling (Sociology and Institute for Social Futures, Lancaster University)

Lenneke Kuijer (Industrial Design, Eindhoven University of Technology)

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Introduction: Everyday Futures as an Area of Research

Nicola Spurling (Sociology and Institute for Social Futures, Lancaster University, UK) n.spurling@lancaster.ac.uk
Lenneke Kuijer (Department of Industrial Design, Eindhoven University of Technology, NL) s.c.kuijer@tue.nl

Everyday Futures does not yet exist as an established field of research, but it is an area ripe for development. Envisioned futures of work, the home, transport and energy all make assumptions about, and have far reaching implications for everyday lives that are seldom explored (Timms et al., 2014, Strengers, 2013). Future everyday life is certain to be different from today, but how is it shaped in the present, how might such futures be made differently, and what theories and methods would be required to do this?

This Everyday Futures essay collection brings a range of concepts and methods to bear on these questions, exploring what everyday futures are, and how and why they might form the starting point for a new research agenda. The essays develop discussions initiated at the Everyday Futures Workshop held at the Institute for Social Futures, Lancaster University in July 2016. Connecting all the authors, including ourselves, is a commitment that future everyday lives should be foregrounded in futures work. The essays that follow reflect our initial conversations on this topic. They demonstrate that multiple conceptualisations of 'the everyday' and 'the future' exist. Moreover, it is through recognising and bringing together these concepts in different combinations for specific purposes that 'the future everyday' can be developed as a useful area of inquiry.

In one sense the everyday refers to the repetitive and routine. The future is already here in the present and attention is drawn to the social structures and practices which are perpetuated into the future, through everyday action. This is taken up in Chatterton and Newmarch's contribution. By looking at social, temporal and spatial inequalities they speculate on how futures may be made in ways that are beneficial to those who are often excluded from official narratives of change. Ebrey and Moussaoui offer their reflections on how ethnographic methods including biographical interviews, multi-sited ethnography, observations and diaries might reveal the processes through which future-oriented practices operate, and the possible futures of practices in everyday life. The piece by Harrison and Mackey also resonates with this approach. They reflect on their own search for manifestations of future sustainable and digitally enhanced clothing practices in the present.

In a second formulation, 'the everyday future' might refer to an imagined future state of affairs – akin to More's 'Utopia' (More, 1516), and the everyday lives which are implied, or made explicit in these models. Welch, Keller and Mandich illustrate the types of critique that social theory can offer to contemporary visions of the future produced by organisations, think tanks and Government. Their contribution looks in detail at the imagined workings of 'The Circular Economy' and explores whether and how everyday life is represented and implied. Using a similar approach, Marcore and Spurling's detailed case study of a planned community garden in Italy explores why such planner's models often have unintended consequences in practice.

In a third formulation, the everyday, rather than referring to the repetitive and routine, might instead draw attention to issues of temporal scale. The everyday – or diurnal cycle – is one such scale amongst others, all of which might usefully be brought to futures research. How we inhabit our homes and cities varies depending on hours of light and dark (Dunn, 2016), with the cycles of the seasons (Ingold, 2008, 2010), as well as the schedules and timetables of institutions like work and school (Walker, 2014). Such temporal variety does not appear in many future visions, which are often synchronic, fixed in (future) time. In this

sense, the 'everyday' invites the study of such variations in everyday life in different countries and cultures, and in urban, suburban and rural environments. Such more fine-grained analysis has implications for which futures are possible, plausible and preferable (Urry, 2016) in different places.

Finally, everyday futures can capture how people's everyday actions take place in temporal structures of past-present-future (Luhmann, 1976). Here the focus might be on how time horizons vary between generations, societies and social groups (Zeiderman, A., 2016). The production and implications of these different time horizons for present everyday lives is a pertinent topic in current contexts of austerity, and can help to reveal how 'the future' is unevenly distributed across societies and around the world. For example, whether a home is owned or rented creates different time horizons of the future, and how lives are imagined and lived within it. Touching on this idea, Timan and Ellsworth-Krebs use digital methods to explore contemporary DIY in the Netherlands and the UK, focussing on which near futures of the home such methods might reveal.

Taking the relationship between past-present-future in a slightly different direction, Wright and Pooley provide an accessible overview of methods and sources for studying everyday pasts and past futures, and reflect on these histories as sources for understanding presents and shaping futures. Gatherer, Kuijer and Nilstad Pettersen draw on an historical exploration of the use of data in decision making, to reveal the processes of quantification and de-contextualisation of everyday judgments which futures of big data might hold. Marcore and Spurling also draw on an historical analysis, to explore how practices of domestic food growing have endured and waned across time, suggesting the importance of cultural heritage (and of what is considered to be cultural heritage) for futures of everyday life.

The variety of relationships between past-present-future is also driven home if we consider practices that actively set about to create change – such as planning, designing and making. Such approaches challenge the everyday as the repetitive and routine, instead viewing the present as a potential turning point between the past and the future (Luhmann, 1976). This view opens up horizons and makes multiple futures possible. Meadow and Kouw's aim is to design methods which emphasise this openness and plurality of the future. Different futures will have different winners and losers, and an analysis of who these winners and losers are, the production of multiple visions and the conditions of their realisation enables, they argue, more inclusive future design.

By bringing a range of questions, concepts and methods to bear on the question of 'what is the everyday future?', and why it might be an explicit focus of research and debate, the authors in this volume bring a broad spectrum of topics to the table. The essays that follow share our initial conversations, from which a rich programme of research has begun to emerge. We hope you enjoy it.

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"The Future is Already Here, it's Just Not Very Evenly Distributed."

Tim Chatterton, (Air Quality Management Resource Centre, University of the West of England, UK) tim.chatterton@uwe.ac.uk
Georgia Newmarch (Institute for Social Futures & Sociology, Lancaster University, UK) g.newmarch@lancaster.ac.uk

Abstract
This essay considers how contemporary inequalities will play a significant role in determining how the future will emerge. The building blocks of the future already exist today, within niches or lived minorities, and in the coming years they will spread to make the 'normal' of the future. However, the ability to control which elements spread, to 'write' the future, is unequally spread, and without great care, inequalities of today will lead to similar inequalities tomorrow.

The future….is not evenly distributed

This title quote from the American speculative fiction author William Gibson alludes primarily to the fact that the things that will constitute the 'normal' or 'everyday' within the lives of those living in the future, already exist for some today. Most of what will constitute change, at least in the short- to mid-term, is simply the spread of these niche, or minority, 'things' to become more pervasive. Qualities may change to a minor extent, but not so much as for things to become unrecognisable. Instead it is scale, quantity and patterns of distribution that will be the primary trajectories of change. The future may, or may not, only be limited by our imaginations, however, an imagined future can only be imagined in terms of the already conceivable, and cannot exist outside extensions of elements that are already in existence (even if they may exist only as concepts).

Gibson's quote can also be interpreted by considering that 'the future' itself will be characterised by inequalities, both locally and globally in a way that is similar to the present. The unequal distributions of power, freedoms and resources in the future are likely to be determined in a large part by the way those inequalities manifest today (and have done in the past). In order that these inequalities are not reproduced, or that their reproduction is minimised, it is necessary to ensure that those processes in the present which 'write' the future are not irredeemably tainted by these same inequalities.

This essay will briefly describe some of the ways in which we may be able to see the future as being unequally distributed in the present, over three key domains of the social, the spatial and the temporal. It will then consider what impact these distributional inequalities play with regard to those who may play a significant role in attempting to write the future.

It is hard to clearly identify what elements of the present will become more widespread in the future. Over the 20th Century, social transitions in the West have often involved the trappings of wealth becoming more accessible to wider sections of society, such as automobility, better quality housing, high quality healthcare and consumer technology. Whilst many contemporary future scenarios present the future to be a utopia of wealth and health furnished by a panoply of high-tech gadgets and permitted by continued economic growth, it is also possible that the future for some, or all, will involve either a gradual or rapid reduction in standards of living. Thus the future might consist of the expansion of the current lifestyles of either the rich and powerful, or the poor and oppressed. The carbon reduction approach of "Contraction and Convergence" (Meyer, 2007) explicitly proposes reducing global inequalities, in terms of both expectations of lifestyles and the environmental damage they cause.

The future is always created on an uneven foundation. In order to understand how we can create futures that do not exclude, isolate or exploit we have to understand how the future is written in the present. So,

whilst there is some interest in looking at how, in the language of socio-technical transitions, technological or social niches become part of the landscape, here we are more interested in how these minority elements are, in this moment, unequally distributed; how these inequalities are likely to be reproduced or altered in the future; and how these inequalities may actually determine what future or futures we arrive at. Through exploring how existing differences create unequal futures, we can begin to understand how to look forward in a way which is beneficial to those who are often excluded from official narratives of change.

Social Inequalites
Sometimes certain social groups (identifiable by gender, class, race physical ability etc.) are omitted from visions of the future, be that intentionally or not. Futurity is usually captured officially by politicians and 'experts' who wish to shape policy through 'horizon scanning'. The unofficial futures of everyday experience, hopes, dreams and imagined futures are often not considered. Social inequalities open up questions of power within socio-technical transitions and assessments of how to address these factors for a 'better' future is often lacking from projections of what is to come.

Efforts to incorporate everybody in views of the future often result in dystopian images, as attempting to dismantle social strata highlights current differences in exaggerated ways. J.G. Ballard's (1975) *High Rise*, presents us with a fictional interpretation of class and futures which is useful when assessing how social inequalities within the everyday are constructed and consumed. In the novel, class divide is physical (the higher the floor in Ballard's tower block, the higher the class of resident). Aldous Huxley's (1932) *Brave New World* also portrays fundamental inequalities at the heart of the imagined society, though here these are built into genetics and conditioning, not just architecture.

Understanding the everyday future in terms of the utopia/dystopia dichotomy is not necessarily beneficial. It is not only a frame which fails to assess the complete image of lived experience, but their exaggerated nature tends to render them unrepresentative of lives lived now. Even within utopia there will always be winners and losers, as differences result in socio-spatial boundaries creating differences between the insiders and outsiders.

In many ways, certain visions of utopia already exist, at least in fragments. In the UK, the vast majority of people can access clean drinking water in such sufficiency that we flush our toilets with it, calorific food in such quantity that we can become obese, and free health care to treat the consequences. It might be churlish to expect utopia to only exist as a singularity, and we should recognise and cherish these fragments as and when we find them, and it may be necessary to fight hard to keep them.

Spatial
The rural-urban divide is one spatial axis that highlights differences that are apparent across potential elements of the future. Access to new transport modes such as car clubs or Uber are increasingly available in cities but have little reach into rural areas. It is questionable how far these sorts of systems will be able to practically reach these areas, highlighting how different futures may emerge resulting from location. Moving from physical mobility to virtual mobility, access to high speed internet is another example of how something that is 'the present' in urban areas and may soon constitute a (relatively near) future for rural areas.

In terms of global distributions of lifestyles and wealth, the late twentieth century and early twenty-first century have seen an increasing dispersion of modern, westernised, 'middle class' lifestyles from Europe, North America and Australasia, to parts of Asia, South America and Africa. In the latter we can see a rapid transition towards futures that are very different to their recent pasts. In parallel, the last decade has also seen what might be considered by some as less "progressive" futures developing, such as the descent into civil war and collapse of infrastructure in parts of the Middle East (e.g. Syria and Iraq) as well as uneven

distributions of the consequences of the global financial crash hitting Portugal, Italy, Greece and Spain particularly harshly.

Sometimes though, space causes less of a divide. Mobile phones provide a fascinating case study of how fast new technology can establish itself globally, rapidly levelling access to the services that a technology can provide. Mobile phones highlight not only speed with which futures can arrive, but also a 'virtual' shift in the everyday, from one which is only experienced through direct contact to one where connections are not just physical. Here the future may also hark further back to the past. There is a body of work that sees computing and the virtual realm as an extension of the oracles and shamans of the past (Davis, 2015). We haven't moved far from the past, and the past will always remain with us.

Temporal
Short-term events and disruptions such as blackouts and supply chain disruptions represent snippets of insight into more precarious unstable futures, as increasing energy consumption and retired generation mean that energy supply systems become progressively overloaded. These short-term events demonstrate how unstable futures are already embedded in current systems. Whilst disruptions to systems may appear sudden, they occur within the context of long build ups of dependencies and allow not just for a greater understanding of the nature of innovation in the moment, but also reveal much about the undisrupted, everyday 'normal'. But what is it we are seeking from the future? Are we just trying to maintain the current system to stop an unstable future? Or are we trying to actively improve it? If the former, for whom is the current system actually stable? The UK and northern EU are relatively rare in being parts of the world where black/brownouts are not considered normal, and for some with prepay meters, even here stability of supply is not guaranteed.

Temporal inequalities can also manifest across generations: the aging population may be a picture of the future for today's young. Although attempting to avoid the consequences of aging has been a long-time concern of much of the human race, this has, in the modern west, led to a failure to adequately consider the well-being of the old. Rather than adopting an attitude of denial, younger sections of society should help design the future by improving life for those who are old now and, consequently, for themselves when that time comes.

At the other end of the age spectrum, the comfort with technology shown by Generation Z/ 'Digital Natives' provides an insight for older sections of society as to how digital technology can rapidly become a given within everyday life, but also shows how we may not just take this technology for granted as a benefit, but also become dependent on its pervasiveness for the maintenance of everyday life.

Structural Inequalities
The three domains above - social, spatial and temporal - are just three ways of identifying differences. What matters most is not whether differences exist, but the extent to which the differences that arise over these domains result from the structuring of society (as opposed to say 'choice'). When they arise from structuring, and particularly when leading to negative impacts, these become issues of inequality that are of concern. How these differences become structured inequalities is usually related to issues of power. Unequal power relationships determine who gets to write the future, at least at a macro level, for example, through decisions about long-term infrastructure provision and the built environment, or through corporate strategies and government policies that will shape many people's everyday lives for years to come. These decisions are often made by a particular section of society –typified by being white, (upper) middle class and male. Although the demographics of decision-makers are now beginning to broaden, many of the organisational structures in which these decisions are made constrain the ability for ideas from outside these mind-sets to have much traction. Additionally, incomes associated with these types of positions mean that where people from other class backgrounds enter these roles, they often become separated from the day to day experiences of those from similar situations believing that if they have 'made good' then this is possible

for any and all. However, even when apparently benign, current differences in power have a strong impact on how the future is being written (for example, the power of people like Bill Gates and Mark Zuckerberg in deciding how a future free from global disease will be paid for and thus what it will look like).

Dealing with Inequality

How can we move forward to a more equitable future? Current discourse on labour seeks to understand the relationship between work and technology. From a Marxist perspective, many of the inequalities described above arise from discrepancies in access to and control of capital. Automation offers a mechanism through which to assess class and everyday futures, as well as incorporating a new economic model, that is being posited not as utopian socialism, but rather *Postcapitalism.*

Automation is often viewed as the reason for workers losing jobs, zero-hour contracts and a lower standard of living. However, recent work (Mason, 2015; Srnicek and Williams, 2015), highlights how the increase of technology that eliminates aspects of labour may see the future change in a way that is beneficial to those who have till now depended on state welfare and been excluded. Through becoming part of a narrative that views leisure and reduced work as integral to the everyday, the un/underemployed will be able to 'demand the future' and become stronger participants in their own futures, rather than having their lives dictated by the structures of labour that are currently in place. The extreme view is that increased technologies in the workplace will allow for everyone to work less, resulting in what Srnicek and Williams call 'fully automated luxury communism'. Other views of the future have been put forward that, rather than automating all work, propose a refocussing on work that is less efficient whilst being more fulfilling. For example, Jackson (2011) in *Prosperity Without Growth*, potentially reflecting William Morris' (1885) *Useful Work versus Useless Toil*, suggests a vision of the future where worth and meaning might be seen as something to be obtained through work, rather than as something to be purchased from proceeds of work. This may, however, need to be partly obtained through automation of drudgery.

Full automation and Post-capitalism recognise the shift to a service-based economy that has occurred in the last 30 years, and the increase in what David Graebar calls 'bullshit jobs' (Graebar, 2013). It is not a vision, but rather a manifesto on how to transition to a better everyday for all, and this future may not be that different from the present, yet it provides a way for inequalities within wage income and work processes to be considered. Alongside full automation, is the idea of a universal basic income, a concept already being suggested as part of an everyday future in several countries, such as a recent experiment in Utrecht, Holland and a referendum in Switzerland[i]. Basic income is a guaranteed unconditional amount of money, regardless of employment or social position. Changing economic and social infrastructure in such a way means state welfare becomes something beneficial to all. However, the idea that a person should be entitled to payment for being a citizen of a certain state is controversial, perhaps because those who are already financially stable view a livelihood as something which people have to earn and are not necessarily entitled to.

Futures narratives require an understanding of how inequalities could be changed, culturally, economically and politically. Significant change in the current systems may be more likely to occur (at a large level) from the bottom up via revolution than from the top down – indeed Morris clearly saw that the wealthy would not relinquish their power without a struggle. In recent years the number of social protests and networks dedicated to changing social standings has increased significantly. For example, the #BlackLivesMatter network highlights the ways in which black people are deprived of certain rights by the state and 'intentionally left powerless' [ii]. Creating a movement that is both digital (the use of the hashtag in the network's name is demonstrative of its dependence on digital technologies and social media) and physical (through protests), shows how those who have an unequal footing in certain structures are changing their position and getting others to change as well.

Contemporary Efforts to Address Inequalities in the Writing of the Future

The narrative explored throughout this piece has suggested that the future tends to be written by the incumbent establishment, and this highlights how we appear to be living in interesting times. Whilst it might be naïve to suggest that in a democratic society the ballot box is the pen with which the future of a country is written, we are currently seeing the electorate and elections as a prominent fighting ground. The voices of some who have perceived their influence as being diminished over the last few decades, are now being heard to call an end to the future being "more of the same". These struggles can be seen to be not about what the future will actually be like, but simply about the ability to have a stake in its writing.

The 2016 UK referendum to leave the European Union can be seen as an effort by many people whose voice has been excluded from politics to cast a vote that counted, as opposed to many worthless votes in general elections under the UK's first past the post system. A vote to leave could be seen as a vote that signalled desire for change from the established trajectory of the UK. It is hard to say what a vote for leaving represented in actuality, but what is clear is that the leave vote is culturally associated with many characteristics of those who have reason to feel excluded from the "classless society", not only in terms of lower income, lower social grade and lower levels of education, but also by age, as younger people overwhelming voted to remain, seeing their future in a different way to those who will not live to be a part of it.

The referendum cut across already weakened party lines but within the traditional UK political system we are witnessing another attempt to derail the future from being an extension of business-as-usual written by the incumbent establishment. Jeremy Corbyn's rise to power as leader of the Labour Party can be seen as an attempt by both young and left-wing people to wrest control back of a political system that has become associated with an elite, Westminster-centred political class. Whilst Corbyn may not usually be anyone's first choice of leader (including his own), a chain of events has resulted in him being the figurehead for a significant number of people. These people have felt increasingly excluded from the Labour Party (and consequently from electoral politics) for over a decade for a variety of reasons. Given that his supporters appear to be more working class than his opposition, this could be seen to be reflective of the Brexit vote in some ways. However, the strength of the youth call for change through support for Corbyn is at odds with the tendency for young people to have voted Remain[iii]. In this case, they are cast as a generation who has been forgotten, or even singled out for particularly harsh treatment, by the current political class.

So, which bits of the present will the future be composed of and how will it be distributed? Our exploration of some of the social, spatial and temporal inequalities that highlight unequal distribution of an 'everyday future' in the present has raised many questions. Will we continue on current trajectories of growing inequality, or will current radical niches (social, technological or economic) spread and dominate? What will determine the path(s) we take? One thing is for certain, particularly in the context of climate change, business-as-usual is not an option.

Endnotes

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Everyday Futures and Ethnographic Methods

Jill Ebrey (University of Manchester, UK) jill.ebrey@manchester.ac.uk
Isabelle Garabuau-Moussaoui (EDF R&D, France) isabelle.moussaoui@edf.fr

Abstract
This work explores the potential of ethnographic methods for understanding the future in everyday life. Based on a selective literature review, the paper discusses how ethnographic approaches enhance:
- The understanding of future-orientated practices and imaginaries;
- The analysis of possible futures of practices in everyday life;
- The integration of everyday analysis within an innovation process - forecasts, scenarios, etc. (design anthropology, for instance) or the proposition of alternative methods (narratives, etc.);
- The role of ethnographies in developing a shared idea of futures through collaborative work with research partners.

