Design for Sharing

Credits

Design for Sharing

final report/working paper

by Ann Light and Clodagh Miskelly

November 2014

Principal Researcher: Clodagh Miskelly

Principal Investigator: Ann Light, Northumbria University

Editorial and Design Assistant: Deborah Mason

Advisors:

Robin Mansell, London School of Economics

Susan Steed

Contents

Foreword

Sustainability is often interpreted as actions that ordinary people must give up or constrain: buy less, consume less, waste less… there is a long list of things we should not do so that the planet's resources will stretch further. The negative message sits awkwardly with what we know of how to motivate behaviour.

A sustainable society is also one in which we choose positive behaviours that make us feel happier, more connected and more disposed to help others. *Sharing* is one such activity and it has the benefit that, as well as being a positive action that carries with it intrinsic appeal, it can also support a society that buys, consumes and wastes less as a by-product.

This report, part of the work of the Sustainable Society Network[1], offers insights from three linked studies into sharing practices and concludes with design recommendations for different kinds of sustainability based on sharing.

We look at three contexts: grass-roots initiatives in a south London locale within walking distance of a project researcher's home; sharing activities undertaken by researchers' Facebook 'friends'; and what a range of digital service producers are making to support sharing across the internet. In this way, we are able to compare sharing in ordinary life, as it happens among committed volunteers in small organisations; for digitally-active individuals; and in the hands of digital entrepreneurs.

We hold these contexts up to consideration against different understandings of sustainability to explore the impact of different kinds of design on factors such as social, environmental and economic viability and resourcefulness.

We do this as the 'sharing economy' grows. Hardly a day has gone by this year without some media reference to new digital services. So it seems an apt time to ask what kind of economy is being promoted by the sharing economy and how this tallies with what we found on the ground.

We hope that in exploring the way that sharing is taking place, how digital services are supporting it and what design can contribute to our future through considering different types of sustainability, we offer something for many types of reader. Whether you are running your own grassroots initiative, developing software or promoting sustainability policy, we are addressing you.

Ann Light

Professor of Design

Northumbria University

---

[1] Funded by the Engineering and Physical Sciences Research Council's Digital Economy programme

Executive summary

This report considers how finite resources, such as tools, produce, time and skills are shared.

We learnt that kinds of sharing in locally-developed initiatives are different in tone, scale, ambition and practice to those in the digital sharing economy. In the former, we see an emphasis on organising together to create shared spaces for collaborative use of resources and joint ownership of projects and places. In the latter, we notice the starting point is often sharer-to-sharer individualised activity, implying personal ownership, while many services monetise value, rather than encourage sharing as a social exchange mechanism. In other words, sharing economy business models feature significant elements of renting, leasing and hiring and many services focus on resource management, sometimes at the expense of community wellbeing; sometimes to provide new services at a larger scale (eg bike sharing schemes).

Overall, we studied design for sharing in three contexts: grass-roots initiatives developed by local change-makers in South London (p20); activities undertaken by 'friends' on Facebook (p44); and what a range of digital service producers are providing to support network sharing (p48). We looked at these in terms of innovation: what people set up locally and why; how digital entrepreneurs are approaching the opportunities that new sensing, managing and connecting technologies enable.

Our research allowed us to conclude with three design strategies for sharing, each promoting a different aspect of sustainability:

- design for optimal resource management (p62);
- design for improved societal relations (p63);
- design for economic (global, national, local, communal) vitality (p64).

Community cohesion is a necessary prerequisite for environmental and economic resilience and involves bringing these three strands together. The local initiatives had this balance at the heart of their work: an interest in environmental, social and economic sustainability, better resource management, increased access to resources and provision of more for less. Supporting this, digital systems can be applied to help manage trust, access, connection, the breaking of social boundaries and social inclusion, while preserving a sense of place. They can do so by providing collective solutions as well as the person-to-person brokering and vetting principally seen now.

The only argument for choosing to promote one sustainability strategy over others is to ensure that no facet of societal development is neglected at the expense of other, more dominant, ones. At the end of this report, we advocate policy that promotes design to support social cohesion, local community development and, with it, the model of local initiative-taking that makes places to live both pleasant and resilient. We do so for several reasons. **First**, some of the narratives of the sharing economy are conflating resource management activities with social cohesion goals, sometimes deliberately as a sweetener to market what is essentially a new form of business that monetises spare capacity; sometimes out of enthusiasm; and, in the media, seemingly because it makes for a better story. This shows the attractiveness of the end state, but does little to create it. **Second**, the market has been designed to take care of its own and social mechanisms need boosting in an economy where global enterprises can map and exploit all sources of revenue with the advent of total monitoring of (and micro-payments for) service provision. And, **third**, because in the narratives we tell ourselves about life in the future, only those where we address issues of inclusion and access to resources in a fundamental way seem sufficient to mobilise the human elements of a world facing the extinction of a majority of life forms, destruction of key natural materials and likely inundation.

We argue here that we need people with initiative and imagination and the resourcefulness to use these if we want to promote long-term societal sustainability and this has to be bred by creating the opportunities for it. Digital tools can be an important part of that, but targeting secondary markets

and furthering commodification is only a small part of that potential. The economy of sharing (saving, managing, growing) is wider than the sharing economy and more useful in environmental and social terms. As ever, promoting vitality means providing opportunity that extends beyond those who have assets, confidence and skills, to support people who are already disadvantaged; and beyond individualised sharing tools, since they merely provide new resources for the resource-rich.

Coming at a point when digital technology is increasingly able to offer a convergence of mobile and real-time cloud-based 'big data' processing, sensors and social media, to sense, connect and control, we might speculate on a number of new types of engagement. We can make tools and things that know where they are and who is using them, when and for how long. We can imagine items that share themselves out and see prototypes in the car services that are centrally booked, but locally unlocked and returned. We can envisage time and space more evenly apportioned and sharing protocols managed autonomously by smart systems in our community resources. But inventiveness is best tempered by an understanding of contexts of use, group goals and personal interests. And sometimes technology may hinder rather than promote embedded social exchange. Our report is written to mitigate this possibility and provides many examples of alternative thinking.

Local study

Our seven change-makers in Brockley, South London tell stories of communal initiatives from within. Between them, they helped set up or develop **a microlibrary, a community-asset pub, a community garden, a digital whip-round service, a communal workshop space, a time bank and a conservation society**. Our study revealed seven tactics for success that can be shared (p46-47), just as their good ideas for shared spaces can be the basis of further innovation (p20-39):

One small thing - doing something that doesn't overstretch the capacity of the people involved;
Mobilisation – taking a broad cross-section of people with you as needs dictate;
Growing gains – giving the time it takes to build social systems around new resources;
Rootedness – aligning with the place and culture you are operating within;
Networks in the making – using existing networks to embed and form partnerships for delivery;
Scale and tempo – linking interests at an individual and small group level with the wider scope of the project;
Stepping into the weave – offering help to other organisations and so creating a culture of support.

Digital networked tools

The analysis of sharing economy services (p50-57) raises many considerations for anyone planning digital sharing resources: **How is the cultural dimension of people's experience handled?** What provision is made for people for whom austerity is already a reality? **How is the risk of loss, harm or embarrassment handled? Is there dependency on existing infrastructure for success?** Does the service encourage us to trust each other or trust the site and its procedures (and the wider legal and economic frameworks of society)? **What model of social relations does it embrace in trying to win a critical mass of users?** How are relations with other agencies established and signalled? **What understandings of trust appeal in different contexts?** Does the service augment local capacity or replace it? **How does the rhetoric of the site position the service?** How is sharing resources without encountering other users different from schemes which bring people together?

While sharing economy digital initiatives may be a stepping stone to a more embedded use of technology, with connected devices and internets of things, they also act as powerful agents in our understanding of what it is to share and how we do it, so current distinctions in interpretation matter. It will be important not to neglect more collectivist models in supporting growth of both wellbeing and innovation as part of tackling the uncertain futures ahead.

Philippe, Brockley:

I know some of my neighbours on the street: I know their jobs, I know what they do, but I don't know what skills they've got. And I can't easily find out. I could knock on their doors and ask. But it's not natural to do that. You know, just door knocking is not always helpful…

So there I am in my house and I want to do a piece of writing on digital software and there's a guy down the road who knows all about it and can help me with it, but I don't know. So we're not using the street's assets. When you pool the street's assets, you can get the stuff done because, yeah, I can't do it, but he can.

But for that to happen you have to have a mechanism, a connecting mechanism. Of course, the Brits are very reserved, as well, and so you're not supposed to talk to your neighbours… (I'm not British, I'm French, but I've become Brit by force of habit.) So people don't communicate and I think there's also fear that if I connect with you, you might invade my life a bit, so I've got to put some boundaries there.

The value of sharing means that you have access to new resources and they are people resources as well as material resources - so that, for me, sustainability is linked to the combination and you can start being creative. But you have to trust people and break down the barriers.

There's a block of flats in Paris where people realised that they're all buying broadband. They installed broadband for the whole building, and, with repeaters, saved tons of money. In fact, the money they're saving has allowed them to pay someone to run a crèche based in the building while the parents are at work. It is brilliant.

Yeah, so that's the value of sharing – it becomes very powerful, I think. It has a transforming aspect.

With thanks to all our participants…

Design for Sharing

In recent times we have seen a revival in the language and practice of sharing. This has emerged in the wake of a global recession, with the continued growth of networked and distributed digital tools which enable new ways of managing peer-to-peer relations and the use of individual or shared property. These tools have provided opportunities for file sharing and new forms of virtual exchange, but also offer the means to manage the other things we share: those which are not endlessly replicable, but are part of a limited resource that we wish to stretch further.

This report seeks to bring together many of the complex factors that could and should inform the design of social systems, from the politics, to understandings of sustainability, to on-the-ground lived experience. It presents analysis of two contrasting types of initiative to support sharing: putting the work of local change-makers in the context of markets and new commercial services, and vice versa. Sharing has become a by-word for social, economic and environmental wellbeing and resilience. What does that mean for designing structures to support it?

What is sharing?

The notion of 'sharing' has diverse interpretations, increasingly influenced by the ready duplication of digital code. But the sharing featured in this report is of another kind: that of a local place-based practice which redistributes finite resources, such as time, skills and physical items. This kind of sharing, by definition, cannot be managed alone. Yet, even within the context of one small urban neighbourhood, we found no easy way to define what we were looking at. We saw systems operating at different scales, affected by the purposes and interests of a range of participants and fully embedded in ordinary life. So this section is broken into a review of theoretical, local and new 'sharing economy' definitions to help us delineate the space we are discussing.

In the literature

Belk has written extensively on how we share and what it means. 'Sharing is an alternative to the private ownership that is emphasized in both marketplace exchange and gift giving. In sharing, two or more people may enjoy the benefits (or costs) that flow from possessing a thing… Sharing, as used here, includes voluntary lending, pooling and allocation of resources, and authorized use of public property, but not contractual renting, leasing, or unauthorized use of property by theft or trespass. We can share not only places and things, but also people and animals (to the extent they are ours to share), as well as our ideas, values, and time…. [it is] the act and process of distributing what is ours to others for their use as well as the act and process of receiving something from others for our use. The receipt of shared goods may be for an indefinite or prescribed period of time. And our share may be for our exclusive use or for use by us as well as others.' (Belk 2007 p127). Belk leaves out simple coincidences, such as that we may "share" a common language, place of birth, or set of experiences, since they do not depend on volitional sharing, and we follow suit here.

Belk asserts that there are things that one can share without losing them: he cites 'a song, a joke, a story, our bodies, things we put up on our Web sites, or music files shared on the Web' (Belk 2007 p132). We leave endlessly reproducible types of sharing out of our study here, being principally concerned with the intersection of finite resources and sharing practices. We do include intangible but finite qualities, such as time, enthusiasm and responsibility.

Belk also observes that much economic activity avoids feelings of commitment, whereas sharing promotes it: 'Even though notions of customer relationship management might have it otherwise, in economic theory commodity transactions are balanced with no lingering indebtedness and no residual feelings of friendship. … If we conceive of a continuum involving these constructs, commodity exchange lies at one end and sharing at the other, with gift giving somewhere in the middle.' (Belk 2007 p127).

This is important, as it hints at something intrinsically social to sharing that differs from other forms of transaction. In *Sharing Nicely* (Benkler 2004), Benkler contrasts the rich world of social exchange with the formalisation of markets. He juxtaposes the legal enforcement and crisp, precisely defined interactions of markets with the more contextually rich, less streamlined activity of social exchange mechanisms, which rely on 'tacit, learned, and culturally reproduced capacities to read and interpret social settings… communicating information with great subtlety and nuance.' (Benkler 2004 p315-18). This requires 'tremendous investment, acculturation, and maintenance, every bit as much as markets' (Benkler 2004 p317) along with enforcing mechanisms, which he calls 'social punishing'. These richer, less formalised processes lend themselves to situations where value cannot be expressed simply or formally, where there is vagueness, where resources are spread thinly across a number of people and so on. Instead, 'market transactions systematically require a greater degree of precise information about the content of actions, goods, and obligations, and greater precision of monitoring and enforcement on a *per-transaction* basis than do social exchange systems' (Benkler 2004 p317).

In the local community

The seven local change-makers[2] we interviewed in Brockley had no immediate definition of 'sharing', though each welcomed it as a positive activity, even as essential to making an area feel welcoming. Sharing was seen as part of looking outward to your community, trusting and caring; there was a strong emphasis on the social value, seen in these examples:

'Giving or pooling skills or resources and not necessarily expecting a return for it … I guess when I think of it in terms of what I've done, I view it as me having shared my skills and my time in return for no financial payment but in return for having an interesting neighbourhood and a really good pub on my doorstep and it having been a really useful experience for me because I've learnt a lot in the process and got to meet new people …it's about exchange for things other than cash.' (Tessa, community-owned pub)

'So far as the sharing aspect is concerned, that's the thing that's surprised me, that over the last month not one single person has vandalised it and I think that's because of the goodwill and the notion that every single person, when you give a book technically you're making yourself a bit worse off because you're giving away some of your possessions, but the overall cumulative thing is that everyone becomes enriched by it: lots of people making a very small sacrifice.' (Sebastian, microlibrary)

'The value of sharing is people connecting. It's a social value. I think it goes beyond "I've got a spare drill, you can use that" There are probably several drills in the street that are barely used, so why not share what you have and save money helping each other out? In sharing my drill with you, I'm connecting with you and if I'm connecting with you, I've got potentially a sense of identity with a community of people or a neighbourhood. It also means that, being connected, I have access to information and we can mobilise and we can do stuff together. It means that we're not buying into the consumer society.' (Philippe, time bank)

'I think sharing is a good word. It's not a jargon word. If you start talking about "community cohesion" and so on people switch off. It's a fairly mainstream word… In a sense, it's a word that actually challenges everything that's wrong with our society.' (Clare, local conservation society)

'It brings people together. It makes people happier. It is nice when you walk out on a street and you recognise people … when you know them to talk to and you know their names. You feel more part of a community. I'm convinced people feel happier and more secure and I know that bad things still happen - people get burgled - but it's a much more comfortable feeling. You feel, yeah, part of something.' (Jane, community garden)

---

[2] There is no good single word that sums up this mix of enterprise and public service across all sectors, since 'social entrepreneur' is now linked with running a not-for-profit, 'social architect' is overstating it, etc.

Sharing is about doing with others and the sum may be greater than the parts. Local sharing involves both practices for sharing the tangible – space, tools, etc. – and sharing of time and skills or labour. But this is crucially built on less tangible sharing of care, responsibility, and vision and values, in some cases memories and history, and certainly trust. These are key factors in what motivates and maintains sharing. We look more closely at these and other factors in the case studies on p20.

It is clear that sharing sits within a set of collaborative and exchange practices and is rarely entirely distinguished from other related practices on the ground – either in description or execution. There is a range of old and new terminology in use such as: barter, gift, exchange, swap, recycle, repair, repurpose, etc., merging in the weave of practices that make up engaged living. In other words, it is possible to find many different practices rolled together in embracing sharing. Some rely on dealing with existing waste, such as foraging. Some are about coming together, as much for the experience as the resourcing. There are also stories of trust abused and of inadequate systems of management and tension between the different goals and interests of people in a neighbourhood.

In the sharing economy

At its outset, the sharing economy took its reference point from new forms of collaborative and open source production made possible by digital networks. In *Sharing* (2011), Aigreen suggests that over the past fifteen years, file sharing of digital cultural works between individuals has been at the centre of debates on the future of culture itself. This burst of sharing activity, enabled by the virtuality of code, digital copying technologies and the Internet, began a new consideration of sharing and its impacts.

However, the emphasis has changed in the last few years, focussing more on consumption than production and co-production. Bellotti et al (2014) note that 'Commercial peer-to-peer service exchange businesses, such as AirBnB, Lyft and TaskRabbit, are expanding rapidly, but their non-profit counterparts are lagging behind'. There is a booming market in new services that are using the language of sharing, collaboration and peer-to-peer exchange for positioning. With help from the media and innovation policy-makers, they are knowingly defining a field to operate in, generating debate about what is and is not sharing. Recognising this, other terms are being used too, such as 'collaborative economy' and 'peer economy'. We review several digital services that promote collaborative behaviour and we explore their self-presentation in detail, below (p48). Here we look more generally at this new sector supported by digital tools and how it is being defined.

Innovation charity NESTA is working hard for clarity in this area and favours the term 'collaborative economy'. Stokes et al (2014 p13) identify five collaborative economy traits:
1. Enabled by internet technologies
2. Connecting distributed networks of people and/or assets
3. Making use of the idling capacity of tangible and intangible assets
4. Encouraging meaningful interactions and trust
5. Embracing openness, inclusivity and the commons
They acknowledge that the final two traits are sometimes more aspirational than evident, relating them to drivers identified through their survey of collaborative economy organisations (p21):
• Creating value out of idle assets
• Rebuilding social capital
• Creating new economic relationships
• Environmental sustainability
(Our own analysis of the gap between rhetoric and service offering can be found on p50)

Rachel Botsman, who popularised the term 'collaborative consumption' (Botsman & Rogers 2010) has repeatedly tried to define relations between the various names in use. 'You may have noticed the terms "sharing economy," "peer economy," "collaborative economy," and "collaborative consumption" being used synonymously. … So, do I think these terms have different meanings? Yes. Are there common core ideas that explain the overlap? Absolutely.' (Botsman 2013). Of these, she

describes the 'sharing economy' as an economic model based on sharing underutilized assets (from spaces to skills to stuff) for monetary or non-monetary benefits, largely talked about in relation to peer-to-peer marketplaces, but equally possible for business to customer models. She gives the example of a ridesharing platform that offers a means by which ordinary drivers 'can earn extra money by giving rides to people who need them'. The common themes across all of the new 'economies', she argues, are Distributed Power, Disruptive Drivers (technological innovation in the shape of social networks, digital payments, online identity systems and mobile devices; shifting values as a connected society rethinks ownership; economic realities and environmental pressures) and Innovative and Efficient Asset Utilization. (Botsman 2013). More recently, she and Helen Goulden of NESTA have identified common themes of the collaborative economy as 'access instead of ownership; collective efforts instead of solitary endeavours, [….relying] on vast, distributed networks of people and goods – and the technologies that can build and maintain such networks […and] a public willingness to place trust in people they have never met.' (Goulden & Botsman, in Stokes et al 2014).

However, many commentators have questioned whether there is now any sharing in the activity of the sharing economy, despite the collaborative tag. 'Traditionally, in order to make renting viable the goods available for rent had to be stockpiled … Thanks to digital technology, it's now feasible to do what Zipcar does and disperse the cars throughout the city. Since the cars are dispersed, they're more convenient. But none of this is sharing. My neighbor and I share a snow shovel because we share some stairs that need to be shoveled when it snows and we share responsibility for doing the work. If I owned the stairs and charged him a small fee every time he walked in or out of the house, that would be the opposite of sharing.' (Yglesias 2013) The debate around these practices has raised concerns about 'sharewashing': moments where the terminology of sharing is being used to promote practices which are new modes of selling (Troncoso 2014). It has also been suggested that some services promote de-unionisation, poor hourly rates of pay, casualization of the workforce and tax minimisation - practices that replace social models of old with more commercially oriented ones (eg Asher-Schapiro 2014 or http://uberpeople.net/threads/driving-in-la-since-the-latest-pay-cut.2388/).

Makwana (2013), discussing values in the sharing economy, suggests that 'by attaching too much emphasis on self-interest and personal gain in relation to the concept of sharing, the altruistic aspects of sharing could be undermined and the more benevolent motivations of those who share could be increasingly ignored.' He notes a tendency in the mainstream media to consider the sharing economy almost wholly in financial terms. Makwana's comments come in the context of work by *Common Cause* (Crompton 2010), which argues that using extrinsic motivators (such as financial reward) to promote charitable giving and concern for greater-than-self issues, like the environment, is actually counter-productive. This view has been endorsed by research into how children develop sharing behaviours and a perception of themselves as moral agents (Warneken & Tomasello 2008) and Steed's analysis of the relationship between money and giving (2013).

Returning to Benkler (2004), we can see a clear distinction between the mechanisms of secondary markets and social sharing systems, which he calls *alternative* transactional frameworks possible for use in disposing of excess capacity. In other words, selling on spare capacity (finding a secondary market for your unused room, car or used goods) is not the same as sharing it. If there is no doubt in Benkler's work that these are contrasting economic systems, it is interesting to consider what work the crossover of terms and ideas is doing as organisations attempt to position themselves in a world of networked technology and connectedness. In Stokes et al's report (2014), there is a wide spread of goals, motives and structures, all co-existing in a space still struggling for definition.