Introduction
This essay examines the connections between everyday life, futures and ethnographic perspectives, a set of complex relationships which cannot be fully developed here.[iv] This introductory work will, therefore, with reference to relevant literatures, propose a series of questions and topics as an aid to further exploration of the subject. Harvey (2011), suggests that ethnography is 'the way in which anthropologists explore people's social worlds' through the 'analytical, theoretical and empirical' where 'the specific skills and practices of specific groups' are understood relationally. Utilising the 'specific modes of attention' of ethnography, it will consider both how this method has a role in analysing everyday futures in contrasting social worlds, and how it might be usefully involved in discovering more about the process of innovation and the production of futures. It will discuss how ethnographic work - the coming together of different worlds in the course of a particular enquiry - might, by its very nature, be continually constructing different kinds of future.

Understanding future-orientated practices and imaginaries
People, in everyday life, partly think and act in relation to the "future" or potential futures. As Appadurai suggests (Appadurai, 2013, discussed by Elbez, 2014), anthropology is often focused on routines, stabilities and reproductions, but ethnographic methods might help an understanding of the "future" as a native category, that is to say, built by people. As E. T. Hall suggests, 'Future, present and past are not only intellectual concepts", but lived experience (quoted in Minvielle, Wathelet and Masson, 2016: 49). In particular, the "capacity to aspire" (term proposed by Appadurai) is not equally shared by all social groups. For instance, the lives of people having low and intermittent income are far more subject to uncertainty than those who are wealthy or with stable revenues. Anticipation of the future is less practical, when everyday life is a struggle.

Nonetheless, the practices of "savings" (energy, money, etc.), storage, scheduling of tasks, implementing "life projects", the upbringing of children, anticipation of life changes (retirement preparation, 'empty nests' (children leaving home), professional changes, etc.) all represent a "projection" into futures that can be usefully studied with ethnographic methods.

Analysing the potential futures of practices and everyday life
Popular subcultures are arenas in which, through particular practices, a different kind of future might be rehearsed. So another means of getting to grips with the practices of the future, is to undertake ethnographic studies in social groups or movements that work on projects of change. Examples might be "energy communities", the 'Transition Town' movement, or people and groups who work on political projects which aim to facilitate societal change, such as those who are considered "pioneers" in the use of

technology or new ways of living (for instance, the group of "cultural creatives", a name given by Ray and Anderson (2000) to people with a new lifestyle based on spirituality, social activism and environmental concern, who appeared in the 1990's in the United States). These specific or alternative ways of life are inspiring, and there are some diffusions of elements (of their discourses and of their practices) in other social groups.

The ethnographic method might allow some understanding of how ideas on lived futures are diffused through networks and their attendant bridging mechanisms. The analysis of such practises, discourses and forms of diffusion can stimulate questions about the "power" and influence of such social groups, for example, asking how important can 'the future' be, if the power to make a future seems not to be in your own hands.

Ethnographic methods can also be used to understand the social, technical and imaginary histories of both 'things' and 'humans' through the tracing of their biographies, observation in the domestic context, and biographical interviews which reflect on past, present *and* future. For example, anthropologies of science and technology have used these methods to analyse the "cultural biography of things" (Kopytoff, 1986), where the journey of an object carries within it traces of the past, present and future, that is, their genealogies, trajectories, diffusions and evolutions during time . This may help to anticipate the potential futures of "families" of objects and imaginaries (what is persistent, what changes, where are the hybridisations). Minvielle, Wathelet and Masson (2016), for instance, suggest making the 'future' more 'present', through drawing on fictional and popular cultural accounts of the future and developing 'future scenarios in order to build an alternative world view'.

This approach can help an understanding of the processes through which change might occur. For instance, there are some cycles in the history of innovation: a first step with "great" versus "dark" imaginaries, followed by hybridisations, and then trivialised practices, usages, appropriation and misappropriation. This cycle can provoke a second step of creative and innovative changes in the design of the product or service. Alternatively, the 'Diderot Effect' (McCracken, 1988) can be considered, that is how the introduction of a technology or service will change other parts of the social system.

New and innovative practices might be supported through the ethnographic process, and anthropological work can help prepare local groups, companies and public institutions for change. For example, the anthropologist Annette Henning (2005) worked with a public energy company to prepare the infrastructure of a new district heating system, specifically focussing on the relationships between infrastructures and people, and preparing them to connect to it. But taking into account the possible future, change is only potential contribution of this kind of applied ethnography. For instance, Pink and Mackley (2016) explain that they:

 "do not consider [their] task to be simply to inform designers with ethnographic insights about what people do in their homes, which might then be used to inform ways of modelling either 'personas' to design for to the making of prototypes to be tested" (p. 184).

They would like their work to be used to "co-design" with their ethnographic partners and in particular to "design for improvisation". For example in an analysis of the way people go to bed, night after night, they explored the "everyday idiosyncratic forms of making, which incrementally become habitual" (p. 184). Beyond the individual practice, the anthropologist analyses a social mechanism that seeks to appropriate space in unexpected ways (for instance, at work, creating socialising locations that are not designed for that). These kind of ethnographic findings were used in design and spatial planning, transforming "hijacked" spaces into "formal" spaces. But the mechanism of "hijacking" itself is hardly taken into account during the design process. This begs the question about cycles of design and use, and discipline-specific conceptions of

future everyday practices. Design may consider them as a misappropriation, whereas anthropology may consider them as a contingent appropriation, creating room for manoeuvre in reaction to the formal rules.

Ethnography is also used as a phase into the "design thinking process" - a method of innovation which connects user experience to creativity. Ethnographic participation in this process uses observations (user-centric approaches) to design problems, and uses this 'data' as the basis for exploring problems and subsequent alternative practice. On the basis of this, the design-thinking method then proposes ideas for new products or services, and is then in a position to explore some prototypes and business models.

Although it is not possible to fully anticipate future practices, there are some methods that can help us understand how practices are shaped. When an ethnography is not yet possible, because the future practice does not yet exist, interviews with social science experts is one way to connect diverse parts of a question about futures. For instance, in the 1990's, when exploring the question of "how the baby boomers might act when they retire", for a public company, Desjeux and Garabuau-Moussaoui (2000) interviewed social scientists about the life cycle, social movements, activism, and collective identity of Baby Boomers, asking them for their expert point of view. Through connection, comparison and analysis, Desjeux and Garabuau-Moussaoui were then able to propose some scenarios upon retirement of this particular social group.

Analysing who is producing futures

Ethnographic work can also reveal how the everyday work of building scenarios, forecasts, imaginaries and technologies of the future is done. Whilst everyone participates in the future as a cultural category, some are more directly involved in representing it. Firstly, there are the popular cultural productions of the future, for example, comic strips, cartoons, manga, sci-fi novels and movies. Secondly, there are 'culture(s) of the future' in the corporate world, a commercial culture of the future involving how companies speak to each other about their futures and their customers, the latter through advertising, and corporate movies amongst other forms. Thirdly, there is a "scientific" culture of the future consisting of, for example, futurologists and prospective forecasters.

All these categories are cultural: each society, at a specific period, defines its future(s) which often reveals as much about the present as the future. Ethnographers can observe and analyse this particular practice of defining and developing a future, for instance in studying how prospective futures might be implemented in a particular administration (Weber, 2015), or how anthropology and design are used in creative and innovative processes in a large company (Suchman, 2011). Suchman suggests that anthropology needs to be relocated. After a "turn toward 'home" in anthropology (reinvention following the awareness of its colonial history), Suchmann suggests that the direction of the discipline should now be from home to "locations characterised by their cultural familiarity and their political and economic centrality", for example companies or Government departments. (2011:16). Suchmann has herself practiced this through "a long-term immersion within a site identified as a centre of innovation and future-making, which became [her] professional home" (1979-1999 at Xerox's Palo Alto Research Center (PARC)). (2011: 16).

Sharing futures

Ronnie Frankenberg (2008) suggests that: 'The social future never (just) comes. Like all other imaginable phenomena surrounding social life on earth, it has to be produced through co-operative activity, if not purposefully and deliberately then, by default'. In the same article, he indicates that the process of ethnographic work, the relationship between the ethnographer and the community in which s/he works is one that necessarily is 'a future producing' process', where the 'present' is always contingent on the future, even if that is only the next day. This method allows both the ethnographer and the community members or individuals she or he is working with, the 'right to narrate' (Bhaba, quoted in Frankenberg 20008) thereby suggesting the possibility of a shared dialogue between stranger and community member and the consequent revealing of agendas and narratives and thus the interweaving of different perspectives.

Therefore, the idea of immediate futures is one that both parties will discuss as part of everyday conversation, which then may stimulate a kind of co-production of futures. Frankenberg suggests, that:

"… 'futures' rather than being a separate dialogue about social reality, at most levels of discourse, consists, not in displaying an historic past nor in describing an ethnographic present, but in a continually contextualising reflexive process of producing hypothetical shared or unshared futures".

Frankenberg (2008: X) goes further: "The job of the analyst (s) of the fleeting present is to uncover all the various theoretical possibilities embedded in the presentation of the perceived past and to decide which outcomes different categories of person in interaction will seek, and/or succeed in bringing about', thereby suggesting that inherent in any dialogue are clues or hints about 'possibilities' and 'outcomes', which are about particular futures."

Desmond (2016) in his ethnography of eviction discusses ways of being an ethnographer. He suggests that it is more than just a method, rather a 'fundamental way of being in the world', a 'sensibility' a means of 'building rapport with the people you want to know better', 'observing and experiencing what they do, working and playing alongside them, and recording as much action and interaction as you can, until you begin to move like they move, talk like they talk, think like they think, and feel something like they feel'. Whilst the language here is somewhat casual (the use of 'they' is problematic), the suggestion that the ethnographer should get into the groove of life in the field, is one that has to be useful for any understanding of how 'the future is imagined and shaped in everyday practices'. Laura Forlano (2013) reminds us that in order to make ethnography work in a future sense:

"… as ethnographers, it is not enough to describe social reality, to end a project when the last transcripts and field notes have been analyzed and written up. We must find new ways to engage and collaborate with our subjects (both human and nonhuman). We need better ways of turning our descriptive, analytical accounts into those that are prescriptive, and which have greater import in society and policy. We may do this by inhabiting narratives, generating artifacts to think with and engaging more explicitly with the people formerly known as our "informants" as well as with the public at large."

Conclusion

There is a challenge to observe what doesn't exist yet. We can see that ethnographic method helps to comprehend this paradox. Humans think and act in part according to futures; they may have some definitions of what might be the future; but these vary, depending on their forms of capital and other resources. We have here suggested, that this 'suite' of methods may help in an understanding of emergent ideas, experiences and practices through the highlighting of "lines", the "wires", between past, present and future; between practices, discourses and imaginaries; between conception and use; between disciplines which explore the future.

Even when studying our own society, anthropological methods are a means of shifting and decentring our vision, thereby facilitating an analysis of how people act, speak, and imagine futures but also to get beneath the skin of these practices and the social representations. At the same time we can investigate the people and social groups that work on the social production of futures and how power and agency are distributed amongst them.

The 'results' of ethnographies are partly integrated and embedded into innovation processes, through design, forecasts and scenarios. An applied anthropology is developing, named as 'design anthropology'. Anthropology tries to find a place in the debates concerning futures, not only potential or probable futures, but also acceptable futures and desirable futures. Exploring alternative, informal, grassroots-based definitions of the future highlights the various ways in which a "good life" might be achieved. We conclude with Suchman and Tsing , ' …futures can be enacted only in what Tsing (2005) names "the sticky materiality

of practical encounters . . . the makeshift links across distance and difference that shape global futures—and ensure their uncertain status" Tsing (2005, 1-2,quoted in Suchman 2011: 2).

Endnotes

[iv] This work is the first stage of an investigation which will be developed more fully at a later date.

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Futuring Fashion from Everyday Life

Lizzie Harrison (University of Arts, London, UK) e.j.harrison@fashion.arts.ac.uk

Angella Mackey (Eindhoven University of Technology, Netherlands)
angella.mackey@phillips.com

Abstract
Sustainable design and wearable technology, two very different but emerging fields in fashion, share the ability to fundamentally change the way in which we consume, use and dispose of clothing. Whilst much of the new knowledge generated in these fields focuses on materials and technology developments in order to create long lasting significant 'change' through changing behavior or rethinking the entire fashion system, a more holistic understanding of how garments live will be essential. *The everyday*, an often overlooked but fundamental part of fashion practice, could therefore be considered an action space for practice-based researchers to explore constructing positive futures. We define the everyday as personal, daily interactions with garments over long periods of time. Drawing on three diverse fashion experiments that explore daily clothing practices and rituals we consider how the everyday can be utilised to enact change and create future visions.

Introduction
The apparel industry is continually reinventing itself aesthetically while keeping up with advancements in technology, production processes, and legislation. In 2015 it was globally worth $3,000 billion accounting for 2% of the worlds GDP (Fashion United 2016) and employing 75 million people worldwide (Stotz et al 2015). The future visions channeled by this industry have significant impacts on people, economics and the environment. Sustainable design and wearable technology, two very different but emerging fields in fashion, share the ability to fundamentally change the way in which we consume, use and dispose of clothing. In order to enact positive and preferable visions for the future of fashion, we discuss the value of explorations into everyday clothing wearing practices. We propose *the everyday* as an under-explored space within fashion innovation that is rich with information about people, their behaviour and rates of stability and change. We argue that this space can offer valuable insights about the opportunities and challenges of speculations within the field, just as important as their technological and systematic development.

Futuring and Fashion
Futuring, a broad term that describes the activities used to identify and evaluate future events (Cornish, 2004), is an important tool of the fashion industry. Behind mainstream fashion is a complex and developed industry of fashion forecasting and futuring led by organisations such as WGSN, which follow socio-economic trends to supply the industry with probable future visions (Tham 2015). Consumer studies supply data on changes within the system feeding back information on consumption habits to retailers (Klepp 2015). But the way in which we interact with our clothing on a daily basis – the garment's life with us – are activities far removed from the boardrooms of multinational companies and have thus become under-studied and over-simplified.

Clothing consumption studies look at fast changes within the system that do not focus on the slow process happening everyday within the home (Klepp et al 2015). Trend forecasting and consumption studies also neglect to take into account the phase during which the item of clothing is actually being used. This 'use phase' is documented as being the phase that has the largest energy and water impact on the lifecycle of clothing (Fletcher 2008, Allwood 2006). Such studies also fail to take into account the daily clothing practices such as dressing and assimilating novel outfits which take place within the home on an ongoing basis (Woodward 2015) or the complexity of the acquisition, use and disposal of clothing within the home

(Fashion Ecologies 2016). Put simply, we lack a lot of knowledge about what people actually do with their clothing (Klepp at al 2015). As a result, mainstream trends and associated future visions are focused on the object, the garment, rather than on understanding the complex relationships between the garment, people and place.

Within the field of sustainable design, this lack of understanding of everyday clothing practices can lead to a focus on incremental improvements and often short-sighted solutions leading to limited systems change (Meadows 1999). With a few exceptions, most industry-related sustainability focuses on the making of products – their materials and production – and not on how they will perform over time and 'live'. How long a wearer will wear or keep their garment, for example, is not accounted for.

Similarly, within smart garment and wearable technology disciplines – fields that propose the integration of electronics and computational abilities directly into clothing fabrics or worn accessories – a narrow focus on technological development has lead to relatively few developments making it to the mainstream consumer market in the last decade (Dunne 2010). If the ambition of both the sustainability and wearable technology agenda is going to create long lasting significant 'change' through changing behavior or rethinking the entire fashion system, a more holistic understanding of how garments live will be essential. In this essay we ask whether understanding the practices and rituals of clothing within the everyday give researchers and designers an action space in which to build stronger visions for the future.

Action space of 'The Everyday' in Fashion
We propose *the everyday* as an action space for practice-based researchers, which we define as those conducting research through the activities of their fashion practice, to explore constructing positive futures within fashion. In this context, we define the everyday as personal, daily interactions with garments over long periods of time. By collecting data, probing and experimenting in this area we aim to deepen understandings of the nuances of personal expression through clothes, the life of garments through their wearers, and life of garments beyond their wearers. We see fashion as dynamic in its nature – often fluid, messy, personal and always changing at a rapid or slow pace. Through studying clothing in an everyday context we can observe the interactions of wearer and garments in their 'natural habitat' – moving through time and different contexts.

Sustainable futures aim to offer visions that mean living within our ecological means (Rockstrom 2009). Looking at the global impact of the apparel industry this feels like we need to radically rethink the way in which we wear and interact with our clothing. However, the limited studies that do look at the everyday practices of clothing use in detail, such as KRUS (KRUS 2016) and Craft of Use (Fletcher 2016) uncover many sustainable practices already happening within the home. Woodward suggests that rather than viewing everyday actions as problematic, they may shine light on existing, more preferable behaviours (Woodward 2015), which gives space to develop preferable future visions. Building on this notion we argue that a garment unworn is a static object. Solutions for producing eco-friendly textiles or improving industrial garment production methods are two kinds of approaches meant to improve the environmental impact of these objects, but concentrate on them as objects alone. Clothing touched, worn, styled, mended, washed and shared by their wearers holds information that can inspire sustainability solutions in the form of action-based systems and services for future interactions of clothes.

Similarly within the context of smart garments and wearable technology, there is a tension between the rapid technological developments of smart materials and understandings of what it might mean to wear them. Producing prototypes and garment samples for 'intelligent' clothing meant for mainstream consumption has been relatively straight-forward compared to the struggle to find early adopters to wear them, or gain consumer acceptance (Dunne 2010). Even less is known about the proposed garments' 'worn' life compared to what is known about experiences of traditional clothing in daily life. It could be argued that despite the small, soft or flexible form factors of wearable technologies, they do not merit the label of being

'wearable' until they are truly worn – until they become part of an individual's wardrobe and are seen by a community of people around them. Through these activities the garment can begin to situate itself, with its wearer, within the language of fashion and dress. In both sustainability and wearable technology contexts for clothing, we see the need for deeper understandings of daily clothing practices and socio-cultural contexts to achieve the futures that are envisioned.

Explorations of 'The Everyday' Within Fashion

In order to enact change there is a need to develop a detailed understanding of how we already wear and use our clothing, or experiment by inserting new ideas into this space. The everyday provides a fertile action space to cultivate this understanding allowing fashion to be observed as a time based practice. Below, we briefly describe three recent studies led by the authors of this paper within sustainable design and wearable technology that have used the everyday as an action space for exploring future visions for fashion. We list themes that have emerged from each study, and elaborate on their meanings in the discussion.

Fashion Ecologies

Fashion Ecologies is a research project that aims to find novel relationships between people, clothing and place within a narrowly defined geographical location in order to understand current local fashion practices. The methods employed by the study explore the space of the wardrobe within local homes using experimental approaches to understand the everyday use of clothing (Fashion Ecologies 2016). One of the methods being employed is a holistic wardrobe audit of an individual's material and social clothing assets which includes a full audit of all categories of clothing, resources for caring and washing clothing, resources for making and repairing clothing and other related items. Accompanying the audit is an interview aiming to uncover the daily journeys of clothing through the wardrobe and the home covering acquisition, care, use and disposal aiming to map the flow of clothing through the household. Within Fashion Ecologies the audits are being completed in a single town in the UK in order to build up a picture of the complexity and interconnectivity of the local fashion system. The study is being repeated in a location in Norway to gain insights about the particular relationships between people, clothing and place.

Figure 1: Local clothing example from Fashion Ecologies Project

The data collected through these household visits covers both the scale of resources available in individual

households as well as the daily practices of the individuals. The researchers work with the participant to calculate the perceived quantity of clothing they own and then count the actual quantity of clothing owned. In addition to quantifying the household resources, the method also uncovers the flow of textiles around the home and what external services are used to maintain the clothing over time. Working closely at a household level to uncover small, perhaps 'insignificant' insights into clothing use the research team are able to probe the balance between the quantity of clothing owned and the capacity to maintain and care for that clothing during the use phase.

By focusing on the space of *the everyday,* this study collected data and insights about clothing related to themes of *repetition* and *change and evolution* in various homes, and mapping of *complex systems* and *scale*.