The Politics of Sharing

Most earthly resources are already historically apportioned. And although sharing is largely being regarded as a social, economic and environmental good in the world at present, there is a social justice dimension to sharing schemes that the feel-good factor of making an individual contribution can mask. Much of the sharing economy rests on effective use of spare capacity, assuming an ownership model. In much of the rhetoric of service provision, *access not ownership* is extolled. There are other models involving shared responsibility for ownership and maintenance which are not being discussed as prominently. While we do not look closely at the notion of the commons here, we recognise that some structures created by the change-makers in Brockley are common-pool resources, unlike those advocated in the sharing economy. In our study of a local area, much of what was being developed did not belong to one party. Instead, structures for managing shared responsibility have been agreed as part of establishing, maintaining and developing the resource. In the community garden, the workshop, the community pub and the time bank, ownership is distributed across a group, which is a *commons* model (Rowe 2013) with its own design challenges (see Ostrom 1990 for principles of long-enduring common-pool resources, such as clearly defined scope and procedures and inclusion strategies). Some of the simpler arrangements work on an ad-hoc basis, with no need for complex agreements: the sample on Facebook included those who had bought tools with neighbours, such as a commonly-owned ladder, or who shared a nanny. But no system involving multiple parties is ever free of some form of arrangement and talk of sharing foregrounds both the distribution and management of resources.

Ownership matters

With ownership comes power, whether at the level of deciding what to share when and with whom, or in the sense of owning a service that is mediating in the effective use of resources. Private and public sector ownership shapes what and how we share, and what we see as sharing. At one end of the scale, mutual trusts and municipalities are formalised sharing structures that have developed elaborate control mechanisms, such as voting, periods of election and contribution through taxation. Elected bodies and their officers manage resources collectively on our behalf, which removes the need to share some of the most difficult things at a local level, such as waste disposal and the upkeep of roads. It is only recently in the UK that utilities (such as the electricity and water supply) were privatised, shifting shared ownership of these resources by the whole population of a country to shared ownership amongst those who pay for shares: an example of the different kinds of sharing conferred by ownership. What is now understood as sharing is more often chances for communal redistribution not addressed by state and big business, although municipal services emanate from the same impulse to co-manage and maximise resources in a given area. Still highly organised, but in the hands of the immediate communities of an area, are the shared ownership models, such as cooperatives and community assets, now supported by the Localism Act (2011).

In North American culture, Belk suggests that 'Materialism, possessive individualism, and the conviction that self-identity must be developed by extension into possessions are all factors that inhibit sharing' (Belk 2007 p136). Identification with material assets is prevalent in the UK too and, Sennett suggests, is heavily class-based (2013). Conversely, says Belk, when we feel a shared identity with others—whether in our neighbourhood, group, city, state, or nation—we also feel a common sense of moral obligation toward them and this wider perception of identity supports sharing across family and other social boundaries. Nonetheless, identity is related to trust, raising issues of belonging, inclusion and difference in geographical areas of greater diversity. Ownership, even of shared resources, may stay in the hands of some at the expense of others.

Can bonds built by sharing reinforce existing patterns of ownership to the detriment of wider circles of inclusion? Possibly, though, in a US-based study on neighbourhood cohesion, Hipp and Perrin (2006) found no weakening of wider ties through the development of stronger local ones, while the

'sharing of resources among residents allows all "boats to rise together" and keeps any households from suffering unduly'. They looked at both neighbourhood and city level cohesion, finding, predictably, that respondents expressed a higher average degree of cohesion with their neighbourhood than with the larger community, though specifically *not* to the detriment of wider relations.

Social justice matters

Considering assets and their distribution, Coote & Goodwin note that even something as ostensibly egalitarian as sharing can 'privilege some people over others (for example, where better-off parents share a car pool to ferry children to improving after-school activities)' (2010 p4). They list reasons that individuals and groups may be excluded or disempowered: because of how much discretionary time they have, where they come from, where they live, or their state of health. In a comment that is pertinent to our study of Brockley, they observe 'Some neighbourhoods seem to be awash with activities that enrich and strengthen social connections, while some appear beset by divisions or distrust, or have less opportunity for social exchange, because there are no meeting places, or populations are transient, or fear of violence keeps people indoors.' (Coote & Goodwin 2010 p4-5).

With individualised sharing systems comes a danger that well-resourced people are able to lend and borrow as a lifestyle choice while stigma attaches to forms of exchange in less affluent contexts. This doubly penalises people who lack resources, embarrassed by the attention suddenly given to *making do* practices, even as they could benefit most from both the economic and social aspects that sharing systems confer on a neighbourhood. State management of scales of contribution, in the form of graded local taxation, takes this inequity into account in ways that many local schemes do not. Even an assumption that everyone has equal time to give to a project or confidence to participate may act to the prejudice of some participants, while time-banking schemes have long suffered from a perception that some jobs are not equal to others, even if they take as long to do. For instance, does an hour of gardening equate to an hour of legal advice?

A detailed study of mutual aiding in Leicester looked at support given to kin and non-kin in two areas of the same English town, comparing a relatively affluent ward with one that features high on the Index of Multiple Deprivation (White 2009). White is one of few commentators to look at the issue of *receiving* resources and the pressure this brings, not least if you have fewer resources to offer in return, citing examples of people who did not accept offers of help despite signs of need.

But in his study of mutual aiding (including sharing, lending and borrowing) he found that far from being an austerity measure or linked to one social echelon or another, 'unpaid reciprocal activity forms a significant part of daily coping strategies' across the board. In other words, he says, it is not, as many have suggested, a last-resort measure in households with limited resources. Mutual aid was apparent in both the ward of Saffron ['deprived'] and West Knighton ['affluent'] (White 2009 p463). He finds complex motivations for this, but his evidence allows him to attribute much of the eagerness to share as coming from a desire to help other people, feel needed and create a sense of belonging: 'this over-riding need for many respondents to feel wanted by others, resonated deeply in both affluent and deprived households' (White 2009 p467). He argues that this 'social embeddedness' is a major reason that mutual aiding has been able to resist commodification in contemporary society.

What happens when access to the means of participation is mediated by networked tools? As NESTA puts it: 'The role of digital technology in facilitating activities within the collaborative economy raises questions not only about who is (and is not) participating, but, more specifically, whether technology is either enabling more people to collaborate, or a smaller number of people to increase their collaborative activity.' (Stokes et al p21). In other words, another dimension of access to resources is access to the mechanism distributing them. Meanwhile, a recent study of Airbnb (www.airbnb.com) shows a different form of discriminatory impact in using current digital tools. Edelman & Luca (2014) combined pictures of all New York City landlords on Airbnb with their rental prices and controlled

the study with other information about quality of the rentals (eg location, size, etc). They show that non-black hosts charge approximately 12% more than black hosts for the equivalent rental, 'suggesting an important unintended consequence of a seemingly-routine mechanism for building trust [by using pictures]'.

Production matters

Sharing, in being based on a non-financial model, is part of what Goodwin has named 'the core economy'. The notion of the core economy was introduced to balance an emphasis on financial exchange in economic theory by stressing the role of community relationships and resources and the work of the family (Coote & Goodwin 2010). Co-production advocate Cahn suggests that something like 40-50% of productive economic activity takes place outside of the market and is not measured by traditional indicators. He quotes futurist Alvin Toffler using this idea to shake up 'the CEO's of Fortune 500 companies: "How productive do you think your work force would be if it was not toilet trained?" …No society has the money to buy, at market prices, what it takes to raise children, make a neighborhood safe, care for the elderly, make democracy work or address systemic injustices.' (Cahn, n/d). Instead, such work is (co)produced in domestic and social arenas of life, with different organisational structures and criteria, as Benkler and others note.

Sharing practices have a strong relationship to co-production systems. First presented by Ostrom as a model of public service delivery in 1978 (Ostrom et al 1978), she uses the transition to co-production in choosing a condominial system for a block of flats in Brazil to show how sharing space can involve active participation: 'teams first set up a series of neighbourhood meetings where a general overview of the process, opportunities, and costs of a condominial system is presented. Then, meetings are held in each block where detailed discussions centre on the choices that residents will have to make', noting significantly that 'Block meetings are called off if half of the households on a block are not in attendance to ensure that there is wide availability of relevant information and good discussion among those living on a block.' (Ostrom 1996 p1074-5).

Supporters suggest a co-production approach can result in a 'novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions, and for which the value created accrues primarily to society as a whole rather than private individuals' (Phills et al 2008 p34). Evans (1996) writes that '[m]arket advocates see it as hopelessly muddying the logic of individual incentives and rational resource allocation.' Much of this hinges on the value given to social process. Co-production stresses the role of citizens and communities and their active stake in producing solutions (Stephens et al 2008). This relationship fosters 'self-esteem, personal aspiration and a sense of purpose' (Stephens et al 2008 p17) while providing experiential learning (Boyle et al 2010) and thus developing communal resources.

We might see some of the recent 'sharing economy' digital tools promoting secondary markets as closer to co-production of services, than *sharing* per se. Linked back to Coote & Goodwin's (2010) comments about resourcing, we can also see that success in the monetary economy privileges the sharing of material resources in both financial and core economies, because it gives access to a greater number and variety of assets. And, last, we can note that the production of new means of sharing and new spaces and opportunities to do so feeds straight into the core economy, providing value in terms of capacity and learning for the community.

So, why design for sharing?

The market is usually allowed to decide what technology flourishes (eg Brynjolfsson & McAfee 2014). But there are warnings, such as Benkler's (2004) that letting financial mechanisms crush sharing initiatives will be counter-productive: 'If indeed we live in an economic system made up of price-based, hierarchy-based, and sharing-based modalities of production, if it is true that optimizing our institutional system for price-based production undermines productivity in the sharing modality, and if it is true that our communications, computation, and information sectors are undergoing technological changes that improve the efficiency of social sharing, then we are making systematically mistaken policy choices not on the peripheries of our economies and societies, but at their very engines.' (Benkler 2004 p281). And there are pleas to develop a different set of economic criteria for policy decisions: 'We want to move from an economy based on scarcity of economic resources to one based on an abundance of human resources. We also want to move beyond a deficit model of need where we simply pay attention to problems that require fixing, to a more rounded and positive approach, where we consider what we need to lead a good and satisfying life – not only what makes life possible, but also what makes life delightful.…to promote sustainable social justice and well-being for all' (Coote & Goodwin 2010 p4).

So there are the economic and the social arguments for looking at the forms of exchange in our societies. There is increasingly another argument too. The urgency of environmental issues draws our attention to the management of finite resources, and the potential of digital tools to help us work with them effectively. At its crudest, this can be seen in terms of simple resource management. But sustainability has social, environmental and economic elements, and some would add cultural too (Mortberg & Stuedahl 2012). While sharing extends the capacity of households and communities to function effectively, demanding fewer resources and spreading them further, it also generates social and cultural connection, such as knowledge and friendship, extending networks. Gauntlett concludes an analysis of happiness by suggesting that for activities to be meaningful, it is 'especially valuable if they are not contained at the individual level but involve some form of sharing, cooperation or contribution to other people's well-being' (Gauntlett 2011 p126). These activities increase the sense of interdependence and collaborative spirit that is the basis of both fulfilment and resilience in crisis, going to the heart of what makes society sustainable. The emphasis, in sharing practices, on positive messages, intrinsic rewards and on-going gratification is motivational in making local changes to address peak oil and climate change globally (Heise 2008), contrasting with the more finite regime of technologies that focus on monitoring and immediate energy reduction. Sharing presents people with a positive activity, offering engagement that has social benefit and builds cohesion in the face of stress. This means it emphasises resourcefulness as well as the immediate environmental value of using fewer resources in the short-term.

We might also ask what it is about the UK in the early 21st century that means we need to rediscover these values. Writing in 2008 about North American culture, Belk comments that the pessimistic view would suggest Western societies are headed towards less, rather than more, sharing. He cites the enclosure of intellectual property through rights management hampering the sharing of scientific discovery. He notes new trends in the family: 'What were once the family radio, the family car, and the family television are increasingly privatized property of individuals within households. And the family meal is becoming a quaint memory.' (Belk 2007 p127). Sennett's work *Together* identifies several major changes in how Britons and Americans live that undermine our ability to cooperate and interest in doing so (Sennett 2013): structural inequalities, short-termism (with the casualization of working patterns) and a resultant loss of 'character' as people withdraw rather than meet social challenges. If cooperation is a craft, as he argues, then we are not working hard enough to develop it.

Another series of factors driving change in the UK are specifically political. In 2010, the Big Society was launched by the incoming coalition government, with the rhetoric of a more engaged citizenship and sweeping cuts in third sector, arts and public sector budgets. 'Austerity culture' became fashionable (Bramall 2013) and a spur for design, reflected in initiatives such as frugal design (http://www.nesta.org.uk/frugal_innovations), but was also criticised heavily as increasing inequality (Slay & Penny 2013). Into this mix, the Localism Act (2011) made it possible for well-organised and well-connected community groups to finance the joint purchase of major buildings and other assets that were previously unavailable to them as a collaborative venture. The legal framework had been modified slightly in favour of shared ownership.

Hardship; top-down promotion of DIY values; and bottom-up growth in anti-consumerist sentiments have produced a turn to alternative economies and means of exchange. In the *new materialism* advocated by the New Economics Foundation, an economy of 'better, not more' (Simms 2012) includes encouragement to: 'look at all your things, think about what your friends might need or could benefit from, and share at least one thing a week' (Simms & Potts 2012).

By evaluating how sharing works with and through the use of digital technology; which aspects are better managed more traditionally; and how different materialities in different social and economic contexts demand different design approaches, we can discover the potential for new light-weight digital interventions that not only connect people, but also physically-bounded resources. We can use technologies that will not worsen the environmental footprint of the digital sector, or at least provide a trade-off in improved environmental outcomes. We have an obligation - in this area of technology development even more than others - not to waste resources by innovating for innovation's sake. And we are warned not to conflate means with ends in our rush for solutions. For instance, Hollis, on Shareable (Hollis 2014), specifically criticises technological 'solutionism' as part of the problem. At the heart of necessary adaptability to bounce back from adversity is not some technological innovation, he argues, but 'trust - the essence of the understanding that the places where we live and the lives that we lead are shared experiences, rather than tradeable properties'. This kind of trust, he says, is nurtured in equality. 'It is not, as some thinkers will tell you - such as Francis Fukuyama or Robert Putnam - based upon some social transaction or the reward for one kind of participation or other, but rather the dissolution of the difference between us and them.' (Hollis 2014).

In sum, sharing is a positively-orientated sustainable behaviour which has persisted for reasons of both need and life-choice, offering the potential to reflect many different aspects of sustainability. By understanding more about willingness and opportunity to share, we address sustainability as an interwoven social, economic and environmental good. This begs the questions: how do we design social, technical and business systems to best support sharing? And are there subtleties to what we emphasise that affect the kind of sustainability being supported?

Design factors
In addition to reasons why we might promote practices of sharing in their various forms, we can also consider design issues more closely. In doing so, we notice that even where business models, social support networks and types of transaction are not changing, there is change in domestic patterns and, with these, shifts in what might be or is shared. Car sharing schemes are on the increase, but launderettes have almost disappeared in much of the UK. A launderette chain shares the business model of Zipcar: a company which provides locally-situated resources available for people to use at a small fee and for an allotted amount of time – offering this at a point when household washing machines were an unnecessary luxury. But a launderette and a car sharing service have totally different technical requirements. As the objects that we share change, so too must our designs.

And we are working at a time when the evolution in technology means the potential for new ideas and opportunities. The Digital Social Innovation report (Bria et al 2014) introduces developments in hardware and software across five areas:

(i) New ways of making; including 3D printing, maker movements, etc;
(ii) Participatory mechanisms and open democracy, featuring new projects pioneering direct democracy and citizens' participation;
(iii) The sharing economy 'that includes crypto digital currencies and platforms, crowdfunding methods, exchanges and new economic models';
(iv) Awareness networks enabling sustainable behaviours and lifestyles, such as citizen science projects using sensors and collective feedback;
(v) Open access and information commons and mesh networks projects (Bria et al 2014 pii).

In looking at what support technology can offer, we turn to Janelle Orsi's analysis of managing different complexities of sharing practice (Orsi 2009): as sharing becomes more institutionalised, the time and resources needed are greater and more people benefit (though more intangible value may diminish). There is also a need for greater infrastructure and much of this, nowadays, is digital.

- **First Degree: Requires Cooperation + Minimal Planning: '**At the most basic level, sharing arrangements require little planning, time, or money.' She gives examples of sharing with one other person, such as borrowing and lending goods; dog walking exchange and harvesting and sharing fruit from neighbourhood trees.
- **Second Degree: Requires Cooperation + More Extensive Planning:** This entails administrative work and, likely, a written agreement among sharers, **'**Sharing ownership of a car with a neighbor, for example, takes shared transportation to this second level' and other examples include sharing garden space for food cultivation and a neighborhood home repair group.
- **Third Degree: Requires Cooperation + Extensive Planning + Infrastructure:** The need for tools, like an online calendar for scheduling, grows. 'As a result of creating infrastructure, third degree sharing arrangements often have an identity independent of their individual members ….even when there is complete turnover, the sharing arrangement remains and becomes a lasting community institution.' An example might be cooperatives that facilitate sharing of resources.
- **Fourth Degree: Requires Cooperation + Extensive Planning + Infrastructure + Community-Wide Restructuring and Mobilization.** Examples here might be expansion of public library systems to include lending of tools, equipment, and other goods and the planning of neighbourhoods and design of housing to facilitate extensive common areas and community interaction. (summarised from Orsi 2009)

As well as networks enabling simple brokering between people, managing payments and sharing information, which the internet does well, the transition to networked objects (aka Internet of Things) increases the scope of tools and provides the opportunity for remote access and things that have their own functionality (see Rowland et al 2015). 'Everything is being connected: cars, cargo containers, street lighting and parking spaces …Automatic data interchange between connected devices, or machine-to-machine communication (M2M), is already firmly established in nearly all industries,' says Kiessling (2013), suggesting that networking of objects is an important precondition for sharing because it allows us to track things and people.

Friends of the Earth's *Sharing Cities* (Agyeman 2013) sets out to redefine what future 'smart cities' could mean: harnessing smart technology to an agenda of sharing and solidarity (rather than one of 'competition, enclosure, deepening inequality and division'), a theme also to be found among the many policy and design ideas for sharing in urban contexts in *Policies for Shareable Cities* (Orsi 2013).

Elsewhere, social media - blogs, social networking sites and so on - make available the means to communicate about and quickly promote opportunities and hyperlocal activities without recourse to more formal media mechanisms.

In reviewing the argument for upgrading our designs for sharing, we must also sound a note of caution. People interested in the development of new technologies may be particularly ill-equipped to judge how little some people like using digital tools, especially in their leisure time, and how many

people still do not have easy access to them. As new technologies are created, divisions in usage will intensify.

Informal design processes

Our study features the work of seven local change-makers. All have shown remarkable initiative, though only three are paid for their efforts and these three are as much advocates, architects and initiators as the other four. In this regard they are not unique, but join a legion of other motivated lead citizens, activists and agents of change who bring into being new social structures and means of engagement because they can see a shape and value to them. They are not urban planners or designers, whose work it is to do so. They are people who have felt sufficient passion to act. Hester terms these actions 'labours of love'; projects initiated by community-based innovators which have significant impact on urban spaces and which are 'born of personal creative necessity, thrive where there are scarce resources, and produce flexible environments that are lovingly human' (Hester 1984). If we want to understand design for sharing, we must balance a study of technological opportunity with analysis of the practice of people enabling sharing and building infrastructure on the ground. These are the people who are taking sharing from the level of serendipitous encounters to a more organised and mobilising series of engagements. Some are using digital technology, as does Olivia of Patchwork Present in our sample (p28), and some require no digital tools at all.

Our earlier studies (Light & Miskelly 2008, Light Miskelly & Thompson 2008, Light & Akama 2014) explored informal processes that, nonetheless, in a deliberate and thought-out fashion, lead to new infrastructures and change the social and physical characteristics of the local environment. We observed a fluid and responsive design process among these practitioners. We asked how practices which take place outside the usual context of design (what we called 'designing-in-the-wild') develop without recourse to the formal tools that planners, architects and designers use.

Dorst (2008) argues that the collaboration, context, interaction and learning which inform design practice are often ignored. These ancillary aspects become central when working in informal contexts with social change, when the designer is also advocate, facilitator and, in Louridas' (1999) words, bricoleur. This speaks of a crafting that is often at the mercy of contingency, making do by reinterpreting and being inventive with the tools to hand. 'The work is often characterised by passionate dream, sacrificial struggle, allies, a campaign of education and visible results, followed by a period of transfer, adaptation and institutionalisation of power which is necessary but painful for these individuals but which ensures a community-owned project' (Light & Miskelly 2008). We revisit our analysis in the context of this new project, use it to help understand what the change-makers of Brockley have achieved and to site their work in the wider movements affecting 21st century living.

Three Studies of Sharing

Sharing is an age-old practice, but personal and communal initiative can promote opportunity and willingness to share. We explore that in three ways: grass-roots initiatives developed by local change-makers in a south London locale; activities undertaken by 'friends' on Facebook; and what a range of digital service producers are making to support networked sharing.