ReMade in Leeds

'ReMade in Leeds' is a research project and social enterprise based in Leeds, UK which aimed to uncover local clothing practices within a community, thereby particularly focusing on repair and reuse activities (Whitson-Smith et al 2012). The project created a community based clothing repair studio located within an unused retail unit in an inner city suburb of Leeds and was open daily from 2011-2013. Members of the public could drop into the studio with clothing or other household textiles that needed repairing and book the item in for a repair, alteration or modification. This process involved a one-to-one discussion about the nature of what needed to be done and often required the garment to be tried on. A member of the ReMade in Leeds team then completed the sewing work, after which the owner would return to collect the garment and pay a fee for the service. The service was priced to cover the cost of the machines and the rent of the space. Throughout the project, data was collected on types of repairs undertaken, which ranged from trivial and simple repairs such as replacing a button to more large-scale clothing 'crisis' including a last minute bridal dress repair.
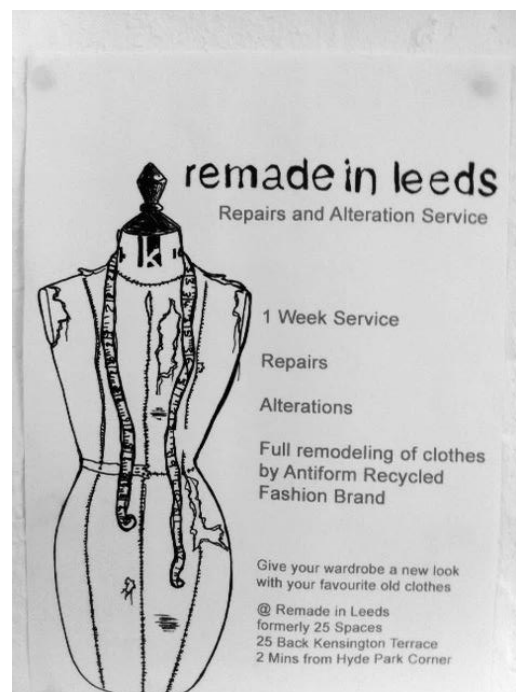

Figure 2: ReMade in Leeds Repair poster.

The study recorded the types of repairs commonly required as a result of both wear and tear and manufacturing faults. It also gained insights into the types of skills available and those lacking in the participants around clothing care. Through the one-to-one discussions, expectations of clothing use and the

value placed on repairs were explored and micro insights of daily clothing wear as well as unforeseen clothing crises were generated. For example, identifying the simple repairs, which, due to a lack of basic skills and without intervention would have resulted in a garments disposal. By focusing on the space of *the everyday,* this study collected data and insights about clothing related to themes of *mundane and extraordinary crises* and *co-production*.

Greenscreen Dress

In this study, future notions of wearing dynamic display clothing or *dynamic fabric*, is explored in everyday life. If the textiles making up a garment can act like a computer screen – being able to display colour, pattern, text or video through computational input – what might this experience be like in everyday life? What might be the challenges and opportunities for introducing this kind of fabric into our garment systems? The very possibility of integrating dynamic fabric into clothing challenges many of the norms of fashion. For example, it introduced the notion of one garment functioning as multiple garments (Devendorf et al. 2016; Dunne 2010). In theory, this breed of 'ultimate garment' could potentially mitigate the waste and unsustainability of 'fast-fashion', i.e. the cyclical change of fashion based on trends and seasonal changes of spring and autumn collections (Dunne 2010).

Using auto-ethnography, the researcher in *Greenscreen Dress* wears green clothing every day for six months and captures videos and images of her garments with changing digital content on them through a chroma-key mobile application. She then posts the pictures of herself wearing the garments daily on Instagram as a way for them to exist within a social ecosystem and fashion dialogue. The study focuses on exploring dynamic fabric from the perspective of what it might mean to wear it in everyday life, as opposed to offering technological or prototypical innovations towards the concept.

Reflections from the study include, but are not limited to, insights into the expressive possibilities of dynamic fabric, challenges of integrating a new 'hyper-functional' textile into an individual's wardrobe, and the social reception of dynamic fabric within contemporary fashion dialogue. For example, in the study the researcher began by wearing one green dress, assuming that if periodically washed and dried overnight the dress would meet all of her personal style needs. However, after two weeks she discovered that even though she could change the façade of her dress, she still desired new silhouettes, textures and combinations of clothes to fit the social norms. Over the period of the study she collected 20 new green garments and accessories. This questions the promise that a garment with dynamic fabric would lead to less consumption of clothing, and at minimum, highlights the complexity of the language of fashion as it exists today, and can help dynamic fabric developers foresee challenges and opportunities in the future.
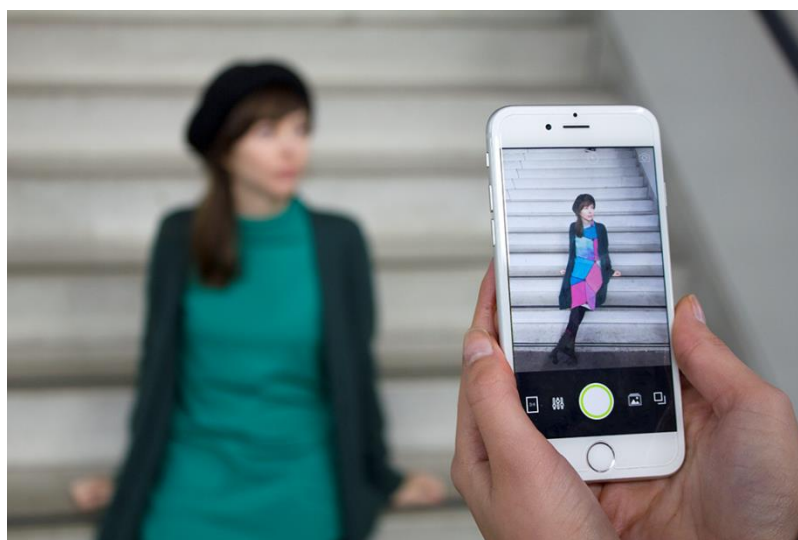

Figure 3: Greenscreen Dress App

By focusing on the space of *the everyday,* this study collected data and insights about clothing with dynamic fabric related to themes of *mundane and extraordinary crisis*, *the introduction of new materials, repetition, personal expression, situated audience* and *change and evolution* over long periods of time.

Discussion

In using *the everyday* as an action space, the studies *Fashion Ecologies*, *ReMade in Leeds* and *Greenscreen Dress* were able to draw out information related to everyday clothing practice that contribute to future visions within the fashion field. The kinds of information gained and resulting themes varied from study to study, but were consistent in terms of drawing on *the everyday* to generate new insights.

The following three themes were consistent: *change and evolution*, *repetition*, and *mundane and extraordinary crisis*. These themes within the domestic everyday offer novel approaches to understanding perspectives on the complex relations between user and garment as it develops over time. In order to obtain rich data, the studies ran longitudinally from six months to three years or spanned numerous participants in a focused location. In essence, the nature of the studies allowed the unfolding stories of wear to be documented (Spivack 2014) as they evolved in the present. For example, through wearing the green garments daily in Greenscreen Dress, the researcher was able to observe specific moments throughout the six-month period for when and why things changed or remained consistent. Related to a range of issues like weather, emotion, personal tastes, audience input, audience interaction, and availability of green clothing and materials around her, we can see a genuine personal context affecting the outcome.

Each study has also developed novel methods in order to get inside *the everyday* of fashion practice, and in all cases this was done with the public or within the public domain. The methods range from an auto-ethnographic approach to participatory action research, but use the nexus of the wardrobe as a starting point. Finally, whether using physical places like the shop for *ReMade in Leeds,* or social media platforms for the *Greenscreen Dress*, the methods all develop in the present, allowing the public to engage in real time.

Conclusion

In order to generate positive future visions, whether around creating a fashion system which is viable and in sync with our natural world and planetary boundaries, or developing a new generation of smart clothing which will transform our daily lives we need to expand our knowledge of how clothing is lived with and used. This means understanding the nuanced dialogue between wearer and garment in order to gain a deep appreciation of the daily rituals and behaviours, which govern the interactions of wearing clothes. Using *the everyday* as an action space gives designers and researchers a space to develop methods to observe, explore and interrogate fashion in new ways. Through sharing our fashion experiments we hope to inspire other researchers in our field and beyond to find a new starting point for exploring everyday practices and hope that building a body of work on this space will provide future discussion.

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Imagined futures of the Circular Economy

Daniel Welch (Sustainable Consumption Institute, University of Manchester, UK)
daniel.welch@manchester.ac.uk

Margit Keller (Institute of Social Studies, University of Tartu, Estonia)
margit.keller@ut.ee

Giuliana Mandich (Sociology, University of Cagliari, Italy)

Abstract
The essay sketches some lines of enquiry into how 'everyday futures' are imagined in discourse around 'the Circular Economy'. The Circular Economy is offered as a model for a significantly more environmentally sustainable economy, an alternative to the current "linear economy" of "make, use, dispose" (WRAP, n.d.). The discourse has grown in prominence in recent years, with the EU recently reframing its policy commitments to sustainable production and consumption in terms of the Circular Economy (EC 2015). We examine examples from the national contexts of Estonia, Italy and the United Kingdom, and the EU level, to explore how everyday life and consumption are imagined in the future of the Circular Economy. We offer some initial sketches, drawing on practice theory (e.g. Schatzki, 2002) and conventions theory or 'pragmatic sociology' (e.g. Boltanki and Thévenot, 2006; Thévenot, 2001) and suggest further theoretical articulations to be pursued through the empirical area.

Introduction
This essay begins to think about how 'everyday futures' are imagined in discourse and practice around 'the Circular Economy'. The Circular Economy is offered as a model for a significantly more environmentally sustainable economy—a blueprint for an alternative future to the current "linear economy" of "make, use, dispose" (WRAP, n.d.)— and of resilience in the face of resource insecurity and the potential disruptions of ecological crisis. With Mische (2014), we argue for the importance of the task of analysing such "sites of heightened, future-oriented public debate about possible futures", or "sites of hyperprojectivity" (p. 437). Projects and visions of collective futures mobilise—sometimes conflicting—understandings of the common good, or "orders of worth" (Stark 2009; Boltanski and Thévenot 2006), actual or imagined "teleoaffective" engagements (Schatzki, 2002; Welch and Warde, 2017), and implicit models of engagement with everyday life (and in the case of circular economy, centrally, of consumption). Such imagined futures may come to invest professional practices, political spaces, and everyday consumption. We approach the task from a dual theoretical background in practice theory (e.g. Schatzki, 2002; Warde, 2005) and conventions theory or 'pragmatic sociology' (e.g. Boltanki and Thévenot, 2006; Thévenot, 2001, 2014)[v]. Our intuition is that the project of the Circular Economy provides a productive site in which concepts from these two theoretical traditions may encounter one another in the context of projected everyday futures. This essay offers some initial thoughts on what is intended to be a larger project to articulate these theoretical positions together, with the goal to enrich and develop understandings of the cultural dimensions of projections of socio-technical everyday futures (see Jasanoff and Kim, 2009, 2015). In this essay we simply sketch some lines of enquiry, drawing on examples from the national contexts of Estonia, Italy and the United Kingdom, and the EU level.

Circular Economy and the European Union
The project of the Circular Economy has grown to prominence in recent years, drawing on an inheritance in the field of industrial ecology (e.g. Clift and Druckman, 2016; cf. Gregson et al., 2015) or "cradle-to-cradle"

design (Braungart and McDonough, 2002), and "natural capitalism" (Hawken et al., 1999). In the imagined future of the Circular Economy, as the Ellen MacArthur Foundation put it, the very "concept of waste" would be eliminated (UCL, n.d.), with resources and materials cycling through the economy on the model of a nutrient cycle. The principle of "eco-efficiency", which carries within it the logic of the steam engine— "efficiency" is defined as the ratio of useful output to total input—is replaced by that of "'eco-effectiveness', highlighting the potentially infinite contribution of materials to the generation of value" (Mylan, et al., 2016: 2).

The European Commission has recently reframed its commitments to a "resource efficient Europe" of waste reduction and recycling (EC 2011) in terms of the Circular Economy (EC 2014), with an EU "action plan for the Circular Economy" recently published (EC 2015). A number of non-governmental organisations and think tanks, notably the Ellen MacArthur Foundation in the UK, have championed the project of Circular Economy, and engaged in business and academic collaborations. As Gregson et al. (2015: 221) note "idealized visions of the circular economy" are of a new, producer-led, industrial revolution, of "industrial symbiosis" and products designed for extended lifetimes and end-of-life recyclability as new material inputs. However, the policy reality is, thus far, largely one of enhanced, post-consumer waste management (Gregson et al., 2015).

Levels of engagement with the project by member states and regions of the EU varies widely. A critical report from the UK parliament noted that "instead of scaling up its work" on Circular Economy the UK Government " is cutting it back" and "lacks leadership" (EAC 2014: 3). On the other hand, in the UK, think tanks, often in collaboration with business and academia, have been active in promoting the Circular Economy. In Estonia, the situation is reversed: on the formal government policy level Estonia is tightly engaged with EU developments, however there is little civil society, academic or media engagement with the concept, outside of the waste processing sector. Italy is similarly politically engaged, playing a very active role at EU level and in May 2015 organized an informal meeting in Rome with other EU states to stimulate dialogue on the Circular Economy ahead of publication of the EU action plan (EC 2015).

Circular Economy, Consumption and Everyday Futures

As Gregson et al. (2015) note there has been little critical engagement with the concept and vision of Circular Economy. While Gregson et al. (2015: 225) focus on the normative exclusions of the geographically bounded EU vision of Circular Economy and the "collisions of morality, materiality and market logics" that will likely form the ground of its political contestation, our concern is with both the "orders of worth" (Boltanski and Thévenot, 2006) and imagined futures of everyday life and consumption invoked within visions and models of Circular Economy, as well as the "dimensions of projectivity", or dimensions of variation in future-orientation, expressed by them (Mische, 2014).

We take as an entry point the observation of recent social scientific engagements with the Circular Economy (e.g. Antikainen et al 2015; Jensen 2016; Mylan et al., 2016) that current models "fall short in regard to the conceptualisation of 'consumption' and 'consumers'" and, as Mylan et al. (2016: 2) note, the particular "lack of attention paid to the domestic sphere, an important site and space for the enactment of practices which shape how and why consumers use particular products and services, how 'waste' is generated, and ultimately how this might be changed."

Some widespread definitions of the Circular Economy tend to elide the domain of everyday life and consumption, even as the "use" stage remains the central pivot to the entire model, as in this definition from the Ellen MacArthur Foundation:

> "A circular economy keeps products, components and materials at their highest utility and value, at all times, eliminating the concept of waste, with materials ultimately re-entering the economy at end of use as defined, valuable technical or biological nutrients."

Compare here the centrality of "Consumer" and "User" in a widely reproduced graphical representation of the Foundation's model:

FIGURE 4 The circular economy—an industrial system that is restorative by design

1 Hunting and fishing
2 Can take both post-harvest and post-consumer waste as an input
SOURCE: Ellen MacArthur Foundation circular economy team
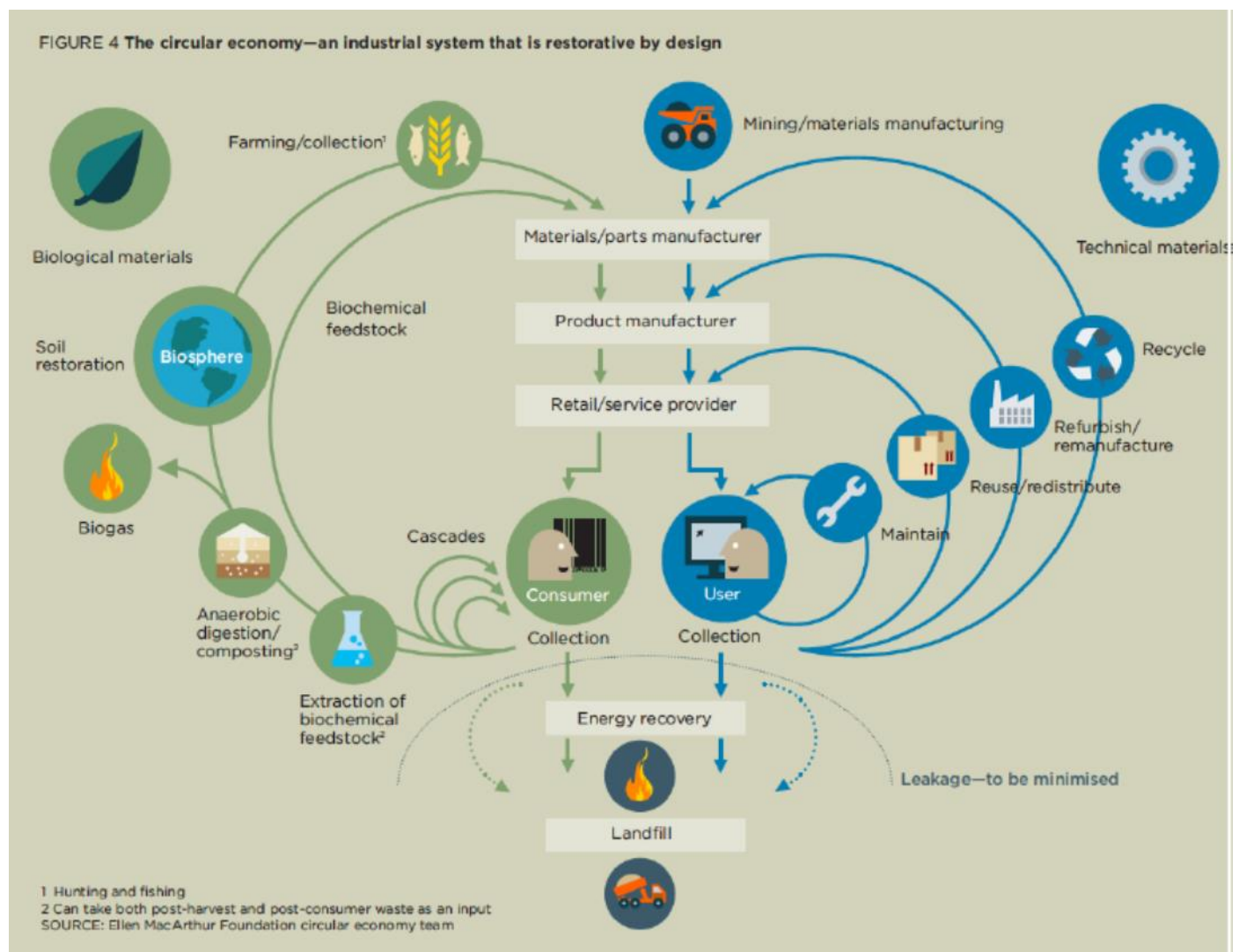
This said, the centrality of the domain of use and consumption is routinely acknowledged in reports and policy statements. An Estonian Government press release rehearses a common pattern in policy documents reviewed thus far[vi], welcoming changes to the Ecodesign Directive that will "enhance the reparability, durability, and recyclability of products" (Envir.ee, 2016) whilst offering little to nothing by way of the projectivity of everyday life and consumption in which products will be routinely repaired, not replaced, and recycled. Between the design stage on the one hand and, on the other, the end-of-life (waste management and resource recovery) of 'circular' products, the use stage of products in the Circular Economy and their users are largely absent. Yet, the same press release assumes the role of the consumer in everyday life to be crucial, with the Minister of the Environment stressing that: "Fulfilling the set objective implies everyone's contribution [including] reasonable and conscious behaviour of individuals [which] reduces needless consumption" (ibid). Typically for political discourse on environmental sustainability the consumer here is portrayed almost in caricature as a rational and calculative agent, or having the responsibility to become one. At the same time, however, the consumer's assumed engagement with the project of Circular Economy is deeply normative, implying the necessity of a strong motivational commitment in and orientation towards radically changed consumption norms and practices, whilst shorn of any projected context in which those changes might be assumed to take place.

Consumption does feature as a key domain within the EU action plan document (EC 2015), however, here again we note the restrictive, individualised, behavourial model of social action through which consumption is framed. (We discuss the practice theoretical critique of this model of consumption below). The action plan section on "Consumption" begins:

> "The choices made by millions of consumers can support or hamper the circular economy. These choices are shaped by the information to which consumers have access, the range and prices of existing products, and the regulatory framework." (EC 2015: 6)

And proceeds to largely rehearse the conventional tools through which sustainable consumption policy has been framed by the EU since its outset: eco-labelling, price incentives, household waste reduction and recycling.

Orders of Worth and Projectivity

We also note in the EU action plan's "Consumption" section (EC 2015) the absence of general statements of value or normative exhortations to action, the effect of which is to frame the domain of consumption within market and industrial "orders of worth" (Boltanski and Thevenot, 2006). That is to say the conventional forms of worth to justify a future orientation towards Circular Economy are framed through general understandings of, on the one hand, profit maximization and competition (market order) and on the other productivity, efficiency and instrumentality (industrial order). Notable then is not only the absence of an ecological order of worth but a gesture beyond the model of industrial efficiency towards "eco-effectiveness" through which the Circular Economy claims to distinguish itself (Mylan et al., 2016).