Context

Sharing of resources happens in a place. Social relations, power structures, physical distance, local geography and the nature of what is being shared all impact on what is possible and desirable. This is a challenge for designing support structures since contexts vary and solutions may not scale or work outside a particular location. We address contextual features by conducting three studies, each with a different relation to place. The first was a highly located study of communal initiatives, in a small part of south London, where we deliberately used social networks on the ground and geography to shape the study and decide who we interviewed. The second applied the same principle - of using our own networks as a basis for the research - but situated the study in the digital realm, using Facebook to ask a widely flung set of individuals questions about sharing practices and so ensuring answers came from digitally active types. The last study analysed a range of digital services intended to promote sharing in some form, looking at how they pitch themselves, how they negotiate where sharing takes place from a disembodied position and what their business model involves.

Methods

Interviews in a Locale
We conducted seven detailed interviews in situ with people who could tell the story of local communal initiatives from within and explain their motivation in getting involved in making change. The seven initiatives were a microlibrary, community-asset pub, community garden, digital whip-round service, communal workshop space, time bank and conservation society.

This list was drawn up after initial research into community action in a particular locale and who the key 'movers and shakers' were in setting up collective activity there. While this was not an exhaustive list of active local people or facilities in the area, our research was governed by what was energetic and relevant at the time of exploration and what would give a good overview and spread of issues, relying on the network and judgment of the principal researcher in role as participant-observer. It will be seen that the sample initiatives are varied and represent a good range of collective activity possible in the UK, concentrated in one small area of London. In our analysis, we consider both the individual initiatives and also the reason for the concentration in this part of London, noting that place and other contextual features have a bearing here too.

A constraint we imposed was that only those initiatives taking place within a small area were considered: we extended our locus of inclusion to just beyond the Brockley ward in the London Borough of Lewisham, defined by the principal researcher's reach. We settled on a reach of no more than *the area that she can walk from her house in 30 minutes*, this being a likely limit on most people's willingness to travel to collect items from others or participate in communal activity.

The interviews were informal, but each participant was asked about definitions of sharing and use of information and communication technologies (ICT) as closing questions. A typical opening, which demonstrates the engaged and informal nature of the interviews, is as follows:

"It's a very informal interview approach that I use so it's more like a guided conversation. I have a few questions to guide it but I'm happy to take whatever direction you want, to what you think is of interest and how you see sharing. I haven't got a tight definition of it, but to start off, it would good

to know a little bit about how long you've lived here and what kinds of things you've been involved in in the local area."

Facebook questions:

There were two rounds of questions posted from the account of *Design for Sharing* (defined as a community interest page) to the combined 'friendship' group of the two researchers.
1) 'We would really like to know what, why and how you share.'
2) (after lapse of 2 months, asked to all original respondents and more widely)
'…may we ask one more thing of you? How do you manage your sharing activities? Do you use any customised software such as websites (ouishare, ecomodo, landshare, etc?), any computer supported sharing systems (like zipcar's booking system), any more standard digital tools (email, Facebook, Twitter, texting) and/or any other communication and management systems (eg phoning, making lists on envelopes)?'

This gave us access to a group of digitally adept commentators who could answer as individuals. The group hardly overlapped with the local people of Brockley, spanning the world and bringing in commentators from Europe, southern Africa and Australia. We saw this as a way of getting beyond the approach of the kinds of project we were reviewing, to find out more about how people share, what they use and why. This would provide some contrasting understandings and practices. Obviously, this was skewed to our networks, but no more so than the use of Brockley and a local researcher who only walked 30 minutes to find her interviewees. This provides an online correlate to taking the radius of a researcher's walking journeys in Lewisham, providing an informed test group to discuss issues of sharing and technology online. We see this relative intimacy as a strength and note that our networks are well informed about social sustainability, collaborative consumption, etc.

Review of digital resources

All the material featured in this section, unless otherwise noted, is drawn from the featured sites between July 2013 and April 2014. For a glimpse of the digital world at that time, we refer readers to the Way Back Machine (http://archive.org/web/). Here again, the sample was reached through a study of available sites and services at the time of our study. We sought to catch a glimpse of the state of the 'sharing economy' online during this time, sampling for a good range of approaches, services and business models. We undertook what we might call an 'expert review'[3], where we looked at both the existing literature and a number of initiatives to provide us with our wide-scale context. From this we drew out some of the common factors in 'shared economy' projects and organisations and how different types of sharing affect and are affected by these factors: for example, trust, loss, commercialisation, collaborative consumption and maximisation of resources to avoid waste. There is always a danger of circularity when choosing resources because they are in the sharing economy and then using them to define behaviour of sharing economy services. We guard against this by corroborating their status using media reports of the time.

Approach to Analysis

In each of these contexts, we examined practice, organisation and the types of facilitating tools used – whether these were bespoke digital, 'every-day' digital or analogue. We looked at place and locatedness, purpose, definitions of sharing and founding narratives. In the case studies, where we present local change-makers' work in establishing the service or infrastructure, we call this 'set-up'. In considering digital practice and tools, we looked wider than tools explicitly for sharing to consider sharing via tool use.

---

[3] The term 'expert review' derives from the practice of conducting analysis of a website by assessing its features and how they will function in a particular context, a core part of usability, design and marketing work.

Brockley Case Studies

The studies

Case studies are used to frame the seven interviews collected as part of the research. These take sections from the transcribed interviews, combine this with locally available information and researcher observations and present the initiative featured. Each case is given a theme:

One small thing - microlibrary
Mobilisation – community-asset pub
Growing gains – community garden
Rootedness – digital whip-round service
Networks in the making – communal shed
Scale and tempo – time bank
Stepping into the weave – conservation society

and all of them follow a schema: set-up; organisation; financial model; digital technology; sharing; special theme.

We have left the names of local places in the text of the case studies, only clarifying the social significance where relevant. Interviewees are referred to by their (real) first names and all the accounts have been checked back with them and are approved for public distribution in this form.

The area

We chose the small area of London in the London Borough of Lewisham known as Brockley for a number of reasons. One of the authors lives nearby and has good connections in the area, which facilitated a short study. The area has a social and economic mix: in one street, residents include students, private rental, owner-occupied houses and flats, social housing and a couple of extremely wealthy individuals. There is a mix of age, occupation and income. There are families of all ages, couples, houses of multiple occupation and lone occupants.

There is a lot of activity in the area: an annual fair and annual arts festival, a thriving weekend market and a wide range of voluntary activities organised through diverse civil society groups. This includes a number of environmentally-focused groups and the area is notable for having elected the only Green (ie only non-labour) councillor in the borough of Lewisham. The area has a thriving hyperlocal news site (frequently mentioned as a model example of such sites) which was useful in finding out about what is going on locally. And there is an interesting range and variety of sharing practices and related activities, both recently initiated and longstanding.

The following seven personal accounts come from people who have chosen to act on their environment and for their neighbours. They have been honest about their challenges. We present these accounts to show what can be done, but also why these individuals acted and, indeed, what support might be needed to encourage others to act, by showing vulnerabilities as well as successes.

Our last account does not feature a single change-maker, but the fabric of the locale. It scales outwards to consider how far the seven accounts refer to other work in the neighbourhood to make sense of their own. In doing so, it highlights some of the relations that make these initiatives sustainable as part of a local culture, rather than as self-standing activities.

One small thing…. the microlibrary

The Microlibrary sits on a busy main road in a former BT phone box, lit and full of books. Every phone box is a Grade 2 listed building and so Sebastian's first desire to paint it sparkly gold was thwarted by planning restrictions. It is a good space for a single browser: a K2, of which only 1500 were ever made, before size and costs were cut. There are books in Polish as well as English and none of the original books remain, regularly taken out, traded in and replaced by local residents. Apart from a short note explaining what to do, the microlibrary just stands there.

Set-up

Sebastian explains: 'There was a sign in the window saying that, as part of the kiosk exchange scheme, does any local resident want to turn it into a library or a toy store, something like that. And the telephone box is looking a bit sort of sorry for itself - the windows were broken - so I thought okay, I would give it a go and it took quite a while to track down the people that actually left the thing in the window.

'It's a sort of project that I thought I could do well, because it's not an ongoing project with no boundaries. I have a tendency to turn everything into a grand scale project, but I thought, with this, how can I do that? That's what appealed to me; the fact that it's limited, that I'm not getting involved in an endless additional work thing.'

Through the Brockley Central blog, Sebastian found Clare at Brockley Society and then negotiated permission. British Telecom will sell the kiosks for £1, but only to local charities, community groups and local authorities, not to individuals, because they are worth so much.

He visited a similar venture near his mother in Tisbury, out in the countryside. This one is overflowing with books. Dubiously, he started ripping out the guts and working on shelving. 'The scariest bit was the first day when I've got the ladder over my shoulder and walked up the hill. That's when I thought to myself "Oh, what have I got myself involved with? Why am I doing this? Given myself another project to do…" I'm always complaining about not having enough time.'

Almost immediately, some wood was stolen from outside the box, boding badly for an unattended facility. Sebastian resolves to do all the creative work at home and install the library in one go: 'I thought it's almost like a social experiment as much as anything else. If that's happened to the bits of wood, what's going to happen when I put books in here? It was quite a disheartening moment. I was very nervous about it. I mean my wife's had to put up with a load of grief. I've been sawing in the kitchen - because I didn't want to move things up there incrementally and have bits of brackets there which will be stolen. I wanted it to go from nothing to finished overnight.'

Organisation

No formal organisation supports the microlibrary; none seems needed in the short-term. The simple rules of borrowing or exchange are largely adhered to, but not policed, and bulk deposits balance any gradual erosion. Notably, it has survived in good shape as a communal resource, despite initial misgivings, and although Sebastian has now moved out of the area, other local people tidy it and do the minimal maintenance.

'I was there painting it and the people that walked past were like something out of *Breaking Bad* and I thought why am I doing this stupid thing? It's going to get trashed. The fact that it hasn't been trashed makes me feel very happy, that it shows that we're not horrible people. When everyone decries how society is becoming worse and worse, you think, well there's all those books that people could take and if someone wanted to they could go to it and take all of them and no one has. Not one single person out of all these supposed ne'er do well's that walk past…'

Financial model

It has cost Sebastian about £500-600 of personal money for materials and the loss of a week's work. And the electricity supply is still a mystery, so that may, in time, come to cost a local organisation.

He also gave thought to the value of the contents of the library in setting it up. 'I had a friend from work saying "I've made some books; they're handmade books. Do you want them?". I said "No that's too good. I don't know how it's going to work; the books could get thrown over the pavement; people could sort of smash it up, you know." I wouldn't want anyone to give me anything too good. It would just be horrible. And so I said don't give me any first editions or, you know, really valuable books.'

He also dismissed stocking CDs or DVDs after a friend pointed out they have a significant resale value. 'It has to work on a totally non-money basis. Someone said to me "Would it be okay to sell some of the better books on Ebay or Amazon to get money to buy more books?" and I said "No, the only currency it works in is books, not money." If people thought that the books they gave were sold, then people might think that someone's making a profit out of it and that would destroy the goodwill, which is worth more than anything. It's obvious when anyone walks past that no one's making any money out of it and that is the crucial thing.'