Thevenot et al (2000), Chiapello (2013) and others (e.g. Finch et al., 3013; Blok, 2013) have explored the emergence of an ecological or green order of worth, commonly in contestation or collision with market and industrial orders. We note variation in the invocation of orders of worth across our pilot study documents. Justification processes in official government texts are generally not very elaborate, drawing upon taken for granted, naturalised key-words, such as "sustainable" and "competitive". In our Estonian example the ecological, industrial and market orders of worth are all invoked, adjectives signalling different orders are placed side by side, eliminating conflict between them, and normalising a future imaginary that sets competition, efficiency and ecological sustainability all in harmony:

> "Estonia supports most of the measures in the Circular Economy Package of the European Commission, which aim to promote the growth of competitive and sustainable economy in the European Union by increasing more effective and sustainable implementation of resources within the entire product value chain." (Envir.ee, 2016)

Noting that "Sustainable consumption, production, and innovation are the keywords in developing new business models and markets", the Estonian Minister of Environment collapses the market and green orders into one, making "sustainability" an inherent part of a new business order of the Circular Economy. We note here that while such collisions may signal contradiction and conflict, a strand of research into orders of worth has focused on the how such dissonance may itself act as a form of coordination (e.g. Finch et al., 2013); or how as Stark (2009: 191) puts it "misunderstandings produced through such discordant attributions may in fact facilitate as opposed to thwart coordination among heterogeneous actors within and across organizations". This noted, critical for the environmental claims of the Circular Economy model here is that, as one commentator has put it, "the exact relationship between circularity that maximizes profits and circularity that minimizes environmental benefits is unclear" (Van Ewijk, 2014,n.p.).

In our Italian example we note how the dimensions of projectivity (Mische, 2014) themselves militate away from the necessary long term future orientation of the ecological order of worth. Here the documentation shows almost no protension, or rhetorical extension, toward the future. The word future very rarely appears and the discourse is in general flattened by the a-temporality of the economic language, the prevalence of

the present tense and the absence of future-characterizing nouns (such as aspirations, challenge, progress, vision etc.). What seems to be at stake is more the short time destiny of the Italian economy than the long-term environmental and everyday futures. The transition to a Circular Economy is most of the time presented as a resource for improving the competitiveness of the Italian economic system:

> "Here is an entrepreneurship that believes in Italy and in Europe, which knows to bet on innovation environment, now a decisive element for competitiveness in the global market. [And which] serves to project ourselves in the only possible future, the circular economy and sustainable development as the cornerstone of doing business." (MDA 2016)

In the Italian policy documents we find the market order of worth the primary frame, with the green frame in a way a new marketing strategy for Italian economic competitiveness. This partly reflects the strong need of the Italian government to support its entrepreneurial system in the global economy but also carries all the fragility and inherent tensions of green orders of worth, as elsewhere analysed (Finch et al., 2016, Thèvenot et al., 2000).

Dissonance between orders of worth and the relation of projectivity to those orders are fruitful lines of further enquiry. Lastly, we note the tentative possibility that the articulations of general understandings from ecological, industrial and market orders suggests an emergent Circular Economy order of worth struggling to coherently compose itself from disparate elements.

Circular Economy as a New Model of Consumption

The EU action plan does note "innovative forms of consumption" (EC 2015: 7) as supporting the development of the Circular Economy and thus gestures towards imagined novel practices of consumption assumed by the models. Here the action plan rehearses a common collection of elements: "sharing products or infrastructure (collaborative economy), consuming services rather than products, or using IT or digital platforms" (ibid.). As a recent UK policy briefing note comments: "Moving to a circular economy will require changes in how people consume products" (POST 2016: 1). Business and think tank discourse on the Circular Economy tends to frame the future of everyday life in terms of radical change, "profound transformational opportunity" as the Ellen MacArthur Foundation puts it (EMF 2013), conceived largely through the disruptive effects of digital technologies, ubiquitous computing, 'big data' and social media, and the reconfiguration of consumption and work practices that these trends produce. "Collaborative consumption" and models of "product-service systems" are routinely invoked here, suggesting a profound shift away from private ownership of products to a new service model of provision. The Ellen MacArthur Foundation invokes everyday futures of consumption in the Circular Economy as:

> "A new model of collaborative consumerism —in which consumers embrace services that enable them to access products on demand rather than owning them—and collaborative consumption models that provide more interaction between consumers, retailers, and manufacturers." (EMF 2013: 10)

This imagined "collaborative consumerism" is also a more community-based and localised economy, in some of its circuits at least. What is imagined here is a future of consumption which embraces not only novel business models and consumption practices but novel consumption norms and affective engagements. The POST (2016) UK policy briefing acknowledges the complex challenges of such change, while noting current trends suggestive of possible trajectories towards the transformational horizon, for example:
> "The growth of charity shops, platforms like eBay and initiatives like Repair Cafes (where volunteers help fix household items) suggest an acceptance of reuse." (2013: 4)

We note here how Circular Economy discourse segues with the problematic framing of the "Sharing Economy". Both draw on disparate existing elements projected into an imagined future of consumption

transformed—grass roots projects such as novel digital platforms to share goods and services (such as Freecycle and Streetbank) on the one hand and 'disruptive' capitalist enterprises such as Uber and AirBnB on the other. In so doing such models of Circular or Sharing Economy elide the deeply conflicting orientations and orders of worth these different elements manifest.

Tentative conclusions and further development

The imagined futures of the Circular Economy often elide everyday life, even whilst acknowledging the centrality of consumption to the model. More expansive imaginaries of everyday futures posit radically changed forms of consumption, such as the Ellen MacArthur Foundation's "collaborative consumerism". These imagined everyday futures assume transformed consumption norms and affective engagements, whilst offering little by way of projected context as to how such changes will come about, and a simplistic understanding of consumption. The understanding of consumption that develops from theories of practice is not of consumption as the individual satisfaction of needs, but as a "moment" within the pursuit everyday social practices—eating, parenting, driving, office work, etc. (Warde, 2005; cf. Warde et al. 2017). This understanding of consumption alters the position and nature of the consumer. Firstly, against mainstream understandings of consumption—reflected in the policy documents analysed above— in which the consumer is characterised as rationally pursuing activity driven by a pre-set portfolio of preferences, needs and wants, practice theory stresses the habitual, embodied and unreflective aspects of consumption (see Warde & Southerton 2012; cf. Warde et al., 2017). Secondly, the figure of 'the consumer' is decentred from accounts of consumption, which foreground rather the dynamics of practices. This account underscores how imagined futures of Circular Economy need to attend to transformations in dynamically related social practices rather than individualised consumption decisions and the purported attitudes and values that drive them (see Mylan et al. 2016).

This said, while practice theoretical approaches to sustainable consumption have proven generative, an area where they are weak is in addressing the evaluative and reflexive stance that actors are capable of taking towards practice. There is a particular pertinence here in the context of "the constitutive role that the future imaginary plays in reflective processes of critique, problem-solving, and social intervention" (Mische, 2014: 440). We suggest Thévenot's (2001) model of "regimes of engagement" may be productively articulated with a practice theoretical approach to address this lack. Thévenot (2001) suggests that in everyday life people engage with reality through different regimes, those of: familiarity—the habitual and unreflexive; regular planned action—conventional and intentional activity; and justification—public legitimation of action in situations of contestation (which take the form of "orders of worth"). When the aim is to address practices of consumption and support sustainable practices, we must take into account that these practices are rooted in everyday experience through different regimes of engagement (see, e.g. Cuzzocrea and Mandich, 2015).

Imaginaries such as "collaborative consumerism" tend to be projected from deeply contradictory trends— intensifications of commodification (such as AirBnB) on the one hand, and trends of decommodification, such as digital platforms enabling sharing (such as Streetbank) on the other—downplaying conflict between them. Similarly, Circular Economy discourse draws on dissonant market, industrial and ecological orders of worth; although whether this dissonance may itself prove to be a source of coordination is to be explored. The Circular Economy may even presage a novel order of worth.

We aim to explore these themes further, through novel theoretical engagements, of: social practices and "regimes of engagement" (Thévenot, 2001); "orders of worth" (Boltanski and Thevenot, 2006) with that of Schatzki's (2002) concept of "general understandings" (cf. Welch and Warde, 2017); "teleoaffective regimes" (Schatzki, 2002; cf. Welch and Warde, 2017), that express orientation to common goals across multiple practices, with imagined futures; and the "modes of coordination" that orders of worth support, with the concept of "coordinating agents" of practices (Warde, 2013; Vihalemm, Keller, Kiisel, 2015).

Endnotes

[v] We note Evans (2011) and Truninger (2011) have articulated practice theory and conventions theory perspectives together in studies of consumption.

[vi] This sampling has by no means been a systematic and this statement represents simply a generalisation based on material reviewed thus far.

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Grow Your Own: Space, Planning, Practice and Everyday Futures of Domestic Food Production

Enrico Marcore (Anthropology Department, University of Aberdeen, UK)

Nicola Spurling (Institute for Social Futures and Sociology, Lancaster University, UK)

Abstract

The essay explores the relationship between space, planning and everyday practices, focussing on futures of domestic food growing spaces and practices in Italy and the UK. The first case looks at the recent inclusion of the 'community garden' in the eco urban housing model in L'Aquila, Italy, and traces the relationships between planning, space and practices as this model is imported into a rural community. The second case explores a longer national trajectory of allotments (plots of land rented for growing vegetables) in the UK. Over time, the allotment becomes endowed with different social and cultural meanings, as its position within policy, systems of provision, urban infrastructure and everyday practices changes. Through considering these examples from past and present, we reflect on anticipated food growing futures in different times and places, and ask how these various 'experiments' of policy, planning and practice, are best conceptualised.

Rural Gardening and the Urban Garden in L'Aquila Region, Italy

Drawing on research from Marcore's PhD thesis, this case focuses on the rebuilding of L'Aquila (Central Italy) after a major earthquake that hit the province capital and the neighbouring villages in 2009. Immediately after the quake the Italian Government, led at that time by Silvio Berlusconi, decided to build 19 developments from scratch (new towns) in order to give comfortable shelters to the quake's victims. Camarda, discussed below, was one such development.
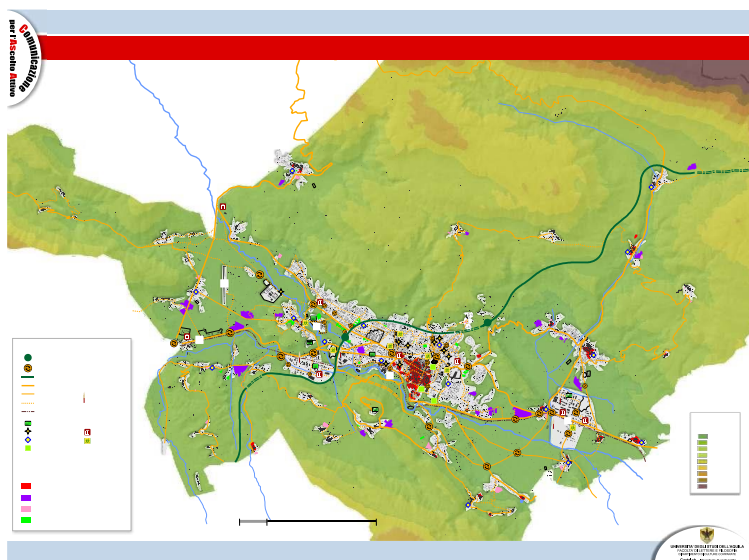
Pic. 1: 19 New-Towns (Red spots)

Immediately after the quake, the Camarda rural area, where the C.A.S.E. blocks (Anti Earthquake Sustainable and Ecological Housing Scheme) were built, was possessed by the State under emergency regulations. In picture 2 it is possible to observe that, before the possession[vii], the area was cultivated and fragmented in

many lots, mainly for farming. It is commonplace in this mountainous region of the Apennines to find agricultural areas spatially close to historic centres with access to fresh water.

Pic.2: Aerial photograph of cultivated lots on the periphery of Camarda

In this area, big parcels of land for low-scale food production were private property. Sometimes land is also given for free by friends, family or neighbours in a "loan for use" contract (not always written). Inhabitants of Camarda used to grow plants and raise animals in this fragmented field.

After the quake five blocks of flats were built in this area. In this way the Government made an infrastructural transformation and also changed the function from agricultural to urbanised land.
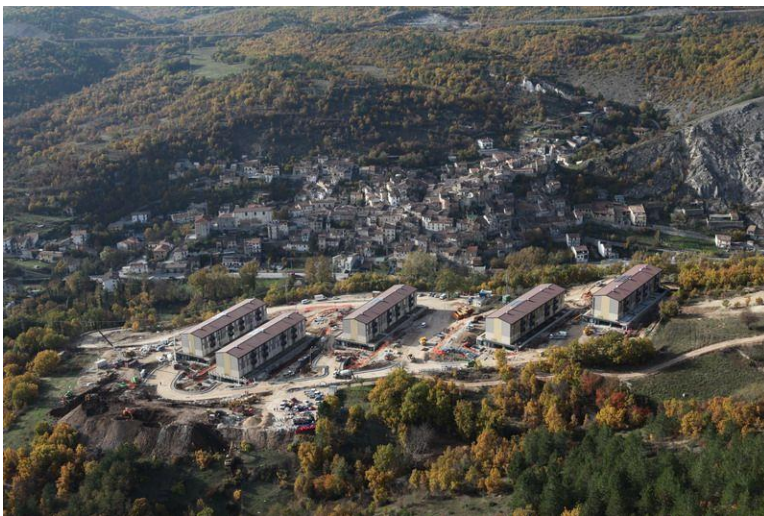
Pic.3 The new C.A.S.E. site (at the front) and the old town (behind)

Pic.4   A representation of the Camarda C.A.S.E. project

It is interesting to notice that, as a part of the new development, a small parcel (at the bottom in Pic. 4) called "polivalente" (multi-purpose) was provided for leisure activities, where inhabitants had to share outdoor public life. The Italian Civil Defence provided not just the infrastructure but also furniture; a semi-permanent large tent where birthdays, marriages and meetings are celebrated. Close to this large tent, an allotment has also been organised. This space for growing plants is explicitly referred to as an "Urban Garden" as shown in picture 6.

Pic. 5: On the left side the large tend and to the right side the garden

Pic. 6: Information plaque with the names of people authorised to use the allotment in 2014. The allotment is explicitly referred to as "Orto Urbano" (Urban Garden).

The "Ente Parco" (the institution that manages the protected area of the Gran Sasso National Park) prepared this allotment mainly because of the number of old people forced to leave their damaged houses and move to the new flats. The general idea was to give a sense of continuity to their previous lives. In the quake's aftermath many inhabitants tried to stay close to their uninhabitable homes so that they could maintain and feed their vegetable garden and animals. The planners viewed the urban garden as fundamental to preserve this practice. However the garden was not used in the anticipated manner. As noted, the newly introduced urban garden was installed in a farming area where cultivation already existed, with many implicit rules and meanings of garden and gardening. In particular, the vegetable garden as a private and personal, rather than a shared, daily task was central. Gardens provide an exclusive source of food for individuals or families (which could be also redistributed in a second moment) and they are not cultivated in common.

Researchers in Urban Gardening (Bowman Pagano 2004, Mogk, J. E.; Kwiatkowski, S; Weindorf, M. J. 2010) point out the bottom-up creation of collective spaces in cities as a form of re-appropriation of vacant space from neighbours for more sustainable and healthy reasons. Indeed urban gardening is usually considered as a political-economical reaction with social and ecological purpose. Thus in an urban context sharing is really important; the focus is on the appropriation and use of vacant land as a kind of "commons" (Ostrom 1990). On the contrary, the concept of "share" is unusual for cultivation in this mountainous area because vegetable gardening and private property (but also labour) are in close relation.

The urban garden project had initial success as local inhabitants, mainly retired people but also housewives and immigrants, spent part of their day in the garden. It is interesting to notice that farmers who were not dispossessed of their land continued to cultivate their own vegetable garden rather than cultivating the new area. A peasant who had lost their garden, and who had the right to cultivate the urban garden but didn't take it, explained the reasons why, saying that "he felt like a prisoner there". The Urban Garden model, though aiming to enable vegetable gardening actually conflicted with practices of gardening in the region. The small plot of shared land implied that gardening was a leisure activity to be shared, rather than a part of an individual's daily productive activity.

It is, therefore, necessary to distinguish between the Urban Garden (as a model) and what is understood as Rural Gardening (as a practice). The vision of planners, which focussed on giving local inhabitants a space for gardening as leisure, and as a way to avoid boredom and overcome the trauma they had experienced needs to be criticized. National institutions have misunderstood. Domestic food growing in a rural settlement is not leisure, but a dedication and form of labour which contributes food to the home, as well as addressing issues of food safety and quality. Vegetable gardening is inserted in everyday life and viewed as a productive task, as part of 'work'.

In 2014 the Garden was almost abandoned, and as a result the L'Aquila city council closed the public water faucet in 2015. Picture 7 shows the condition of the garden today.

Pic. 7: September 2016

There are several key points on the relationship of policy, planning and everyday practice which should be taken from this case. The first is that importing the urban model, which has a practice of community gardening embedded in it, does not necessarily mean that this practice will simply emerge. In this case, the space provided, and the assumptions of practice inherent in it, undermined and patronized the traditional gardening practice. Such universal models always need to be considered in relation to particular localities, within which different practice-specific histories and envisioned futures already exist.

Second, the lack of consideration of local pre-seismic everyday life afforded the introduction of a top-down model of urban gardening into a rural area. Planners imagined the new life of dwellers from an urban viewpoint that forgot the local and the past[viii]. The garden was already part of the pre-seismic daily life and as such needed to be included in the package provided within the housing project. The space provided, though appearing to provide for the continuation of food growing practices, actually wrote traditional practices out of the future. Local gardening, as a daily practice and relation with the land, needed a more place-based and intimate context in order to flourish again.

Snapshots from Allotment History in the UK

In this case we turn to a different country, the UK, and look at snapshots of allotment history between 1900 and 1950. These snapshots reveal the allotment and allotmenteering as relational spaces and practices positioned at intersections of everyday life, national policy, systems of food provision, and urban planning. Across the first half of the 20th century, imagined futures of domestic food production changed with remarkable frequency. This section focuses on three moments of the allotment: as system of provision for

the urban poor; as an essential part of national food security; and as the answer to unemployment and austerity.

Domestic food production and the urban poor

Though sources are limited, Acton (2015) and Foley (2014) suggest that during the late 19th and early 20th Century, allotment gardening, far from being a hobby, had a central role in the system of food provision, keeping the labouring poor from starvation and supplementing the diets of the working class. Comprised of rural peasants who had migrated to cities, this labouring class had the skills to cultivate the land (Foley, 2014). Building on previous policies that had made it essential that allotments be provided for rural peasants dispossessed of their means of subsistence by the Enclosure Acts (17th and 18th Century), similar policies were applied in early cities. For example, the 1894 Local Government Act created local councils, and gave them powers to obtain land for allotments, and industrialists such as the cotton mill owners in Lancashire provided allotments to supplement workers' wages (Acton, 2015). Privately rented allotments were also common, and these could make a profit for land owners at the time, though this soon changed as cities developed.

As more people moved to the towns from the countryside the demand for allotments increased. But so too did the demand for housing and factories. Allotment sites became part of a different set of land value relations and private land owners put up rents. Still a vital component of food provision, the Government responded with The Small Holdings and Allotments Acts of 1907 and 1908 which placed obligations on local councils to meet allotment demand at affordable rates. The 1908 Act also included a clause that the cost of land (to the local council) should not be more than can be recouped from the rents (which were to be kept affordable). Though logical at the time, this had unforeseen implications in years to come. It enabled the logics of capitalism to determine the pattern of use of urban allotment land, and made it impossible for some local authorities to meet their obligations of allotment provision, for example, if land values were high for an entire council area, such as some London Boroughs.

Although Local Councils were obliged to provide sites, these were unprotected by law. Thus as cities developed, existing sites were taken for building. Other temporary sites were provided, which themselves would later be developed. Similar to the Italian example, allotmenteers' relationships to and investments in the land (through cultivation which improves soil quality) were overlooked. The incompatibility of allotmenteering with insecure tenures led to the formation of various societies which obtained, and campaigned for, land as permanent sites.

Domestic food production and national food security

The trajectory of urban development and temporary plots was halted with the start of World War 1. From 1914 to the early 1920s, allotmenteering became essential for national food security and allotments were given top priority in policy. The Defence of the Realm Act (DORA) 1914 allowed the Government emergency powers to requisition (rather than pay for) land for use as allotments. Every spare piece of land was turned into a growing space. Horticultural societies were set up which provided educational leaflets, seeds and equipment, and in some cases even delivered manure. It is estimated (Acton, 2015) that the number of allotments increased from 570,000 plots in 1914 (at the start of World War 1) to 1,400,000 by the end of the war (1918), others suggest there was one allotment for every 5 households by 1918.

When the war ended, allotments had become embedded in the system of food provision, and were viewed as an advantage to community and nation. This new position was written into policy. The 1922 Allotments Act stipulated that Councils holding more than 400 allotments had to appoint a Statutory Allotments Committee to ensure they were properly managed, and the 1925 Allotments Act legislated that allotments must be part of every town planning scheme. Under this Act, land specifically acquired for allotments became protected by statute. This shifted the position of allotments in relational space, giving them privilege

over the logics of capitalism and protecting prime urban land as growing space, some of which still remains today.

Though the interwar years saw a decline in the number of plots, there was a second 'peak' of 1,500,000 allotment plots in the early 1940s (mid world war 2). In very similar circumstances the National Government campaign 'Grow More Food: Dig for Victory' was launched in October 1939, which called for every man and woman to grow their own food (bbc online, Acton, 2015). Defence Regulation 62A empowered local authorities to take possession of land, and convert any land in their possession (e.g. parks, playing fields) into allotments. By the end of 1942 it was estimated that 10% of Britain's food was 'grow your own'. Once again national policy further inscribed allotments into policy after the war, allowing local authorities to use compulsory purchase orders to acquire land. However, just a small number of cities and towns took advantage of this.

Domestic food production and austerity
Going back to the interwar years, there was another 'moment' for the allotment', in which it was framed as a solution to unemployment. A lack of international competitiveness of UK coal in the 1920s led to an economic depression, and mass unemployment, especially of mine workers in the UK (Foley, 2014: 167). During this period allotments were looked on as providing unemployed men with the opportunity to feed their families, keep up their morale, and stay healthy, as well as quelling any potential upsurge of communism that mass unemployment might invite. Although eventually part of a National Government's strategy for dealing with mass unemployment in the coalfields, The Quaker Society of Friends played a major role in this 1920s increase in allotments.

In response to the hopeless situation that was emerging in the coalfields, the Society of Friends campaigned for the uptake of allotments, building on histories of allotmenteering in the coal-mining communities. They campaigned for allotment provision from local councils and obtained money from the Lord Mayor of London's fund to pay for seed potatoes, fertilizer, lime and tools which were sold on at half price to the unemployed (Foley, 2014:167-168). As with the wartime experiences, this success became written into National Government policy. Impressed with success of the scheme, in the early 1930s national government, with support from all political parties, set up county committees to increase the number of plots and provide further resources. The 1931 Agricultural Land (Utilisation) Act allowed for the Minister to provide financial assistance to Local Authorities for allotments and small holdings for the unemployed or those not in full-time employment (Acton, 2015).

These three snapshots of UK allotment history illustrate that food growing spaces and practices are always relational. They exist in relational systems of land use value, which have implications for the profitability of allotment tenures, and for priorities of land use planning. They also exist in relational systems of food production, in the early 1900s they were an essential part of the national food strategy for the working class, and similarly in the 1930s for the unemployed. In wartime periods they contributed to national food security and defence. Finally, allotments exist within relational systems of national policy, at different times addressing issues of social welfare, health and nutrition, urban green space, and more recently relaxation and wellbeing. In each period, depending on its position in systems of land value, food production, and policy, different futures of domestic food growing are imagined, with elements of these imaginaries leaving traces in urban spaces and in town planning, agricultural, land use and unemployment policy

Discussion and Conclusion
Through considering these examples from past and present the paper illustrates some of the specific relationships between food growing practices and spaces, and highlights the broader relational characteristics of these spaces and practices. Both aspects have implications for futures of domestic food growing.

The first point to note is that practices don't just happen in objective space, rather space is intrinsic to, made in and reproduced through practice. Indeed, the traditional practice in the L'Aquila region has an important one-to-one relationship between the person (the gardener) and the land, however the urban model emphasises the relationships between people, and the land is secondary. According to the institutional viewpoint, urban gardening had the capability to provide the substratum for building new social relations helpful for community consolidation after the quake. But the case study demonstrates that this undermined the personal relation between gardener and land, making it impossible for practices of food growing to continue. We can imagine that over time, as food growing is no longer reproduced in practice, its associated knowledges and skills will wane rather than being passed to the next generation, tools will become obsolete, and domestic food growing practices will be a part of history rather than part of the future.

Our second case shows that food growing space and food growing practices are always relational. It is relational to other spaces, within a system of land use and value underpinned by capitalist logics. It is relational to other forms of food production within local, national and global systems of provision. Finally, it is relational within policy domains, being (re)framed in a variety of ways at different moments as the solution to a range of social problems. Depending on the political dispositions and problems of the time, and the imagined futures associated with these moments, food growing spaces and practices come into competition with different agendas, with implications for where and how domestic food growing can happen. Traces of these different utopian moments remain in physical space, in policy and in practice, with both anticipated and unanticipated implications for the future.

On this final point, we argument that although 'experiments' of planners and policymakers in one sense reflect particular utopian moments that are 'of their time' and disconnected from one another, in another sense such planned space prefigures futures, all be it in unanticipated ways. The example of the community garden being abandoned in L'Aquila demonstrates the difficulty of introducing an abstract urban imaginary into specific places with their own histories and cultures. Although unsuccessful in L'Aquila, such a space and the practices associated with it would develop in different ways in other places. In the historical work on the UK, a part of the tale not told here, shows allotment sites prefiguring future urban infrastructures across the decades. As automobility and electrical infrastructures were built and wired into cities, allotment sites provided essential infrastructures of space near to dwellings for electricity substations, pylons, garages and car parks.

Finally, in an era where domestic food production is once again on the rise, the legally protected infrastructure of allotment practice provided by statutory sites, provides a place where not only land, but also knowledges, skills and relations with the land, as well as local varieties of vegetables have, through practice, been preserved. This reproduction suggests openness of domestic food growing futures which might not exist in other places.

Endnotes

[vii] The Italian government makes compulsory possessions in many rural areas for public interest due to emergency reasons.

[viii] According to this reasoning, victims of the quake had no histories but just needs from an Institutional point of view.

Acknowledgements

The case on history of allotments in the UK is part of Nicola Spurling's ongoing research on the relationships of policy, planning, social practices and futures of everyday life.

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Going Digital: Attempting to Bring Digital Tools to the Study of Everyday Home Life

Tjerk Timan (Tilburg Institute for Law, Technology and Society (TILT), Tilburg University, Netherlands) t.timan@uvt.nl

Katherine Ellsworth-Krebs (Centre for Housing Research, School of Geography and Geosciences, University of St Andrews, Scotland) ke68@st-andrews.ac.uk

Abstract

In uncovering everyday futures, the Internet is a potentially vital place to investigate the experiences and expectation of home life. The home is a key site to understand and intervene in futures-in-the-making, being a critical space of consumption and a place in which everyday practices and norms are (re)produced. Notably, online methods allow a window into the privacy of the home (i.e. written and visual media) and ease the process of data collection for cross-cultural comparisons. We explore the utility of home improvement forums for understanding expectations of (near) future homes, comparing desired futures by householders in the Netherlands and UK. Importantly, this paper offers a methodological reflection of innovative online methods for studying everyday futures.

Discovering Everyday Futures of the Home

To interrogate and explore everyday future imaginaries, the Everyday Futures workshop in July 2016 drew together an international group of scholars. From this event the home emerged as a common area of interest between participants and this has become the context of this short essay. The home serves both as a specific place, or context where futures are imagined and made, and as a subject of futures – the home as a changing fluid concept that is both physical (a location, a building) and an idea (a sense of belonging, comfort and privacy). To contribute to understanding everyday future homes we decided to investigate what home improvement forums could reveal about householders expectations or desires for their (near) future homes. We capitalize on the international composition of the Everyday Futures Network by doing a cross-cultural comparison between the Netherlands and UK. Certainly, previous cross-cultural comparisons on the home (Wilhite *et al.,* 1996; Ozaki, 2002) have demonstrated how taken-for-granted norms in one country can become more visible when contrasted with another culture's norms. The novelty of the approach in this paper lies in using *online methods* to make a cross-cultural comparison of key home improvement themes. This has resulted in this short essay being primarily a reflection on the potential of using online methods to study everyday home life.

We introduce some of the key debates related to the use of online methods (Section 2) and explain in detail how we used a few digital research tools to make a comparison of home improvement forums (Section 3). Section 4 presents our results and a limited discussion reflecting on our use of online methods in the cross-cultural comparison.

Online and Natively Digital Methods

Considering that searching peer-reviewed journals and looking up key terms are now general uses of the Internet, we argue that this short essay is broadly of relevance to the majority of academics. For instance, it is unsurprising to point out that there is nothing organic about search results and we all might benefit from learning more about understanding 'Google effects' and how to structure keyword searches (e.g. the impact and difference between using ', ", and [ ]). Indeed, there is quite a bit of advice about 'search as research', with two key preparatory steps being to set up a 'research browser' (e.g. clear cookies, disentangle yourself from Google) and understand (default) Google settings (e.g. search within city not country). There is also

much to explore in [how research results are ordered](#); and it does not only matter what one searches for but also when.

To help orient the audience, we briefly allude to some basic debates in the online methods field before explaining our choice of tools for investigating home improvement forums. Firstly, we acknowledge, but have to set aside, explaining the wealth of approaches and terms for this type of online research (e.g. digital versus virtual methods, digital humanities, online ethnography, netnography). One main distinction to organise these approaches is sometimes articulated in terms of the difference between 'virtual methods' and 'digital methods' (Rogers, 2013). The former is an extension of traditional social science methods that have migrated to the web (e.g. predates the Internet). The latter is '[natively digital](#)', written to work online and capitalise on features of the web (e.g. using hyperlinks and likes to analyse social networks which is not possible 'offline'). Use of digital methods has generated considerable debate about the relationship between digital devices and understandings of the social world, but this falls outside the scope of this short essay format (however, see Burrows and Savage, 2014; Ruppert *et al.,* 2013).

Instead, we offer a few examples of what can be discovered by using 'natively digital' tools. For example, the [Google Trends](#)™ and [AdWords Tool](#)™ compare monthly use queries for different terms globally and nationally, which can be used to analyse interest in topics spatially and temporally (Gaudet, 2012). Another tool is [IssueCrawler](#), which analyses hyperlinks as a way to map social networks and information politics. IssueCrawler has been used extensively to map online actor-networks, especially in relation to a social or scientific controversy. For instance, creating a map of the links between sites (distinguishing between .gov, .org, .com), the IssueCrawler can be informative of the primary influencers of information collection, collation and distribution on online communities (Stansberry, 2015). It looks at a website's URL or set of URL and looks at each sub-page of that website to see where it links to (a search-depth of 1) – it can also then look at the linked websites to see where they link to (which would be a search-depth of 2 etc.). It thus maps networks to see how certain actors on the Web sit within a network.[ix]

In our own utilisation of these 'natively digital' methods, we turned to the work of the [Digital Methods Initiative](#) (hereafter DMI). The DMI has been developing methods and tools since 1999, and some of their tools reflect political science and international relations interests, the background of DMI's director Richard Rogers. Interestingly, the DMI also places high value on information visualisation and this is a common feature in the design and output of these tools. Other sources and lists of digital research tools exist, however, this collection is chosen due to its clear documentation and visibility within the Digital Humanities as a go-to place when it comes to tools.

Where to look? Scanning home improvement blogs

In our quest to find bottom-up utterances of the home, we decided to set up a protocol that allows for a rough explorative comparison between Dutch and British online home improvement forums. A first step was to decide comparative keywords to query Google and to take the top-three forums[x]: we searched ['home improvement forum'] on the local domain Google for each country (e.g. .nl and .co.uk). Considering that these forums can hold many posts and responses, a close - reading of each and every post would be an overly time-consuming method to explore key topics. Rather, we used a series of the DMI's tools to capture and visualise 6 forums (three from each country). The steps are summarised in Figure 1, and explained below.

Figure 1: tools used to capture and visualise the 6 home improvement forums

1. Use the [LinkRipper,](#) to harvest or collect all the URLs from the chosen forum. Set output to 'Internal links'. Scrape.

2. The results are copied and pasted into the [IssueDiscovery Tool](#). Scrape.

3. The results are copied into [RAW by DensityDesign Lab](#) to create a bubble graph. Label

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First we used LinkRipper to catch all the content of the forums. Some issues arose, for instance that certain programming languages are not scrape-able (e.g. Flash) or that certain forums do not allow for content to be copied. Subsequently, we had to go further down the list of Google results to find other forums because LinkRipper was not able to generate results.

The next step was to discover the sub-topics present in each forum. Since we were interested in the actual user-generated content, we used the IssueDiscovery tool which supplies a list of keywords. This tool looks at word occurrence within a set of URLs in order to discover main topics, issues, or concepts. It is meant to be an indication of 'network substance' with content analysis and other qualitative techniques recommended. In this sense the IssueDiscovery is an exploratory tool. The tool already filters out a lot by itself (e.g. it removes phrases that are on the stop word list such as 'the' and 'an'), depending on how one sets the parameters of the tool, but it cannot remove certain occurrences, especially 'infrastructural artifacts' that deal with making an account or allowing for a search internally on the website. Thus, we had to filter this data manually as well (e.g. the 'subscribe here' or 'login' parts of the websites or menus).

In order to get a better overview of the sometimes very large list of keywords and frequencies, and because of the importance of information visualisation, we also decided to put the results of the IssueDiscovery tool into a bubble-graph (RAW by DensityDesign Lab). The next step is to critically examine our harvest and compare the results between the Netherlands and the UK to the overarching question of everyday futures and the home.

Findings: What are users discussing most on home improvement forums?

This section presents the results from using these digital tools to collect and visualise data on the key topics of home improvement forums. Tables 1 and 2 present the top 10 occurring words of 3 sites for the UK and Netherlands, respectively.

Table 1. Top 3 UK home improvement forums – top 10 occurring words.

DIYnot	count	Ultimate Handyman	count	DIY-Forums	count
Central heating	136	Laser distance measurer	92	diy raised stone planter	332
Led fairy	60	Uhm	88	wilkinson	220
Planning permission	56	Tools	68	trophy	180
Levelling compound	40	Tool reviews	68	Heath-Robinson	172
plumbing	40	Wallpaper discountposted	64	home improvement	60
Easyfix plasterboard	40	Lounge	56	improvement	60
Scuff	30	chainsaw	56	repair	44
Guttering	26	Tool manuals	56	Hvac	38
Doors	26	proofing	38	statistics	28
Lofts	24	bosch	32	suggestions	28

Table 2. Top 3 Dutch home improvement forums – top 10 occurring words.

duurzame buren	count	klusvraagbaak	count	renoveerjehuis	count
LED	598	wall covering	16	boiler	794
property tax	494	information	16	Tips	456
ode	478	window frames	12	rebuilding	244
economical	420	paint	12	sources	240
sustainable	410	house	12	painter	238
map	312	extensive	12	plasterer	238
list	312	LED	8	Dormer	236
poger	280	amber roses	8	contractor	232
hedge	178	painting jobs	8	fences	232
heat recovery	84	filling it	8	international license	232

A first glance reveals that the forums alter in size, but are generally in similar order of magnitude of use (e.g. counts from roughly 100 to 800). The blogs scraped have not been checked for 'liveliness', meaning we did not check for how long they are in existence and how actively they are used at the moment (we are relying on Google here to have taken these factors into account in their ranking algorithm). Content-wise, the tables show some recurring topics, such as LEDs, and tools and tool use. Brand names of either tools or materials are also common, which is in many ways unsurprising in Do-It-Yourself discussions. Another category we can distinguish is talk on some form of profession or professionals, to either see how they do it, or to move certain work from DIY to hiring a professional. There is some topics on both the Dutch blogs on the adminstrative side of things (e.g. taxes, licensing, planning permission). Sustainability does occur, but privacy, surveillance and 'smart' technologies do not make it to the top 10 lists.

So how do the top 10 topics relate to the wider set of topics on the forum? In order to provide a visualoverview, we have chosen to create bubble-graphs of a larger selection of the results of the IssueDiscovery tool. Here we have made choices based on researcher-filtering and choice of cut-off value (i.e. the amount of occurances we intuitively felt made 'sense' to include). Figures 1 to 6 present maps for the forums listed in Table 1 and 2 (UK forums are in red, Netherlands in green).

Figure 1. DIY-Forums (all words under 8 occurances NOT included):
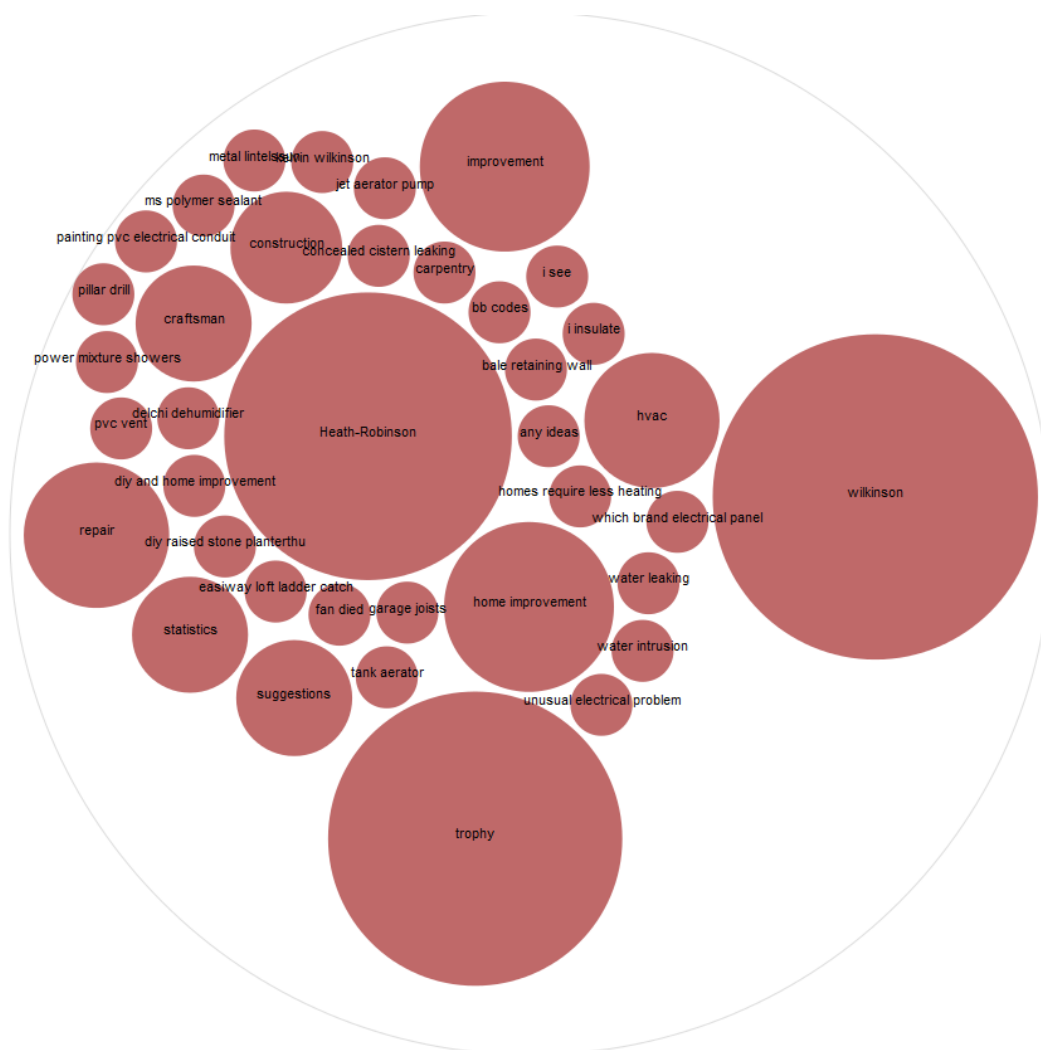
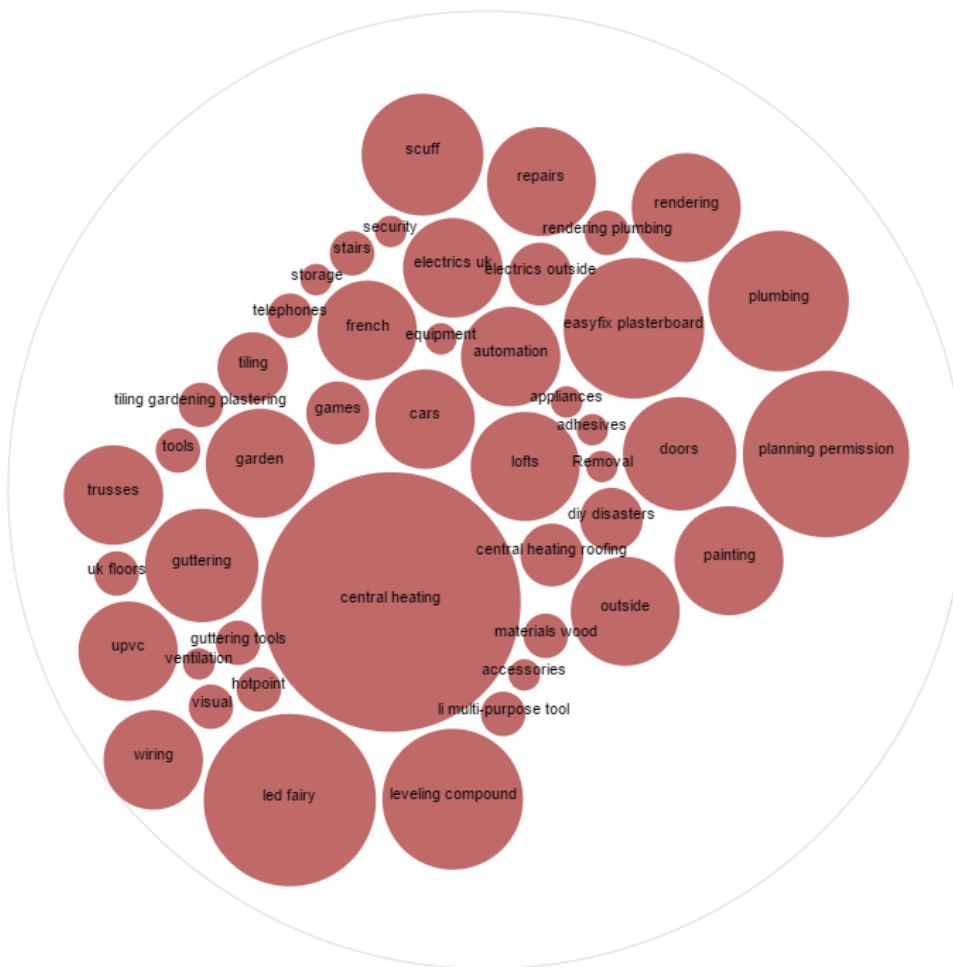*Figure 2. DIYnot (all words under 2 occurances NOT included):*