Digital technology
Documentation was an integral part of making the library. 'My wife has set up this Facebook thing that's getting about 8 new 'likes' every day. It's got about 260 'likes' [at time of interview] and it just makes people smile, which is the most wonderful thing really, yeah. I took a picture of every stage, so on the Facebook thing, the pictures are all arranged in chronological order and you can see as various things were cut away and added … you can see where I've chopped off the communications bit but I've left the electric.'

Sharing
As noted, Sebastian sees the money-free model operating in the library as encouraging the goodwill that protects it: 'when you give a book you're making yourself a bit worse off because you're giving away some of your possessions, but the overall cumulative thing is that everyone becomes enriched by it.'

One small thing…
'It's a very constrained little thing. It's not like an allotment that will always be there; you always need to do something to it. I thought: it's very physically contained, it's just a box …I've made music and spent years making albums that no one's ever listened to but, with that, I thought… maybe that's it…doing something that the public respond to. If I do something like this, the public respond to it…' He considered a range of enhancements, such as music and a message about his purpose in setting up the library, rejecting these as destroying the simplicity and broad appeal. He chose something containable. 'It's made me an incredible train spotter with phone boxes…'

Mobilisation … The Ivy House Community Pub

The Ivy House pub serves Nunhead, near Brockley. It is an interesting venue: it survived the Second World War when the rest of the street was bombed; it has a musical history, presenting artists like Elvis Costello and Jeff Beck over the years; and it now carries a Grade 2 listing for its architecture. It also was the first pub to be listed as an Asset of Community Value and the first building in the UK to be bought for the community under the provisions of the Localism Act, invoked so shortly after the Act came into force that the application had to be written on borrowed forms. Tessa helped lead the purchase and sits on the management committee.

Set-up

The Ivy House, as was, closed in April 2012. Tessa recalls: 'The tenants at the time were given a week's notice. I live around the corner and this was very much my local - I had my wedding party here a few years ago - so I knew the building well and I popped in on my way home from work to try and find out what was happening and there were about 80 people also trying to find out. My husband called me at work and said I've heard there's a rumour that the Ivy House is closing in a week and I popped in. There was no meeting or anything.

'Nick, the bar manager, was so sick of all the local residents saying "What's going on? What's going on?" that he started introducing us to each other and a group of us ended up sat there chatting about what we could do to save it. That group of people who were sat there became the steering group of the campaign and are now the management committee. We didn't know each other before or anything. I think we just got very lucky that around the table there was a really good mixture of skills that proved to be really useful. That's basically how the initial campaign group came together. It was purely by chance really.

'At that time, the Campaign for Real Ale had already submitted an application to have the building Grade 2 listed with English Heritage, so we lobbied our local councillors and our MP to get that expedited and pushed through before the building closed, to protect the interior, and it became Grade 2 listed two days before it closed. Then, after it closed, we started thinking about what it could offer the local community, what kind of pub it could be if it was in community ownership, but at that time the relevant parts of the Localism Act weren't in force so there wasn't actually anything else we could do. But we started writing a business plan and we were still talking to other pub operators - if anyone else had fancied to take it on and run it as a really good local pub, we would have supported them. We just thought it's what the neighbourhood needs and it would be a real shame if it disappeared.'

Things changed in the autumn, when the Localism Act came into force and, with help from the Peckham Society (because at the time the group was constituted as a private limited company and could not use the relevant bits of the legislation), they were able to start raising the money needed to transfer the property into community hands. Two major funders pitched in, yielding £1M to buy the property. Next, the group launched a share option locally and raised another £142,000 in community shares from 371 shareholders. 'We had a target of £100K and so we were really pleased. There was a lot of interest and support for the property and, I think, generally around here there's a lot of interest in community ownership of things.' Most people who bought shares were individuals from the area, though some businesses, including breweries that support independents, and some more remote supporters also bought in.

Organisation

Tessa is now part of a committee that oversees the management of the pub, which opened again in August 2013. She makes the point that it is co-operatively owned, but not co-operatively run. 'It's not like shareholders work behind the bar or anything like that. It's run in the same way any other pub will be run, by a manager. He's got an assistant manager; he's got a head chef; and, obviously, all the bar staff as well, and he does all the day-to-day running of the pub, although we are still much more involved than I thought we would be at this stage. We are slowly able to ease off a bit, but

there's been, inevitably, lots of teething problems with the building and all that kind of thing to sort out.

'One of the reasons why we have been quite heavily involved is that we felt we sold the pub as a project to people who bought shares in it. …So we wanted to remain involved in the initial set-up, to establish the framework and ethos - things like London suppliers. It's not an exclusive thing but we have tried to use local suppliers wherever we can. We've had a lot of support from other local businesses so it feels quite natural to support them in return. Among our share-holders are some London breweries. It's also just easier in many ways because if you're using London suppliers, if you need another keg of something, then some London breweries will just put it in a taxi and send it to you...it buys you added flexibility.'

The committee have a big commitment and would welcome another couple of members to spread the load. 'Simply because there still is quite a lot to do, but it's actually having the time to stand back and find those people and carve out defined roles for them so that they're coming in and they know what they're doing. It does worry me, because I can't keep doing this forever, not at this level anyway. So it's about developing strategies that allow us to step back.'

Financial model

The owners are a community benefit society, which has limited liability so nobody is personally liable for the debts of the organisation. Nonetheless, running at a profit is part of the plan. 'We're a not-for-profit organisation but you've still got to make a profit. It's just that we have to use our profit in a different way; it's not okay to run something at a loss. A lot of people ask if we're going to pay dividends and the answer is "possibly".' The society is legally able to pay returns of up to 5% above base rate. 'But there has to be the money there to do it. And also, most people invested not expecting a financial return particularly, but because they wanted to be part of the whole project to keep it open.'

'In terms of keeping it going and keeping people coming in, I think that we just have to make it a really good pub and, if it's a really good pub, people will come and use it. …because it's community-owned, but also because it's doing a good job. I think if it was community-owned and it was rubbish, people would support us, but not for...they'd give you, like, a few months, but not indefinitely. We're slowly figuring out what people around here want from their pub and it's slowly developing into that and that's why people are coming back.'

Staff training is taken seriously and they are paid a 'London living wage', higher than normal bar work. 'We thought what is going to set this place apart in terms of being a really, really good pub is the quality of the products, but also the staff and the standard of service you get when you come in, so we're quite happy to invest in that. But we do expect quite a lot in return.'

Raising the money was not as difficult as the team expected, though with Christmas 2012 in the midst of their campaign, the whole thing was managed in only 4 and ½ months, instead of the full six. The moratorium provided by the Localism Act didn't feel long. But, principally, Tessa found the campaign intense because she was also juggling a busy job and a 3-year-old son.

Digital technology

The pub uses the usual accounting software and so on. 'We don't do anything particularly innovative with technology. Social media has obviously been really important, particularly during the share issue, when we were trying to promote that. We're on a Perfect Pint app, which is a real ale app. …We do what any other business would do really in terms of using technology.'

Sharing

'We've had a lot of helpful volunteers - all kinds of areas and particularly with things like sign writing, just bits and pieces …leafleting. Is that donated or is it sharing? I suppose it's sharing because it's the community-owned building, so you're sharing your skills and expertise with the community, which

is, I guess, essentially what the management committee does as well. I guess it's about exchange, isn't it? It's about exchange for things other than cash.'

Mobilisation

Taking over the pub required persistence and expert co-ordination from its committed local team, though from the meeting of strangers in the pub a week before closure, to the last-minute English Heritage listing, to the hasty application of the Localism Act, the journey to ownership also reveals the role of luck. 'You go into it not knowing if all your efforts are going to pay off or not, but I would rather do it and it come to nothing than be sitting around in 5 years' time thinking "Oh, I wish I'd tried …blah blah blah". It's all very well sitting around complaining about things, but if you're not prepared to try and do something then... I've never done anything like this before but I just thought there was that one chance to try and save it and... just have a go.

It also required a responsive council: 'It was great that Southwark were able to process the application so quickly… it was days as opposed to weeks. It was maybe 10 days or something, because it was so urgent and the risk of it being sold at auction and the interior just being ripped out… So we asked them to expedite it, which they did - it was great.'

As to why a group of strangers were able to make this happen: 'I think it was the sense of anger that a lot of people felt over having no control over the development of the area in which they live. It's a really lovely building and we didn't want it to be lost. It would have left a massive physical gap in the neighbourhood.'

The pub now reflects the effort that went into saving it. 'It's just much, much busier. That's been the nice thing about the pub since it's reopened, our customer base is so broad. When we had our public meeting in April [2013] to publicise the share issue and explain to the community what our plans were for the building, the nice thing about that meeting was seeing the massive range of people and age ranges as well. And you see that in the pub too - one of its great strengths is it doesn't cater to any particular demographic and it's very representative of the local area. It's really, really mixed.

'We advise lots of other groups. It's very difficult when people just say "We want to save our pub. What shall we do?" I guess the first thing you've got to do is figure out if it's worth saving and if the community is behind it and if there's enough interest in it to make it worth all the time and effort, because, if the community isn't behind it, it sounds brutal, but there's not much point.'

Growing Gains… The Breakspears Mews Community Garden

Breakspears Mews now hosts a community garden. The big houses of the conservation area look over it on one side, while on the other are council flats: a meeting of different communities. Till recently, it was a run-down fly-tipping area where dodgy car repair businesses plied their trade, breaching environmental health laws and creating a haven for other forms of destructive behaviour. Jane led the transition from burning tyres and paint fumes to the flourishing vegetables of the raised beds.

Set-up

Jane has lived overlooking the mews for 20 years. 'It became a terrible problem with fly tipping, noise and comings and goings all night. It had become a bane...a thorn in everybody's life. Along with several neighbours, I complained to the council and sent in photographic evidence - to the planning enforcement initially and then environmental health got involved to a degree. Speaking to one of the planning officers, he said it would be really nice if it was a community garden, so I thought it's not just me who thinks like that. It would be really nice to have a garden down the mews, everything demolished and just a quiet garden everybody could use.

When another local resident equally disturbed by the activities formed the Breakspears Mews Action Group, Jane was able to help by sharing her records and previous correspondence of the problems. At the Brockley Society, a sub-committee came forward to survey those affected and discuss the mews' future. The years passed. The garages were demolished and the rubbish cleared, and cleared again. Jane recalls that it was cleared any number of times. In March 2011, an open day at the site elicited growing interest in the idea of a garden. 'That's what gave the push and so we formed a little sub-committee again of immediate locals to see whether we could get a lease.' £1000 from a local fund paid for the planning permission to change use from garages to community garden left some money to buy materials. But there remained the issue of liability: 'If anybody fly-tipped up there in the future, the responsibility was on us to clear it and we didn't have control of the gates or the landlords out there with the unreasonable tenants who were tipping oil and car parts everywhere.' Eventually, Brockley Society insurance was extended to cover that eventuality.