Figure 4. Duurzameburen.nl (all words under 8 occurances NOT included):

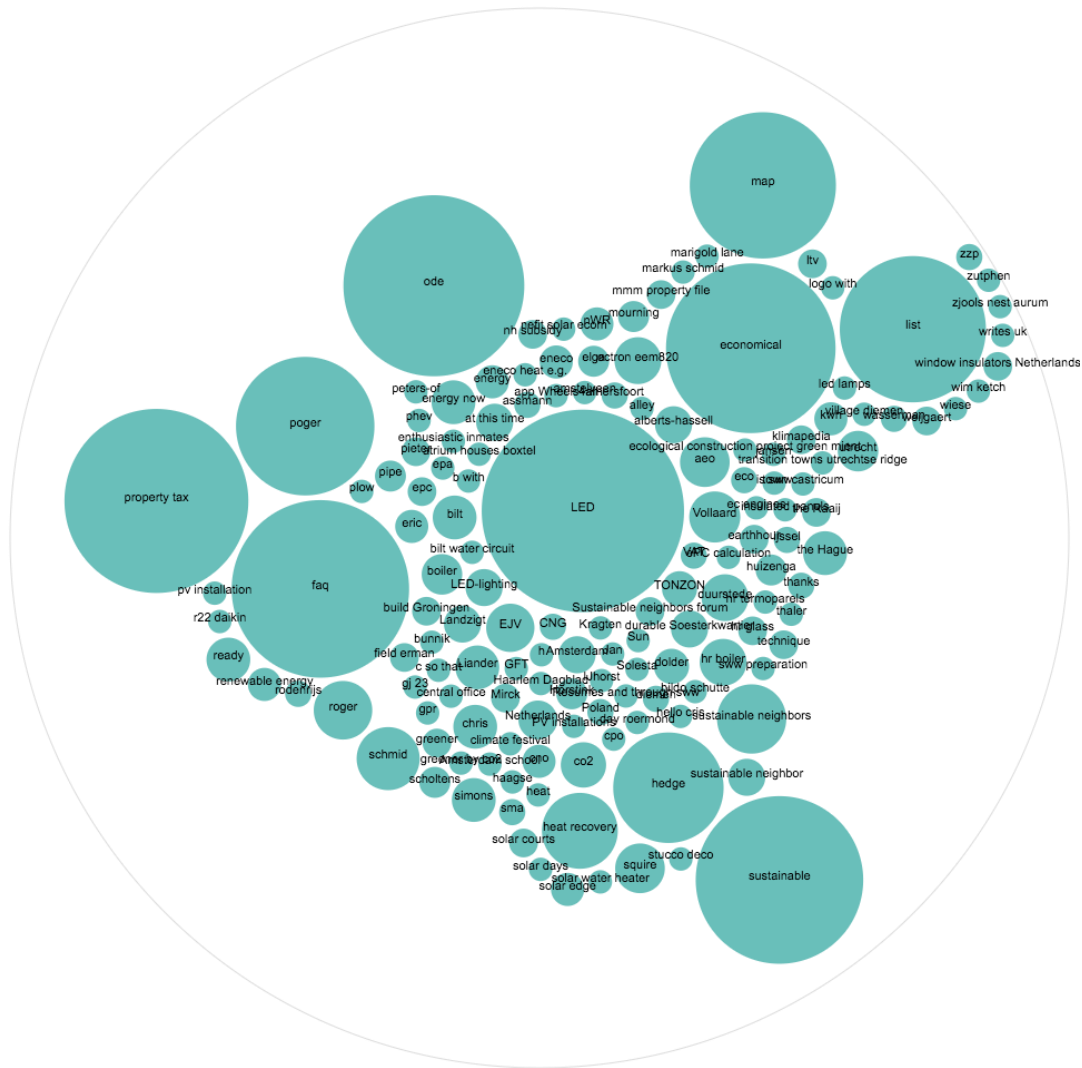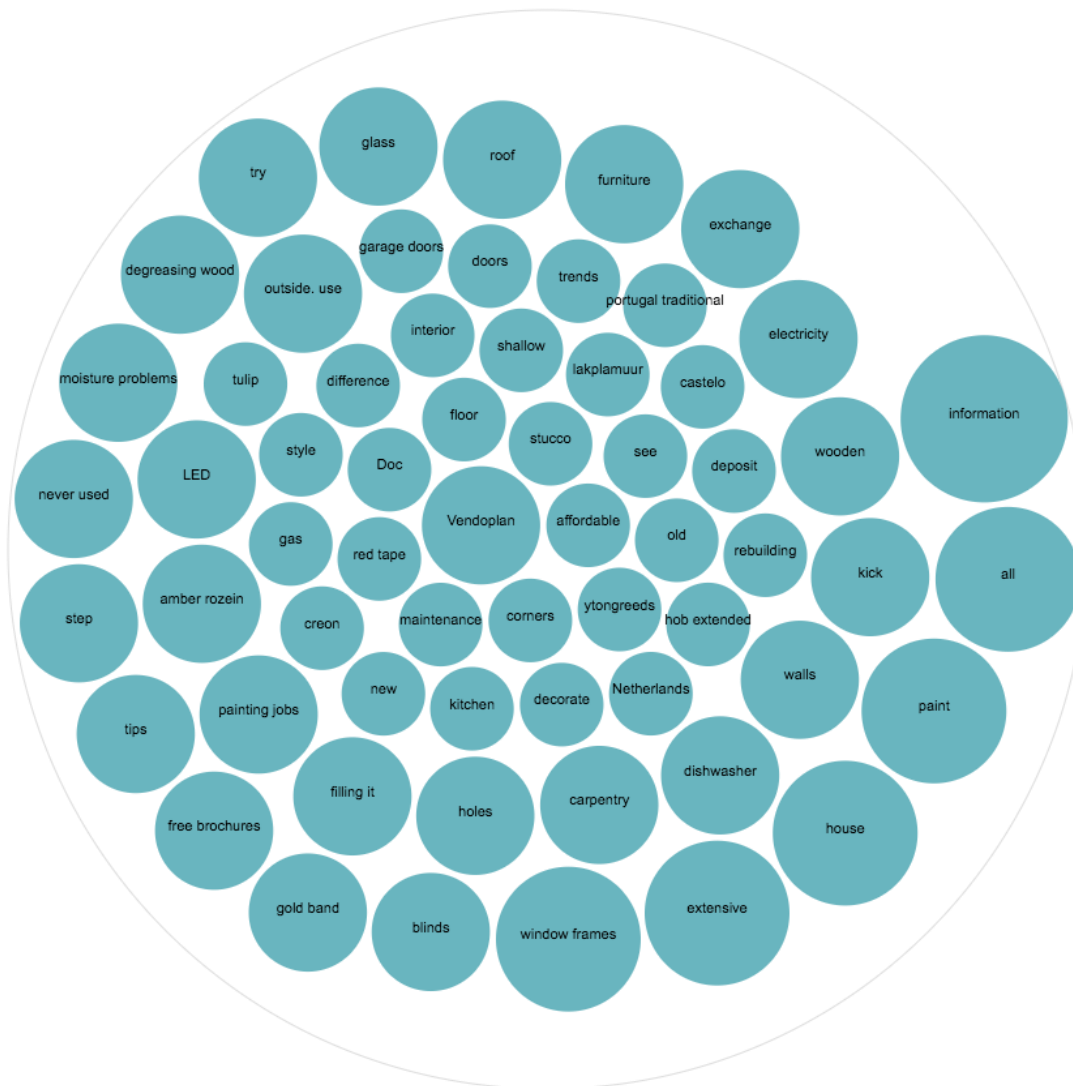*Figure 5. Klusvraagbaak.nl (all words under 4 occurances NOT included):*

Figure 6. Renoveerjehuis.nl (all words under 12 occurances NOT included):

The maps are hard to compare one on one, but the topic-area maps per forum do provide a general 'feel' or 'taste' of what is being discussed. The forums show similar topic-categories on DIY home improvement that relate to work on the home itself and related tools or materials, on regulation and finance regarding home improvement, on technologies on or in the home as a way of improvement that relate somehow to larger themes in other parts of society, such as renewable energy, sustainability and security.

A further analysis of the ways in which these terms are discussed on these forums or a comparison of key discussions in forums compared to advice blogs run by the government or an editor would be a next step. However, rather than focusing on what these key words and bubble-charts reveal about everyday future homes, we wish to reflect more on the benefits and limitations of using these digital tools.

Reflections

A first point of reflection relates to the perceived benefit of analysing 'user-generated' content. The added value of focusing on the experiences of the everyday is that it allows for granular and realistic habits and activities of citizens to enter large-scale predictions and projections. Their daily habits, activities and rituals, we argue, are at the core of where future imaginaries are made. Unlike many other forms of data collection in which the researcher enquires and directs the flow of discussion, online discussions are an extension of casual conversations and reveal householder's own areas of interest and concern (Veen *et al.* 2011). For example, internet forums are a space in which householders discuss everyday mundane activities in detail

and other studies interested in everyday home life have effectively utilised online content such as travel blogs (e.g. describing in detail bathing practices in different countries) (Kuijer, 2014) and Mumsnet (e.g. details of managing thermal comfort beyond thermostat settings) (Royston, 2014).

Online spaces with user-generated content have been called 'the next frontier' in qualitative social science research (Morrow *et al.,* 2015: 526), praised for representing alternative sites of discursive practice (Barr, 2011). However, the dominance of brand names and tools that emerged from our scraping of these websites is an important reminder of the further analysis required by the researcher. This is one of the main criticisms of online methods because there appears to be an assumption that "researchers no longer need to speculate and hypothesise, they simply need to possess enough data to allow algorithms to lead them to important patterns and trends in social, economic, political, and environmental relationships" (Shelton *et al.,* 2014: 168). A counter-argument against this 'data-driven social science is that the researcher does make numerous decisions in the research process, as we have seen in this short essay. For instance, the researcher's decisions on selecting sources (e.g. home improvement forums and user-generated content), applying certain 'filtering' (e.g. removing 'infrastructure artefacts' or deciding the number of key words to include) all importantly shapes the overall findings and conclusions. Data-driven methods, however, can provide new insights in the phenomenon at-hand that can trigger new paths of research that were otherwise un-explored. When looking at our results for example, the over-representation of tools/brand names in the bubble graphs and appearance of 'Heath-Robinson' and 'LED' on the top 10 keywords lists would likely not have emerged in a qualitative content analysis of these same forums because these would not be given as much significance by a researcher. On the other hand, a cautionary reminder here is not to make 'over-blown claims' about the ability of digital tools to deduce significant meaning without relying on pre-existing theoretical frameworks (Shelton *et al.,* 2014).

There are many more methodological considerations in using online methods (see Morrow *et al.,* 2015 and Stepney, 2014 for more critical reviews), but we hope this has offered some initial insight into the potential, and challenges, of using this resource to study everyday futures. We have outlined a key debate about the difference between virtual and digital methods; directed researchers to a database for free digital tools developed by and for academics, as well as described and presented the process of using a few tools to visualise data from forums relevant to (near) future homes. This in turn sheds another, maybe more bottom-up heuristic on where and how everyday futures can be found. The home is a key site to understand and intervene in futures-in-the-making, being a critical space of consumption and a place in which everyday practices and norms are (re)produced. Online methods allow a window into the privacy of the home and ease the process of data collection for cross-cultural comparisons, and we hope this short essay inspires further discourse around the use of online methods to inform investigation and steering of everyday futures.

Endnotes

[ix] See the IssueCrawler hyperlink for some good examples

[x] Although there are many drawbacks on 'blindly' trusting a top X via a Google query (one of them being that Google results are influenced by personal search history and location), for the purposes of this paper, it suffices due to Google's indexation on 'popularity'.

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Connecting past, present and future

Rebecca Wright **(**Birkbeck College, University of London, UK)
rwrigh02@mail.bbk.ac.uk

Colin Pooley (Lancaster Environment Centre, Lancaster University, UK)
c.pooley@lancaster.ac.uk

Abstract

This essay argues that more attention needs to be paid by planners and policy makers to past everyday life in envisioning present and future models of living. By focusing on the decisions and strategies adopted by individual families in carrying out their everyday lives we suggest that it is possible to gain a better understanding of the ways in which people react to changing circumstances and adapt their behaviours when necessary. The paper focuses on four separate areas: what are the methods and concepts that we can use to operationalize this material and make it relevant to the present? What historical sources can be used to reveal aspects of the everyday and what are the limitations of these resources? How can this material provide new insights into issues such as historical determinism and inertia within social systems? And what are the implications of this for tackling pressing current and future problems such as climate change and inequalities at both the global and local scales?

Introduction

We cannot escape the past. It is always with us in our memories, in the physical landscape and environment that endures, and in the legacy of past policies and planning decisions at both local and global scales. At a personal level we are constantly learning from past actions and experiences, trying hard not to repeat previous mistakes, but in terms of policy formulation all too often the decisions that are taken today – and which shape the future – seem to ignore the lessons of the past. In this essay we argue that planning and policy making would benefit from a greater appreciation of the role of the past in shaping the present, and through recognition of the potential benefits of some ways of living that have slipped from view. This may help to avoid the sorts of unintended negative consequences that have sometimes arisen from past decisions. Clearly how the past is viewed in relation to the present and future will depend on the policy goals that exist at the time. These will differ as governments (both local and national) change and as external events beyond the control of individual governments shape national policies. In this essay we mainly draw examples from the United Kingdom and the USA, and make the assumption that two key policy goals of any administration must be to create a society that is more equitable and one where resource conservation and environmental protection are central goals. Clearly such aims will interact with other goals – most obviously that of economic growth and full employment – but we assume that they are not incompatible and, indeed, that in many ways they are dependent on each other. We suggest that by paying closer attention to some aspects of past societies it may be easier to combine the goals of greater societal equality, protection of the environment and economic prosperity.

The principles advanced in this essay could be applied to many aspects of society, economy and culture, but we limit ourselves to drawing examples (based on our own research) from two arenas – transport and energy - that have been ever present, that raise important issues of social equity and environmental protection, and which are likely to become increasingly important as the twenty-first century progresses. All societies and economies require the ability to move goods and people around with ease, transport itself is a major energy user, and the development of energy security in the context of declining traditional (carbon-based) resources together with the need to reduce carbon emissions, is a crucial policy issue for both the present and the future. Transport and energy are required at all levels of society from large corporations to individual households. They are a fundamental part of the everyday fabric of society, and attitudes and

values developed at the level of governments or large multinational corporations seep back and influence the behaviour of individuals and households. We use selected examples drawn from nineteenth and twentieth-century British history to show that in the connected arenas of transport and energy use some of the structures and systems that were common in the past could usefully be replicated today and in the future. We first review some of the existing connections between historical research and visions of the future, second we assess the sources that may be used and some of their limitations and, third, we examine selected past predictions of future technologies. In conclusion we return to the practical advantages of focusing policy on aspects of the everyday in the past, present and future.

History and the future

In this essay we argue that by focusing on the decisions and strategies adopted by individual families in carrying out their everyday lives it is possible to gain a better understanding of the ways in which people react to changing circumstances and adapt their behaviour when necessary. For instance, it is often suggested by politicians and policy makers that the public are resistant to change and that the adoption of transport or energy policies that restrict (for instance) car use or household energy consumption to conserve resources and reduce carbon emissions would be unacceptable to many. However, by collecting oral histories of past travel behaviour it can be demonstrated that when transport systems have changed in the past people have altered their travel behaviour with ease (for instance shifting from trams to motor buses in British cities in the mid-twentieth century). Similarly, evidence from diaries demonstrates that travellers in the past have been very adaptable and resilient in the face of transport difficulties and have altered their behaviour as circumstances changed around them (Pooley et al, 2005; Pooley and Pooley, 2015). Although transport and energy infrastructures have changed dramatically over time the basic needs and priorities of individuals and families have not, and people rapidly adapted their behaviour to cope with fresh circumstances. Historical evidence from such individual data also suggests that the transport and energy systems that people utilised in the past could be more equitable than some of those available today. All but the very wealthy travelled and heated their homes in similar ways and thus transport-related social exclusion was less marked than it is in Britain today when if you do not have access to a car life may become very difficult (Pooley 2016a; 2016b). Historical evidence suggests that policies that reduced the energy demands of transport and other everyday activities could be implemented without undue public opposition and that they could also help to reduce inequalities within society.

Calls for a greater connection between past, present and future in policymaking are not new, but they do remain limited. The on-line platform History and Policy (www.historyandpolicy.org) has existed since 2002 and provides a vibrant forum where historians can engage with current policy issues (Thane, 2009). Other more recent publications have also argued for the need for historians to become more engaged with the present and future, including in the fields of transport and energy policy (Divall, 2011; Divall et al., 2016; Guldi and Armitage, 2014; Merriman et al., 2013). However, there is little evidence in Britain that engagement by politicians and policy makers is more than superficial. This contrasts with the situation in some parts of continental Europe where, for instance, in the Netherlands historical researchers are embedded in one the country's main planning structures (Toussaint, 2016). One of the more common ways in which historical material has traditionally been utilised in planning and policy making is in the forecasting of long-term economic and demographic trends to produce different future scenarios. Past time series of data may be used to extrapolate future trends while changing key parameters such as birth and death rates or economic growth to produce different scenarios (Amer et al, 2013; Booth, 2006; Granger and Newbold, 2014). However, such techniques can only provide a macro-scale perspective and are often undermined by rapidly changing circumstances or by the unpredictable behaviour of individuals and organizations. In the following section we consider some ways in which the everyday past may be more directly accessed.

Researching everyday pasts

Evidence of everyday pasts is omnipresent in the historical archive. Journals, oral histories, advertisements, news media, magazines, instruction manuals, policy documents, film, art and literature, are a few of the

many available sources from which details about everyday life can be gleaned. From these sources we can collect anecdotes about the use of technologies, personal habits, routines, cultural norms, and preferences, as well as expectations about the future. Diaries, for example, contain musing on mundane details, from information about the daily commute through to reflections on the evening meal. Oral histories capture memories of the past documenting personal reflections and anecdotal evidence of emotional engagements with living environments. Instruction manuals record appliances and point towards their intended use. Popular advertising, lifestyle magazines and marketing material reveal cultural meanings attached to products.