Additional funding from the Council was obtained and the lease was signed in March 2013, ready for the growing season. Jane borrowed facilities at the set-building company where she works to prepare wood for the beds, so raised beds were ready in kit form. Lorries of soil were booked to arrive as the council finished clearing the rubbish so that, as Jane puts it, 'the garage people couldn't park vehicles there and block the access'. In fact, it poured with rain all day and the site was still being cleared well after the soil turned up, but, by the next day, it was ready for the volunteers who were giving over their first weekend to line beds with geo-textiles and the back breaking work of filling with shingle for drainage and the soil.

Jane was selective about what volunteers were asked to do. 'You realise that people have limitations of experience and I'm not used to that because I've always worked with practical people, so it was a big learning curve for me. But that is partly also why I did get the majority of the structure pre-built. If it was novices with hand tools, this could go on for a year just making the beds up - you'd lose people.' Instead, it was done quickly and by the open day, the beds were finished, planted and glorious.

Organisation

There is a committee which brings together hands-on people with some who take a more background role. At an AGM shortly after inauguration, the vote was for miniplots as well as communal beds. About a meter square, the idea was that people could try their hand. More experienced gardeners opposed this on practical grounds and a few pulled out at this point.

An immediate problem was that not everyone sprang into action: some plots remaining empty for six weeks or so when the growing season was at its best. Others came with impractical plans. Some

let their patches get out of shape. 'This is why some of us wanted to do it communally, so you'd have regular sessions of sowing, weeding, watering, feeding, cropping. You'd just go through the season and learn about a wider range of vegetables; you'd know what they look like as seedlings, how to thin out, what to prune when and you'd recognise weeds.'

The committee had agreed that people with plots must come every seven weeks. 'Some didn't come that often and their beds would get weedy and, of course, several of us just weeded these beds, because what we didn't want was to look a total mess for the ribbon cutting open day!'

After the first year, the next AGM voted to move to communal beds throughout the garden. This also caused controversy. Meanwhile, Jane is still working at the spread of people who use the garden. She and two others are the current backbone and they are looking at how open days are planned to make them as inclusive as possible. The garden is now opening two evenings a week, occasionally Saturdays, but generally Sunday morning or afternoon. 'We are still not attracting many growers from the council flats which is shame as I think some of them will have knowledge of growing other crops that we don't know. Some of them will have experience of gardening and we're not getting that knowledge coming in.'

Digital Technology

Jane identifies communication as an issue for the community gardeners. She finds email slow as a way of keeping people informed on what needs doing when. She doesn't use Twitter, but recognises its potential, also seeing the merit of group texting. There remains a tension between getting on with the job and communicating about it: 'Like last summer, you'd be out there till it was dark watering. You couldn't then come in and communicate to people because you needed to eat and go to bed. I've never been involved in something where, in a way, communication is actually paramount to how successful it is. I don't really know enough about speedy communication.' This year the pressure has been relieved by one of the other key gardeners sending out regular emails to the mailing list advertising the opening times for the forthcoming week, and since sessions are now communal, jobs are getting done because there's always a 'session' leader to direct peoples' energy.

Sharing

'Sharing is hard. Some people are very giving and others are quite selfish. I've been both pleasantly surprised and occasionally shocked. Sometimes I am disappointed that those who come along to help with the heavy work don't reappear for the finer planting and reaping the rewards but then I feel they must enjoy the physical work on the construction side rather than testing their green fingers. Overall after experiencing two summers I would say that sharing works and you do come away after an open session with a feeling of satisfaction.'

Growing gains

Speaking of the transformation the team has achieved from no-go area to flourishing garden, Jane says 'I think you just become intolerant of things. You just think: actually I don't have to put up with this; we could do something about it. And then you've got to find the right people to do things with. It's taking on the challenge and sharing the responsibilities.'

The work of the gardeners is for the long haul. Just as it took years to convince the council and sort out the terms of occupancy, so the garden is going to take some time to bed in and attract users from all parts of the community. 'There is much to learn on all sides - none of those currently involved has any previous experience of working in community ventures. I think ultimately it comes down to a few people having a driving vision and doing an awful lot of work.'

Rootedness… Patchwork Present

Patchwork Present is, according to Olivia's grandmother, a whip-round. It is an online business based in a Brockley shop, which supports groups of people buying a single collective present. An item, such as a bicycle, or a series of elements, like those making up a honeymoon, are divided into small, manageably-priced bundles, shown in a patchwork image on the website, under the slogan: "Get friends and family together to fund one gift that's really wanted – piece by piece". Then each contributor pays for a piece and the site levies a fraction of the cost – a form of crowdfunding.

Set-up

After some years working in marketing and another stretch at an environmental charity, the idea for the service came to Olivia as she planned her own honeymoon. 'I had a real issue with asking for money, partly because it just feels sort of rightly taboo that, if you are celebrating love, it should be about love and meaning - and gift giving should have some element of ritual to it and it shouldn't just be a financial transaction. So I just created this website, effectively created a shop for myself, selling my honeymoon. What made it real was the imagery that I chose, that I'd already done a bit of research to really understand where we wanted to go and then given each experience a rough price. Our friends and family could come to the site and choose which piece of the honeymoon they wanted to buy. So they could choose a physical thing like two beers in a bar or a night in a hotel or a donkey ride or a diving trip.

'What also led me to get so excited about starting Patchwork Present was I could start a business that I totally believe in, that is really, really useful to people and it doesn't sell people anything. It's a site than enables you to collect money globally and spend it locally. The roots of the business are quite personal, but the principles are about being resourceful, using our money wisely to invest in things that are wanted and needed and not buying each other a ton of crap that we don't need, that ends up in landfill. I never set out thinking "Oh, I'm going to be a business woman!" really. I just had this idea and it sort of seemed to work so well for us as a small family and the friends I have here in my community that it felt like it would be replicable.'

Olivia first looked for an office in Shoreditch (London's *Silicon Roundabout*) 'to get a ridiculously overpriced studio, tiny warehouse horrible unit for a ton of money' when the business outgrew her kitchen table, but settled on a local space. 'This shop had been empty for 7 months and I kept walking past and I just thought "Hold on a minute, we should just have a shop. Why shouldn't we have a shop?" And actually that made it cheaper in terms of the rent.' An added bonus is that Lewisham Council waives business rates for some categories of small business.

Organisation

There are three staff in the shop: Olivia specialising in marketing, a finance and a social media expert: 'But, obviously, because there's only three of us, we all clean the loo and we all answer emails and we all help people and we all just do whatever needs doing really.' Then there is support at the agency that built the site: 'Ideally we'd want to have an in-house team and we did actually start looking to recruit but, in the early days, it just seems to make much more sense, financially, to have a retainer with the agency who built it because you don't want somebody just sitting here kind of twiddling their thumbs and then paying them a lot of money for it.'

Financial model

Olivia didn't have the money to fund the project. 'It was nice because we raised the money according to our patchwork principles. The banks didn't want to lend me any money, especially as I said I wasn't going to risk my flat and put it up for equity. I have absolute faith and belief in my idea and myself and what it could be, but I'm not prepared to risk my children's security on it and when I went looking for investment I said exactly that to everybody who invested. I said "Don't give me any money you can't afford to lose". I ended up getting the investment from 25 individual investors who all have 1% of the business, which is great because also it means that I retain control. Lots of people

have said finding money is the most difficult thing and clearly it is for most businesses, but actually it was one of the most enjoyable bits of the journey.' The company raised £250,000 in 2 and ½ weeks.

The site takes 3% of each contribution: 'If a friend contributes £10 towards a bottle of wine in a bar, we take 30p.' Olivia likens it to other crowdfunding platforms, such as Kickstarter and Just Giving, which charge more, or Taskrabbit with a 20% service levy. She points out that an advertising-supported model would not work, nor would affiliation to any retailers. 'So we'll see, because, actually, in terms of competition, our commission is quite low. That will be one of the things we will have to look at - meaning that the sharing economy only really works when you reach scale. So there won't really be any money to be made until we reach real scale, because getting 30p every day, you know...'

She explains her reasoning on setting this figure: 'Most of the decisions, I take from a user's point of view and just intuitively what feels right - like if you're sending a friend 100 quid and we take £3, it's kind of okay. If you start going "OK, let's take £10", it's like "Well, nice idea, but...." So it's just trying to get that balance between what's being paid for and the benefit of paying for a service that makes that financial transaction much more fun and interesting and real and personal but where you still get value, where you still get the money. So, we'll see. 3% is where it's at. What's quite nice is on the average wedding gift, it works out at the same price as a piece of wrapping paper or, on the average birthday present, it's like the price of a stamp.'

Digital technology

Development began in an ad-hoc way with friends, but it became clear that sporadic activity was not going to deliver as needed so Olivia moved to an agency, who later invested in the business. 'I didn't have the necessary project management skills to manage a very diverse group of people working a few hours here and there. I had absolutely no experience in tech whatsoever. In fact, you know, I'd always choose a pencil over a laptop any day.'

The result allows for customisation, both in choosing images, prices, etc and in then allowing you to send a personal "thank you" to the individuals who bought each piece. 'So you can send pictures of you drinking your beer on the beach to all the people who bought the beer and, you know, hotel night to all the people that bought the hotel.'

Olivia is impressed by the effort that people put in. There are ready-made patchworks for most occasions that anyone can use, but some people go far further. 'We've had a couple getting married who have not only made a patchwork themselves, they've staged all the things they want to do and then photographed themselves doing it and then uploaded them to the patchwork. There's certainly an effort involved in our site, but I think people enjoy it.'

Sharing

'People have always just had a whip-round in their own family and streets and communities and friends to get gifts or to help family members with the one thing that they really want, so that's not new. I suppose in a recession we do that more. We're forced to be much more resourceful, much more collective, much more collaborative - it's like this buzzword at the moment about "collaborative consumption". So this is just another platform that lets people help each other out, and help each other out around a specific thing, which is not skill swapping or any of the other things that you would share and trade and help, it's just "It's my son's birthday, you all love him, this is what he really wants, can you help me to get it for him?" or whatever.'

Rootedness

Unlike many online services, Olivia's company has a very specific presence in the locale in which she operates, including a shop front. 'We've built a site that we hope to be global, but you can only ever build a site for an audience that you know and understand and that audience is just me, my mates, all of us, all of our friends, our friends of friends, extended family, community and I just think if we can engage with people in Brockley and people in Brockley like and know and understand what

we're doing, then that is replicable. You can't start off with a tiny small business and go "Right, hello world!". You don't have the resource to do that.'

'Then also there's the fact that it's got a shop window. You're talking hundreds of thousands of pounds a year to be able to put an advert on a billboard and we've got a window that basically acts as one every day with a logo above the door and an open door and a window that changes.