Cultural artefacts similarly act as a depository for evidence about past models of everyday life. Novels, biographies, and political tracts are littered with references to everyday practices. Henry David Thoreau, in his experiment in living captured in the American classic *Walden* (1854), for example, went into detail about the preferred temperature of his dwelling comparing this to the contemporary heating practices of the luxuriously rich, which were 'not simply kept comfortably warm, but unnaturally hot […] they are cooked, of course a la mode' (Thoreau, 1983, p. 13). In addition to written sources, visual culture is equally revealing about the ways everyday lives have been structured. Photography, both professional and amateur, documents the changing space of the home, capturing arrangement of objects and trends of decoration. Film captures social practices unfolding over time. The post-war British genre of Kitchen Sink Realism, for example, tells us much about the social customs and living practices of a factory worker in 1950s Nottingham, as it does about the genre of British *New Wave* cinema.

Each of these sources has limitations, posing challenges for a historian of everyday life. Policy documents chart transformations at a governmental level, but as top-down documents they reveal little about how people experienced and lived these changes. Instruction manuals, advertisements, and industry periodicals, provide information about how manufacturers intended their appliances to be used, but as Ruth Schwartz Cowan's theory of the 'consumption junction' demonstrates, consumers did not always use products as intended (Cowan, 1987). Furthermore, in the words of Joy Parr, it is the 'embodied histories' that are excluded from the historical archive. Tacit knowledge, Parr points out, is recorded through the body in lived practices rather than in textual or representational forms (Parr, 2010). Historical sources privilege certain senses, with sight traditionally being prioritised over touch and smell. This hierarchy feeds into the type of historical documents available, with academic traditions being 'deeply invested in texts and in textual critique as the arbiter of research results' (Parr, 2010, p. 3). To overcome this weighting, Parr has created a website, the Megaprojects New Media series (http://megaprojects.uwo.ca), to explore new ways of capturing 'embodied histories' lost to text.

Genre and form also structure information about everyday practices, determining what data is included and omitted. Biographies, personal diaries and film, for instance, exist within established traditions where literary conventions determine what information is included in each type of source, from the intimate, to the heroic and fantastical. The daily commute, for example, is more likely to be discussed in a diary than personal hygiene. However, instances of note such as sickness or travel disruption take on additional resonance as breaks from the ordinary making them more likely to be recorded. Confronting the range of influences that structure how information about the everyday is preserved, therefore, is the first step in piecing together the relevant information so that past-everydays can become valuable resources for thinking about the future

The final constraint is practical. Sifting through historical sources requires time and labour. Moreover, there is a tendency towards diminishing returns when hours are spent transcribing illegible handwriting to find only the occasional detail about a journey to work or bath-time routine. Even once this information has been retained, there continue to be challenges in extracting information in a coherent and systemic manner. The digitalisation of historical archives and the emergence of new research methodologies from the field of the Digital Humanities are making these practical limitations easier to handle. Functions, such as word searches,

data mining and frequency charts, pose new avenues for historians looking to locate trends and patterns in large bodies of material.

Past futures

Records of past futures also reveal avenues not taken. Multiple futures co-existed in the past. Some were borne out and others failed to materialise. National forecasts, such as the 1952 U.S. report *Resources for Freedom* (otherwise known as the Paley Report), predicted that by 1975 U.S. aggregate energy consumption would be roughly double the amount consumed in 1950 (*Resources for Freedom*, 1952, p. 103). This turned out to be a conservative estimate as American energy consumption rose from 34.6 to 71.9 trillion Btu in 1975 (EIA 2014). In contrast, its suggestion that by 1975 the maximum plausible market for solar energy could be as large as 13 million installations in homes (10% of the nation's energy system) was an example of a possible future that has so far not come to pass (*Resources for Freedom*, 1952, p. 217). Other futures played an active role in shaping energy infrastructures. During the 1950s and 1960s, for example, private utilities in the United States published exaggerated forecasts for electricity consumption, circulating alarmist predictions about how consumption would soon outstrip supply. These predictions influenced the rapid construction of new generating capacity, which was soon made obsolete as electricity consumption fell during the 1970s (Smil, 2005, p. 156).

Futures thus shaped the present through the building of infrastructures and the normalisation of social practices. These futures, however, were far from inevitable as multiple versions competed for ascendency. The adoption of electricity rather than gas for the majority of domestic appliances cannot be explained as part of the universal progress of modernity. Instead, it was attributable to a range of social, economic, and cultural forces. For example, in the 1930s the electric refrigerator sold poorly, as consumers preferred the traditional icebox. As the icebox appeared in the early days practical and cost effective, it was the electric industry's aggressive advertising method that allowed the electric refrigerator to replace the icebox in American homes (Robinson, 1997). A wide range of cultural factors, therefore – from building structures, consumer preferences, and climate – meant that everyday technologies did not find universal success, as countries and regions differed in the adoption of certain technologies. Today this variation remains defined with, for example, 82% of American households owning a tumble dryer, compared to 57% in Britain and 5% in Italy (Fischer, 2013).

Many futures thus remain confined to the archive. Science fiction futures (strikingly captured in the 1960s TV series the *Jetsons*) never materialized, and neither did Maynard Keynes' 15-hour working week. Products, such as the 1950s all-electric doghouse, never found a mass market – closing down a potentially lucrative energy market in pet upkeep. The failure of particular technologies and futures demonstrate the contingencies built into our own path dependencies. The decision to cook with gas or electricity remains driven as much by historical inertia as personal choice – as costs and infrastructures conflict with cultural preferences and cooking habits. This exposes the tension between the inevitability and malleability of the futures that came to structure everyday life. Futures have a momentum but can also be shaped. This position was best put forward by the energy policy analyst Amory Lovins in his famous account of 'soft and hard' energy paths. In 1976, Lovins explained how two potential futures existed: a 'hard' energy path that continued current policy, or a 'soft route' based on energy efficiency and renewables. To affect this change what was needed was a reshaping of cultural values and lifestyle choices (Lovins, 1977).

Conclusions

Recent events in Britain and elsewhere have demonstrated that the ambitions and policies adopted by governments are often disconnected from the everyday values and actions of individuals and families. This is evident, for instance, in the increasing public distrust of political parties and of expert opinion, and in the British vote in June 2016 to leave the EU (European Commission, 2010). Most policy is formulated at a macro-scale be it concerned with climate change, global inequalities, trade agreements or coping with the movement of large numbers of migrants from conflict zones. In contrast, individual people live their lives at

the micro-scale, negotiating work, housing, family and community on a daily basis and with little real engagement with national and global concerns beyond passive observation through news media. For instance, research on attitudes towards greater use of walking and cycling for everyday transport has demonstrated that people are most likely to see benefits in terms of their personal health and improvements to the local environment, and are less likely to adopt sustainable travel because of concerns about global climate change (Pooley et al., 2013). Similar attitudes have also been shown for other aspects of energy consumption and carbon reduction (Lorenzoni et al., 2007). We suggest that the analysis of past transport and energy scenarios may help to identify ways in which this apparent disconnect may be at least partially remedied. For instance, it is clearly sensible to encourage people to undertake more short trips on foot or by bike whenever feasible rather than using a car. In the past walking was by far the most important form of everyday transport for most people, and in the mid-twentieth century in Britain cycling was commonly used by many men in particular as their preferred form of everyday transport. The reasons for this are not hard to deduce. First, there were far fewer alternatives: many people had little option but to walk in nineteenth-century Britain. Second, the physical structure of urban areas meant that most people lived close to their workplace and that many of the goods and services that people needed could be found relatively close to their homes.

Clearly it is not sensible or possible to return to nineteenth-century patterns of life, but we do suggest that transport and energy systems that minimize inequalities between users and maximize sustainable energy use – and which to some extent replicate past structures – are both feasible and desirable. For most individuals the factors that are important to them and their families have changed little over time, and greater appreciation of some of the benefits of past patterns of everyday living may help to produce more equitable and sustainable systems of transport and energy use today and in the future.

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"By Their [Data] You Will Know Them"[xi]: Historical Reflections on Capturing Patterns in Everyday Life

Derek Gatherer (Health and Medicine, Lancaster University, UK)
d.gatherer@lancaster.ac.uk

Lenneke Kuijer (Industrial Design, TU Eindhoven, Netherlands) s.c.kuijer@tue.ac.uk

Ida Nilstad Pettersen (Product Design, NTNU, Norway) ida.nilstad.pettersen@ntnu.no

Abstract
With large quantities of digital data collected on our everyday lives, concerns arise as to how this data may affect these very lives. To derive relevant research questions concerning Everyday Futures, our essay reflects on the use of digital data in everyday decision-making. We do so by comparing historic and contemporary examples of health related data-action loops on three different scales: the body, the home and the city. We conclude that while the use of data to inform sensitive decisions is not new, digitization gives rise to a number of important research themes, including tensions between developers and users, theory and opportunity, sensors and senses, norms and diversity, 'expert' and actor, and that what is (thought to be) measured versus what is not. Moreover, we illustrate how our multiscale, historic, multidisciplinary reflection forms a potential method for everyday futures research.

Introduction
The Jawbone UP® system is one of many wearable devices[xii] that use sensors to collect a range of personal data that are communicated in a related app, where they are accompanied by group averages and health recommendations[xiii]. UP® is argued to 'help people live better by providing personalized insight into how they sleep, move and eat'[xiv]. But the system does more than merely offering advice. In their alliance with the NEST® thermostat, the UP® service uses the ability to operate home heating systems to take action towards 'making [these better lives] reality'[xv]. When the wristband identifies 'sleep mode', the thermostat will automatically 'kick down' the bedroom temperature to 'your ideal temperature', which, according to UP® instructions lies between 18.3-22.2C. Besides this recommended temperature range, the application seems to include a certain enforcement of 'healthy' sleeping temperatures; from an independent review[xvi] we learn that the system does not allow a sleep-setting below 15.5C.

What we see in this example is that digital data is used not only to give people insight into quantified indicators of their own actions, but also that the data enters a wider loop where it is aggregated into databases and translated into group averages. Moreover, a system of digital sensors and actuators uses a combination of situated measurements, pre-set preferences and 'expert' recommendations to autonomously take action in people's homes.

In this paper we reflect on the possible effects of digitization for such 'data-action loops' – from collection through to action – in shaping (future) everyday life. We do so by comparing historic and contemporary examples on the use of data for informing health related decisions on three different scales: (1) the body, comparing phrenology, believed in the early 19th century to predict character, with human genome data in which considerable hope is invested for the prediction of future health, (2) the home, comparing practices of domestic heating in the 1920s with the latest smart thermostats that aim to automatically provide a healthy indoor climate; and (3) the city, comparing the 1854 mapping of the London cholera outbreak with a service collecting data on urban mobility. These comparisons are then used to derive questions for everyday futures research.

The Data of the Body, the Body of Data, the Body as Data

Long before the advent of electronic medical data collection and storage[xvii], the recording and cataloguing of data on the human body was an abiding preoccupation in many societies. The "Bills of Mortality" produced by mediaeval European cities served as both a primitive census of the city's inhabitants and a guide to why mediaeval cities almost always ran a population deficit, needing to import citizens to maintain numbers. As mediaeval society evolved into the early modern state, the data collected on the citizenry moved from basic head-counting to details of the individual. Conscripted armies needed to know how tall, short or malnourished their raw material was, if only for the simple reason that uniforms and equipment of the correct size had to be procured. Poorhouses needed to know how old and infirm their occupants were, if only to assess their ability to cover their maintenance costs through manual work. However, the data soon began to tell its own stories. Italian conscript records for example, provided a striking documentation of improvements in health among young 19th century males[xviii]. A decrease in consanguineous marriages across Europe revealed the influence of railways and bicycles on rural life[xix].

Once it was realised that personal data documented change, its potential to implement change became obvious. The phrenology movement, which had its heyday from around 1790 to 1840, didn't just count heads, but studied their shape – and that shape became the basis for theories of personality, criminality and human potential that sought to proactively identify how people might behave in the future. As such, human data had become predictive. In the same era, biochemists began to treat blood and other bodily fluids as objects for laboratory investigation and physiologists began to document the electrical signals passing along nerves and into muscles. The "allure of numbers" began to cast its shadow over medicine[xx].

As the 20th century dawned, some of the components of this nascent data science faded away. Phrenology had failed to provide the accurate forecasts it promised, but into the gap created by phrenology's departure from the scientific mainstream came genetics, molecular biology, and, by the mid2000s, "deep" biology or "omics" – a high speed, high capacity data crunching science that sucks terabytes of data from its subjects: their genomes, how those genes are regulated, the genomes of all the microbes within them, how it all interacts, and what this means.

"Yes we can" was one of the political catchphrases of the Obama era in the USA and "because we can"[xxi] seems to be a significant part of the philosophy behind deep data collection. For instance, the Precision Medicine Initiative® (PMI) aims to collect genetic and molecular information from enough people to create a picture of how health and disease are mirrored in vast constellations of bio-marker data[xxii]. PMI® aims to recruit and follow 1 million volunteers at a cost of approximately $215 million dollars to the US taxpayer in the first year alone[xxiii]. Deep biology is not looking for anything in particular; its goal is not specific answers but the big picture: a new, overarching, quantitative definition of what it means to be healthy and how that data documents its change into disease[xxiv]. Blood, saliva, urine and faecal samples could be collected every three months for around 100 biochemical tests[xxv]. Physiological testing could include sleep patterns, physical activity and heart rate. The subjects' genomes could be sequenced, along with their microbiomes – the genomes of all the bacteria in their guts and in the various body fluid samples. This data could be mined for correlations between states of health and shifting patterns among the bio-markers.

By 2045, the array of omics technologies deep biology employs may have been developed to a point where they can be scaled down to wearable devices. Jawbone UP® and other technologies have already achieved this for many of the physiological data points (sleep, activity, body temperature, pulse; in the future perhaps even blood pressure) required by a deep biology project. All the data could transfer wirelessly to compute clouds trained on the aggregate bio-marker patterns. In such a system, measurable aspects of the workings of the body could be perpetually monitored and analysed, like the engine of a Formula 1 car during a race. Instead of booking an appointment with the doctor, the network might then identify an anomaly, book the appointment and notify you by text before you have even begun to feel unwell.

The Data in the Home, the Home of Data, the Home as Data

To safeguard the health and comfort of their residents, homes in temperate or cold climates have always required a form of heating during spells of colder weather. While the solid fuel fire has served this purpose since as long as one million years ago, the past century has seen major changes in home heating technologies. Fundamentally, heating of the home has remained a matter of converting fuel into appropriately heated spaces, but the ways in which decisions, whether deliberate or routinized, about when to add how much fuel to the heating system have changed considerably, as well as ideas of what an appropriately heated space entails. Because there is a time-lag between the acts of adding fuel to the heating system and reaching the desired effect of a warmer room, the decision to add fuel involves a combination of assessing current climate circumstances and comparing them with anticipated near future desired ones. The following sections describe changes in heating systems in more detail while focusing on this decision, and the 'data' used to inform it.

With the shift from coal fires to gas heating, which in Europe took place somewhere between the late 19th century and the 1980s, along with the spreading of gas infrastructures to homes – a first, small, but fundamental shift in decision making took place. In the case of a wood or coal fire, the decision whether to add fuel was made by household members based on a wide range of 'data' in the home that was available to humans, such as situated information (temperature sensations, visual overview of the space, ability to use and interpret speech and non-verbal body language of other household members) and memories of information collected at other moments in time, such as the level of fuel stock, past patterns of household life, temperature preferences, public health advice about indoor climate, experiences of indoor climate in other households, and other snippets of information.

With the introduction of gas fires, the task of adding fuel to the fire was delegated to gas pipes and a simple system that regulated the gas flow based on the setting of a knob. While people still made the decision to set the knob, the setting of the knob, made in a certain moment, now determined whether fuel was added to the fire regardless of other changes in circumstances. With the spreading of thermostatic control, a particular aspect of situated circumstances, namely air temperature re-entered the automated decision to add fuel. However, this also meant a major change in the practice; while the quantifiable and digitally measurable indicator of air temperature had played no or only a minor role before, it has since become prominent in the practice.

When programmable thermostats entered the home around the 1970s, the relation between data, interpretation and action changed again. Programmed thermostats contain anticipated, appropriate temperature levels for different moments in the day and week for the household. When the system is in operation, this data is supplemented with situated temperature measurements, and the occasional overruling of the system by a person that is too warm or cold. In this configuration, sensor data on temperature levels and aggregated patterns of living anticipated by household members, or in the case of default settings, by the system developers take precedence as input for the decision when to add fuel to the heating system.

The next generation of heating systems, 'smart' thermostats, such as the NEST⬜, expands the variety of situated data collected by sensors, from temperatures to motion and humidity, and store weekly patterns of occupancy – derived from motion sensor data – to make predictions on future occupancy. The assumption that household life shows regular weekly patterns of occupancy, absence and sleep forms the foundation of such systems.

Compared to the solid fuel fire situation, the data that is used to inform the decision whether or not to add fuel to the fire to create an appropriate indoor climate has shifted considerably. From human-sensed holistic circumstances and estimated, near future and needs for heat, to measured temperatures and aggregate

occupancy schedules. In the process, what constitutes an appropriate, healthy room climate has also changed. The possibility to continue adding fuel to the fire in the absence of people has given rise to the expectation to always enter a warm room, and with the spreading of thermostatic control, standards of healthy indoor climate control have converged into numerical values. With the Jawbone® UP® technology, another step is taken towards using aggregate, de-contextualised data to 'act' in specific everyday contexts. In particular, ideas of what is an appropriate indoor temperature become further removed from the situated circumstances in the home, and derived more strongly from an aggregate or 'expert' idea of appropriateness.

The Data in the City, the City of Data, the City as Data

As the Jawbone® example shows, data collected on the state of bodies and homes are used to inform decision-making, in pursuit of goals about better living. At the city level, visual representations of data have been presented as ways of understanding issues ranging from the spread of diseases to the ways in which people travel. The 1854 London cholera outbreak is frequently used as an example of how visual representations of data can lead to new insight: searching for the source of the outbreak, Dr John Snow plotted the location of the deaths on a map[xxvi]. Marking the water pumps in the area on the map, he observed that most of the infected individuals had lived close to a specific water pump. At the time, cholera was thought to be airborne, but aided by his visualisations Snow is thought to have developed the hypothesis that the water was infective, and the pump the source of the outbreak[xxvii]. Others do however argue that Snow had a pre-existing theory about cholera being waterborne: Coupled with experience from former outbreaks, his own local knowledge and information he got from talking to people, not the data visualisation alone, his theory contributed to the insight that the pump was the source.

A contemporary example of a data-driven approach to health on a city level is that of Strava Metro®[xxviii], a service aggregating anonymised data from individuals who have tracked their walks, runs and bicycle rides by means of apps or wearable GPS devices such as GPS watches. Information about users, their private activities and every first and last kilometre is removed to avoid that it can be associated with specific individuals[xxix]. The firm experiments with ways of visualising such data for example, by creating publicly available heat maps[xxx] that indicate "the best roads and trails worldwide"[xxxi]. Through the service Strava Metro®, data on where people go, how and when – minute by minute, is sold to transportation and city planning departments. This is presented as a tool for "data-driven bicycle and pedestrian planning", and better data as a "catalyst for change"[xxxii]: it may help city planners understand how people use cities, as input for making infrastructural improvements, and to evaluate the effects of their interventions.

However, reflecting on the example in light of our other cases, the service provides a selection of mobility data collected as part of exercise and competition, which means that certain trips and demographic groups may be overrepresented, and others completely absent. This may be problematic, if the use of roads and trails in the sample is interpreted as a vote[xxxiii] reflecting the general quality of those roads and trails. Therefore the service does not simply replace alternative quantitative and qualitative tools enabling data collection on mobility. Still, "smart data" such as that provided by Strava Metro® may be used to inform decision-making as a source representing city use, and as a basis for predicting it. The use of "normal" activity patterns deduced from digital data to implement change thus extends to the urban environment.

Conclusions

In this essay we set out to explore what opportunities for everyday futures research a proliferation of digital data collection in everyday life presents. Our quick, multiscale, historic and multidisciplinary reflection on a number of specific, health related examples rendered a range of themes and questions.

First, our analysis of the use of data on different scales helped identify overarching trends related to digitization. Recurring themes were the role of aggregate data in setting a numerical norm, which seems to

be increasingly used to inform decisions on all scales, sometimes even made by artefacts. Also, increasing opportunities to generate quantifiable indicators seem to expand the role of data that can be collected with sensors over others, such as the human senses. What if decisions on how to act in unique, everyday situations become increasingly informed by norms determined by averages or 'experts'? What are the effects on daily life of what is thus brought in – or assumed to be, and what is left out?

Second, our historic analysis showed that the use of data in health related decisions is not new. But while data in earlier examples is used to explain historic events, over time, measurable indicators were increasingly used to predict future events. Moreover, on all scales we see situations where abundantly available data is used to generate the questions to which the data contains an answer. From this observation, questions arise such as what if these indicators are as predictive as skull measurements are for character? And what place does theory have in these data-intensive attempts at understanding and controlling bodies, homes and cities? Which questions, in such a system, remain unasked?

Finally, our different academic backgrounds, in industrial design and biology, also brought insights on the table, such as analogies between artificial and biological systems. One of the effects of digitization seems to be that it enables us to make our machines more lifelike, maintaining equilibrium or stability, and to generate yet more data-intensive models of biological/medical systems. The city thereby edges closer to the sort of control that is intrinsic to living systems, and which is increasingly part of smart homes. This analogy conjures up questions like: will the future city be able to control its circulation (of traffic and individuals rather than blood) and its respiration (by stopping traffic when air quality deteriorates)? Will human diseases become engineering problems and mechanical breakdowns pathologies? What would this imply for mundane everyday life and what is considered healthy and normal?

Acknowledgements

Endnotes

[xi] Matthew 7:16. The original quote reads 'By their fruit you will know them'.

[xii] coined in 2015 as one of the fastest growing consumer electronics products by BrandView with an 11 per cent penetration rate in the USA

[xiii] https://jawbone.com/blog/up-by-jawbone-insights/

[xiv] https://jawbone.com/about

[xv] https://jawbone.com/blog/jawbone-up-works-with-nest/

[xvi] http://www.telegraaf.nl/digitaal/gadgets/23567492/__Review__Nest__.html

[xvii] For a summary of current wearable technology, see
http://www.nature.com/nbt/journal/v33/n5/fig_tab/nbt.3222_F1.html

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[xxi] https://www.nih.gov/precision-medicine-initiative-cohort-program/infographics declares that "the time is right because: we have a greater understanding of human genes, people are more engaged [..and..] we have the tools [..and..] large databases [..and..] research technologies have improved".

[xxii] http://www.sciencemag.org/news/2014/07/google-x-sets-out-define-healthy-human

[xxiii] https://www.nih.gov/precision-medicine-initiative-cohort-program

xxiv http://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-014-0239-6

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xxxi http://labs.strava.com/projects/ [Accessed 31.08.16]

xxxii Strava Metro (n.d.): Data-Driven Bicycle and Pedestrian Planning, http://cdn2.hubspot.net/hubfs/1979139/Strava_Metro___Data-Driven_Planning.pdf Strava Metro (2015): Comprehensive User Guide, Version 2.0 for 2015, http://ubdc.ac.uk/media/1323/stravametro_200_user_guide_withoutpics.pdf

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Future-making as collective composition:
towards an inclusive design of smart cities

Maureen Meadows (Coventry University, Coventry, United Kingdom)
ac3459@coventry.ac.uk

Matthijs Kouw (Rathenau Instituut, The Hague, Netherlands)
m.kouw@rathenau.nl

Abstract

This paper highlights the need for a visioning method which involves criteria that safeguard the incorporation of multiple visions of the future into policymaking and decision making. Such criteria enable political means to deal with techno-optimism, a prevalent attitude towards technology that accompanies data-driven forms of urbanism. Techno-optimism views technology as an autonomous process exempt from social influences that society merely has to 'tap into', e.g. gathering data about citizen behavior as an objective and neutral 'good' in and of itself. As a result, techno-optimism downplays societal impacts of technology. Moreover, disagreement about what a smart city is or should be mystify public debates and obscure the interests at play. Our criteria for future-making enable a pragmatic-methodological perspective to evaluate the inclusivity of various forms of future-making, and provide a way to enable inclusivity in future-making. Thus, techno-optimism can be side-stepped in favor of an inclusive methodology of future-making that fosters a multiplicity or plurality of perspectives.

Introduction: Developing a visioning methodology

It is becoming more and more difficult to avoid the notion of the 'smart city'. An optimistic and firm belief in the ability of 'smart' technologies drives efforts to enable efficient governance of urban public spaces, energy flows, and mobility patterns by such technologies. City officials and industrial actors around the world have joined forces to promote the endless possibilities of smart technologies in world expos, demonstration cities and smart city partnerships. The desire to design and construct smart cities is driven by an optimistic view of smart technologies, which is a catch-all term to refer to various information and communication technologies (ICTs), such as sensors, facilities processing 'big' data, wearable technologies, and autonomous vehicles. Implementing smart technologies, it is argued, will lead to more innovative and sustainable cities, and dramatically improve urban life through greener living spaces, more democratic modes of governance, and better health.

The techno-optimism that accompanies smart cities and smart technologies is increasingly criticised by urban social science scholars, who highlight risks such as increased private control over public spaces and the neglect of participation and engagement of civil society in formal decision making processes (Kitchin, 2014; Greenfield, 2013, Gibbs et al., 2014). Smart cities, some argue, is the trend *du jour* in modernist approaches to urban planning. However, such approaches to urban planning ignore social, entrepreneurial and community aspects of livable and resilient cities. Hajer and Dassen (2014) urge scholars to bring such aspects into view, a plea for 'smart urbanism' rather than 'smart cities'. Generally, there is disagreement about what a smart city is or should be, which mystifies public debates and obscures the current interests at play (Hollands, 2008). We suggest that wide and effective stakeholder engagement is a key criterion when generating and debating a plurality of visions around what a future smart city might be.

Following Throgmorton's idea that "urban planning is persuasive storytelling of the future" (Throgmorton, 1996), future visions of smart cities can be aligned with governmental attempts to provide better lives for citizens through new and improved urban designs. James C. Scott's seminal work 'Seeing like a State' (Scott, 1998) has pointed out the limits to steering in this respect. In the light of the aforementioned critiques of urban social science scholars, we wish to develop an inclusive methodology for developing future visions of cities. We adopt Throgmorton's idea of urban planning as persuasive storytelling, but argue this story needs to be developed in collaboration with a variety of social groups. Thus, techno-optimism is side-stepped in favor of an inclusive methodology that fosters a multiplicity or plurality of perspectives. Such a plurality of perspectives, we argue in more detail below, is needed to unleash the power of smart cities to confront the urban challenges of the future.

In developing the methodology, we draw on the work of Checkland and Holwell (1997), who propose that any research may be thought of as entailing the following elements: a framework of ideas (F), which are used in a methodology (M) to investigate an area of interest (A) (see Figure 1).

Figure 1   Elements relevant to any piece of research.
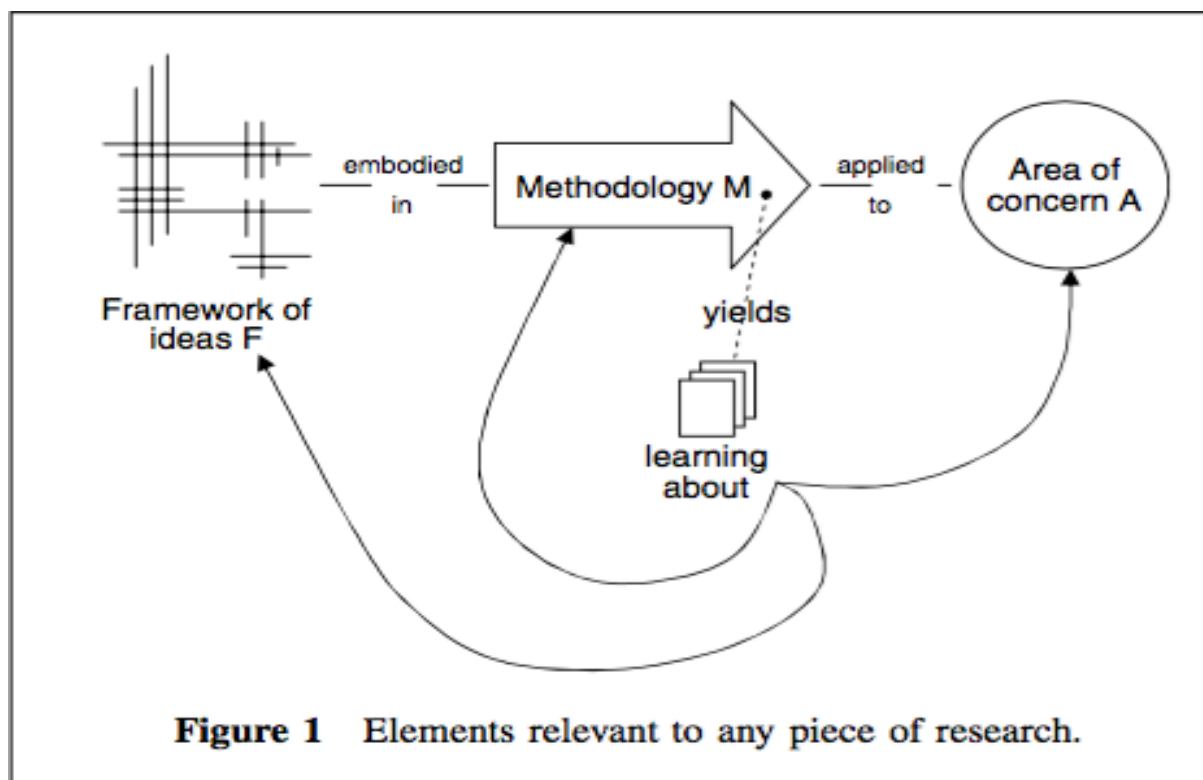
[Source: based on Checkland and Holwell, 1997; reproduced in O'Brien and Meadows, 2007]

In this context, M, the 'methodology', may be our visioning methodology under development, which will be applied to A, our area of concern which is to devise an effective, participative and creative process for situations where a plurality of values may be desirable. The specific 'area of interest' (A) may relate to the future of a city - see for example, O'Brien and Meadows (1998) for a discussion of a UK-based project entitled Choices for Bristol; or recent attempts to develop a sustainable energy infrastructure in Amsterdam (de Waal et al. forthcoming). Finally, the 'framework of ideas', F, is the set of concepts introduced and discussed below, which include visions and visioning, multiple perspectives on the future, involvement and participation; alternative futures and creativity. We argue here that there is a need for a methodology for future-making that embodies these perspectives. Checkland and Holwell (1998) note that change to, or modification of F, M, and even A has to be expected in research in the social sciences, where the method of science cannot be applied to material that is not homogenous through time, making complete replicability impossible.

In deciding what to include in the framework of ideas, we are influenced by the need to explore a desirable future for cities vis à vis the techno-optimistic belief in data (the availability of 'big data', the permeation of ICTS in the urban environment, the dissolution of the homogenous geographical entity of 'the city' and the increasing interwining of cities with digital environments, etc.). Data-driven forms of urbanism that result from the intertwining of ICTs with the urban environment have become a global phenomenon, and have established the idea of cities as 'knowable' and 'controllable' environments. As a result, the operational governance of city services is becoming highly responsive to a form of networked urbanism in which big data systems prefigure and set the urban agenda, persistently driven by the promise of smart people, governance, mobility, sustainability, and cutting-edge innovation. Thus, the development of data-driven smart cities is primarily focused on technological promise, which may be at odds with broader societal concerns.

We wish to respond to the techno-optimistic tendencies in designing smart cities by developing a framework for assessing the inclusivity of future-making. We take the visioning literature as a starting point. The complexity of a case study situation, such as a 'digital vision' for a city, clearly raises the issue of the existence of multiple stakeholder groups who may not be able to come together in a single workshop setting; hence creative approaches to encouraging stakeholder engagement are required. Another key component of the framework of ideas is that of participation in the process, particularly in the context of identifying who should be involved and how to involve them in the process of visioning. The relationship between scenario planning (a widely used approach to making flexible long term plans and robust strategic decisions, see for example Wright and Cairns, 2011; Ringland, 2010) and visioning has been discussed in the management literature; thus the framework of ideas may consider how this literature might influence the design of the methodology.

Visioning: a short summary

While there are numerous examples of vision and visioning in practice in the business and management literature (e.g. O'Connor and Veryzer, 2001; Ifinedo, 2008), no consensus has been reached around the definition of these terms. Collins and Porras (1996) argue that vision provides guidance about what core to preserve and what future to stimulate progress towards. In other words, in their view, companies that enjoy enduring success have core values and a core purpose that remain fixed while their business strategies and practices endlessly adapt to a changing world. Many other definitions emphasize the core concept of a vision as a preferred path or destination consciously chosen by an individual or group of individuals, which they can work towards achieving.

In order to make progress towards this preferred future, Frisch (1998) argues that workable, winning visions do not just happen; they crucially depend on the vision development process itself. Moreover, he argues that if the vision is to produce results, it must be widely understood and enthusiastically embraced throughout the organisation. So what are the key issues in establishing a successful visioning process? Important questions include the collection and sequence of steps to follow; who should be involved and how to involve them; whether to consider single or multiple visions of the future; and how to encourage creativity within the process.

We first consider the question, how should you go about developing a vision? There are many articles describing such processes; they tend to differ in the sequence of steps they promote, rather than the actual content of the process (see, for example, Stewart, 1993; Collins and Porras, 1996; Nanus, 1996; Jimenez *et al.*, 1997). O'Brien and Meadows (2001) present a review of visioning methodologies; a visioning process typically involves the following fundamental steps:

1. Identification of stakeholders

2. Analysis of the organisation's current situation

3. Identification of a desired future vision

4. Comparison of the future vision with the current situation

5. Development of action plans

Visioning processes are often run with one or more representatives of different stakeholder groups, typically during a one-off workshop or event. The group analyses the present situation, and then goes on to develop a single shared vision of the future. This shared vision is contrasted with the current situation in order to facilitate the development of action plans that are intended to take the organisation from the present to the future. In the design of future visions, these five steps can be considered as building blocks that help characterize the process.

Multiple perspectives: participation and stakeholder involvement

It is argued that successful visions must appeal to people, and inspire them to work towards the realisation of the vision. However, for this to happen, the visions must be widely understood and embraced. Another key issue, then, is the *involvement and participation* of the relevant stakeholders—as this is the best method of ensuring their enthusiastic and active support for the final product that emerges from the process. For example, Ackoff (1993) notes that participation has multiple benefits; it provides those involved with a valuable opportunity to learn; it increases their commitment to action to realise the goals that have been articulated; and it enhances the implementability of the plans that emerge. The role of participation in building cognitive and emotional commitment in teams at times of strategic decision-making is explored by a number of authors (see for instance Korsgaard *et al*, 1995; Eden and Ackermann, 1998; Witt *et al*, 2000). Moreover, Ziegler (1991) argues that the more diverse the experiences of the participants, the more robust the environment of images which they create. For a discussion of robustness in strategic decision-making, see for example Rosenhead (1989) and Bryant and Lempert (2010).

Identifying who should be involved in the process is clearly important, as is the issue of how to involve them. Frost (1995) defines stakeholders as persons or groups that impact on, or are impacted on by the organisation. It would seem logical therefore that key stakeholders should be invited to participate in the process. This view can be justified by considering Frost's claim that a stakeholder analysis is based on two premises; first, the state of an organisation at any point in time is the result of forces brought to bear by its stakeholders (both supporting and resisting forces), and second, the future outcome of an organisation's strategy is the collective result of all the forces brought to bear on it by its stakeholders, from the moment when the strategy is first implemented, through to the future point when the outcomes are evaluated. Eden (1996) argues that it is important, via stakeholder analysis, to identify stakeholders who will, or can be persuaded to, *support* actively the strategic intent of the organisation, as well as those who will seek to *sabotage* the successful management of strategic intent. This reflects the notion that there may be important differences between stakeholders that benefit from the organisation's strategic intent and those that are negatively affected by it.

On the issue of group size, White (2002) comments that there are unresolved difficulties relating to facilitation and problem solving in large groups. Shaw *et al* (2004), discussing the potential use of problem structuring methods, or PSMs, with large groups, suggest that PSMs need to be adapted from use with small groups, adding that large groups bring an additional stress of content management and more complex group dynamics with which PSMs for small groups cannot fully

cope. Bryson and Anderson (2000) compare seven approaches for group interaction, and conclude that for methods such as SODA (Strategic Options Development and Analysis; see Eden and Ackermann, 1998) and Strategic Choice (Friend and Hickling, 1987), the number of participants should be limited to 24 at the most. Interventions such as Metaplan (Habershon, 1993) and Vision Conference (Valqui Vidal, 2004) handle larger groups by breaking them down into smaller groups for many activities during the visioning exercise.

Next, we consider how different types of 'future' can be classified and whether it is desirable to consider more than one view of the future.

Alternative futures: scenarios and the CHOICES approach

Ducot and Lubben (1980) provide a classification of different types of possible future, which they term scenario. Such a classification is not only helpful here in positioning an envisioned future in the context of the wider scenario literature; it also allows us to draw from the processes used for developing different scenario types in the development of our visioning method.

Using Ducot and Lubben's scenario classification, the most common type of scenario is classed as descriptive and exploratory, and is often used in the assessment of future uncertainties concerning an organisation's external environment. Such scenarios typically have an external orientation in relation to the organisation, and are based on people's assessment of factual information. They are most often presented as sets of alternative views of the future external environment against which an organisation should develop a robust set of plans. For example, Eden and Ackermann's (1998) alternative futures and the scenario methods described by Wack (1985), van der Heijden (1996) and Ringland (1998) fall into this classification of scenario.

Ducot and Lubben's classification incorporates visions. In defining a vision as a description of a desirable future, one is in fact describing an exploratory and normative (i.e. value-laden) view of a possible future, that is, a scenario. Thus, a vision is a particular type of scenario. We suggest that the scenario planning literature can assist us in developing visioning. First, it insists upon the explicit consideration of multiple views of the future; looking forward from any point in time, multiple possible futures exist, not just one. Second, the use of participation is key to the process of developing the scenarios; scenario development is a process of creating a shared language and understanding of future issues.

We argue that it is desirable to consider different potential visions of the future as part of a participative journey towards creating a shared vision of the future. When involving multiple stakeholder groups, it is important to acknowledge that each group may be concerned about a different set of issues and hold a different and possibly conflicting set of values that could influence their choice of a preferred future. Put simply, each stakeholder group may have their own preferred vision for the future.

O'Brien and Meadows (1998) draw a distinction between *strategic planning* scenarios (i.e. scenarios that are focused on the organisation's external environment, and are therefore based on factors that are generally viewed as being beyond the control of the organisation) and *visioning* scenarios. The latter, in contrast to the former, are focused on the internal environment of the organisation and on issues over which the organisation has control. Returning to Ducot and Lubben's scenario typology mentioned above, they are exploratory, and also normative, meaning 'subjective' or values-laden as they are intended to address the deep concerns of participating stakeholders. Indeed, visioning scenarios are developed from the initial viewpoints of the stakeholders, in such a way that each scenario represents a contrasting and strongly held perspective on the issues under consideration. The intention is not necessarily that a particular visioning scenario is chosen as 'the

way forward'. Rather, the set of visioning scenarios can act as a vehicle to promote informed debate. For instance, attention could be drawn to the possible trade-offs that might exist between different, often difficult, choices. A further but related distinction between strategic planning scenarios and visioning scenarios is the location of control (O'Brien and Meadows, 2007). We return to the point that strategic planning scenarios describe future possible external environments that are largely out of the control of the organisation, whereas visioning scenarios describe possible future states of the organisation itself; in highlighting a need for a new methodology, our future research agenda must fully reflect the difference between visioning for a single organization (e.g. as part of the strategic planning for a private business) and visioning for a city with its plethora of stakeholders and driving forces that have the potential to shape its future.

O'Brien and Meadows (1998) describe the CHOICES approach to a public discourse project which develops and uses visioning scenarios as part of a participative journey toward creating a shared vision of the future. Table 1 shows the six phases of the CHOICES approach and outlines the key tasks and activities that are conducted during each phase. We propose this approach as a useful basis for future methodological developments.

Phase	Key Tasks
Project definition	Establish project team, and identify drivers of need for change
Issue Exploration	Identify concerns of representative stakeholders
Preparing discussion materials	Project team to produce a set of discussion materials containing a brief history of the organization and a summary of the current key issues and concerns, representing different stakeholder perspectives; an overview of the project process with timescales; a set of visioning scenarios, each describing a future nature or state of the organization from a contrasting perspective.
Dialogue and idea generation	Disseminate and promote dialogue using the discussion materials. Generate ideas for action arising from discussion materials
Producing the vision	Analyse and consolidate ideas for action. Encourage participation in developing a vision
Planning for action	Commitment to action

Table 1: Summary of the CHOICES approach (adapted from O'Brien and Meadows, 1998, 2007)

In conclusion, we have set out above criteria and some resources for the development of a visioning methodology that is appropriate for addressing challenging questions such as the future of a city. In setting an agenda for future work, we emphasise the need for a visioniong methodology that counters the potential problem of techno-optimism in such situations, and draws on a wide range of stakeholders, while allowing for the possibility of multiple visions of the future.

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