'But the other thing, I think, is that it's almost deliberately because we're online, we need to be on the street. Online businesses are so removed. I mean, I can't think of a business that I shop from online that I can call up and say hello, let alone go and knock on their door. You have contact forms - you don't have phone numbers, you don't have addresses and it's really hard to look somebody in the eye and say "I've got a problem" or "Can you help me?". So, clearly, if you live in New York, you're not going to pop around but you can call us and you can email us and if you do happen to live nearby and you have some issue with the site, then we're here and I just hope we can always do that, even when we grow, because it's important.'

Being open to the street has had its negative side. The shop was burgled and laptops stolen out of the hands of the staff. But it also has its compensations. 'When we had our laptops stolen from our very hands, I lost the fight. I'm really not much of a fighter. I did try, but I lost. So I said something on Twitter like "Tech start-up just had all our machines stolen, trying to build a start-up with a pencil and a piece of paper. Has anyone got any string?" And a woman came from Crofton Park with a ball of string. I mean, partly as a joke, but because I'd asked for it. She literally knocked on the door and she went "I've got some string". And I thought: sharing is a way of connecting and it's also a way of connecting without standing like a weirdo in a pub saying "I'd like to all be friends". You can do something and by doing something you make a connection and you all feel the better for it. There's the practical thing, but I think the emotional connection for community is really important.

'…So, definitely no proof of success to give you yet, but looking good.'

Networks in the making … Mensheds

Mensheds started in Australia, specifically for older men (http://www.mensheds.org.au/). They give a forum to address mental health and other wellbeing concerns, providing shared tools and support in the shape of carpentry and repair workshops. The sheds offer space to stand side-by-side and use craft skills, attempting to overcome the social isolation that haunts unemployed and retired men. In Australia, many suburbs have a shed. In Britain, they are a new undertaking, with a few in London and Cheshire, set up by Age UK. The shed developed locally is supported by the Sainsbury Trusts; one of three (Hoxton, Lewisham, Tower Hamlets) for which Alys has secured funding. Alys is also setting up a UK Men's Shed Association as part of the grant.

Set-up

Alys was working in an old people's day-care centre when she realised there was nothing for the men, so she pursued the idea till she arrived at Mensheds. 'My interest is older people and depression and that side of mental health. I think it makes people feel good if they're doing something for somebody else. You feel valued and the quality of your mental health goes up.'

At the time of interview, three sheds were all at different stages of readiness with the best support in the Lewisham area: 'I think maybe it's because I know the right places to go, because it's where I've lived for the majority of my life. Though I've worked in Hoxton and Tower Hamlets for a long time, I don't know where I'd look for information about the local area.' However, the Lewisham shed still needs work to meet health and safety and fire requirements and become a carpentry workshop. 'So I'm going down the route of it becoming a short-term reminiscence storytelling place, with a view to getting the group together before we build a stand-alone shed.'

Organisation

Alys is bringing many different interests together: funders, her employer, volunteers to help in the sheds, targeted users, the organisations feeding referrals to her and those with tools to donate. Referrals come from charities like Mind, from occupational therapists and people who have heard about it through the local council magazine. She has to consider sustainability - the funding runs out in late 2015. She has to ensure compliance with a range of protective legal frameworks, especially since some of those operating machinery can be classed as vulnerable adults. Officials are nervous because there are big tools involved.

She intends the UK Men's Shed Association to have a similar role to the Australian one: helping people deal with the paperwork and the admin side of it to make it more appealing to start sheds: 'In Australia, the Australian Men's Shed Association is big now. It's been going for many years. The [health and safety] recommendations are very much set out by the Australian Men's Shed Association. They've got this model and it's very easy to set up a shed there.'

Financial model

The sheds are not intended as factories where users make things to sell: 'Then it becomes like going back to work again and people don't enjoy it as much. They don't *have to* go along to the shed, they *can* go along.' She points to the failing health of many potential users: 'The *older* older men, they've got the experience, they've done it in the past, and they know how to do it -and they want to tell you the stories of how to do it, but they're scared of it. They want to, but they don't have the strength, which is why they can come and use the shed and not feel that they have to actually make things in the shed. There is a different dynamic with them.'

Meanwhile, another significant part of the shed concept is that tools are donated and she is working on getting their maintenance gifted. 'I don't know if that's because of where I've advertised, but we've had about 7 or 8 people donate masses of tools and paint and resources and that's from people that have maybe lost a partner that used them or they've become too old to use them themselves or they're downsizing and they need to get rid of a lot of things.'

The initial set-up grant was for £100,000 to cover staff salaries and set-up of the sheds. After that, the three sheds must fend for themselves, including rent and any paid help. There are other cost implications, such as getting people in to support people with support needs, training, etc. Even volunteers must be rationed as they need lunch. 'It's quite a big thing at the moment, men's health, so there are lots of pockets of funding that you can get money from. At the moment, it's not too difficult to keep going.'

Digital technology

With so many stakeholders, Alys is using a range of communication media. 'I obviously did a generic email out to all the local NHS and social services telling them about the project.' She says that volunteers and people who want to come to the shed have responded to news posted on the local blog, Brockley Central, but even more through the local council magazine.

Keeping interested people informed is problematic: 'I might send emails out but then you get the whole thing "Oh I can't open the attachment", "I don't know what I have to do" … For me, I find that really difficult because I'm from an age where just emails is a lot easier and a lot quicker - I'm only 2 days a week and I need to talk to 40 men. I appreciate that older men don't use Facebook or Twitter. I don't think it would be something that I'd use to attract people to each individual shed, because that doesn't seem to be where the men that I need to get through to - the isolated, the lonely men - would look. But people are starting to become aware of it and it's the future in terms of what's going on, so you need to be on board. I'm arguing about the importance of it, not necessarily to collect new members, but in terms of promotion.'

Alys also suggested that the Lewisham shed got a 3D printer, not least to encourage inter-generational work. It was considered too much a novelty item, but she is persisting. 'I've bought them all a laptop because my aim is for them, again in the long term, to develop the skills to be able to be able to sell products on Ebay if they wish, maybe set up their own blogs.'

Sharing

The kind of sharing that Alys has promoted so far has been of tools, resources and contacts. She describes a volunteer: 'He's a retired carpenter, he's worked in the building trade for a long time and he's got the skills to give, but he hasn't got a job at the moment and he'd like to get a job so he wants to share his skills and, in turn, use the CV.' Beyond this, Mensheds are intrinsically about sharing space and working with communal resources to promote a sense of wellbeing. 'When you're young, it's sharing toys or sharing your food and things like that. As you get older, it becomes less about objects and more about sharing your time, sharing resources that you have… just helping people really.'

Networks in the making

Alys has connected with the local health services and housing schemes to make a network for referrals in the long term, and she mentions the Brockley Central blog more than once as a lynchpin in building relationships on the ground. But the same feature that makes Mensheds work as a way of tackling loneliness also draws in volunteers: 'It's not your usual kind of volunteer work; it's a carpentry thing. People can use their skills and I think men and women like that concept compared to, say, maybe befriending… It's actually going to do something rather than having to go and talk to somebody.

'So, you might maybe sharpen tools or do the bicycle maintenance in Lewisham and then we can have the carpentry, so we can all share and use each other's shed in a different way. Then the aim is to open it up nationally, to have a shed in each kind of location…so that's the end goal, but we need to actually have a shed set up before I can do anything about that at the moment.'

Scale and rhythm… The Rushey Green Time Bank

The time bank operates alongside a GP practice. People give an hour of their time to someone and, in turn, can claim an hour from another person in the scheme. Philippe started working there in 2007, when there were 120 members, but the figure is far higher now. As chief executive, he is leading the shift towards a distributed model, with five hubs across Lewisham. The service has won awards for its work in community health and influenced the growth of others around the country.

Set-up
Inspired by Edgar Cahn's work on co-production, the practice that set up timebanking in Rushey Green saw it as a remedy for issues, such as motivation and esteem, that it could not treat easily: a kind of social prescribing. 'It was about GPs being aware that it's not always a physical element, it's often depression, loneliness… those who felt lonely for a variety of reasons - could be bereavement, could be job loss - and they don't necessarily need a medical treatment, but they need to be part of a community.' In 1998, the King's Fund supported a pilot and the first group of patients engaged in the scheme then convinced others of its merits.

Organisation
The purpose of timebanking is reciprocity. 'You earn time credits by doing something for someone else and then if you want something done by someone else or you want to do something with someone else, you use your time credits. Co-production is fundamental to what we do: you've got to do something, rather than being served.'

Philippe is part of the team who facilitate the exchanges, collecting the hours and totting up the statistics. They see the impact of the work: 'We're using timebanking to turn passive recipients of services into active people. I can't prove it and they don't realise it because they're involved in community, but actually their health hasn't deteriorated so fast. We can see, just by the spirit in the people and the way they behave after they've been there for a couple of years. You see that transformation, so we know something's happening.

'We run events that they want to go to and if they want to go, they've got to have credits. The thing that attracts people usually is outings. They want to go out and some people haven't done anything to earn credits. They'll dish out the money and say "I'll pay cash". I say "No, we're not taking your cash. That's bypassing the reciprocity." So they say "OK, then what do I do?" Then they can help at the surgery and earn time credits. Then what happens, their behaviour starts to change and they become more active.' Ideally, members are brought in as a group with several others, he says, so that they have to mix and so feel the benefit of socialising and working collaboratively.

At Rushey Green, Philippe has just introduced a new model where they are the hub and resource centre for many smaller hubs. 'The idea is to have little clusters of timebankers in little areas, part of the bigger family but very much local. We have *timebanking*, just not Rushey Green Time Bank and Crofton Park Time Bank… we have Lewisham Local, a group of hubs that will grow.' The smaller hubs are sustainable in the sense that people own them and run them, supported by the centre who trains them up. 'You need a critical mass of people for it to start to become vibrant.

'You have to put in some sort of rules and code of conduct so people abide by the principles of being good and honest to be part of that. And we control that here, because that has to be managed somewhere.' The centre can also coordinate applications for funding, so nearby units do not compete with each other. 'Funders are getting requests every day for the same thing. When it comes from a borough-wide organisation, it is simpler and attractive for the funder.'

Financial model
There are costs to timebanking: some time banks manage with just a book of contacts, but Rushey Green works to support people with mental health issues and so they match people carefully: 'We don't send people out to strangers...we go with them and introduce people and we solicit feedback to make sure that the relationship is good. We know our people; what they can and can't do.'

However, there is pressure to cut back: 'So you get the message "Get rid of all this", but you've got the other message from the statutory sector saying "You've got to manage your risk; you can't just send people out." So time banks like these need funding. We're not funded by the NHS. We need funding because the brokerage is very important and people can't work for free. Some time banks have closed because of the lack of funding. We're still here after all these years.' The new model of devolved groups, who can do their own facilitation after training, is a way of keeping the brokerage that Philippe sees as critical to success and allowing the service to grow, but keeping down costs.

'I don't advocate starting time banks as organisations; you can do timebanking within a group of people or something that already exists. Don't set up a new organisation because you need insurance, Companies House, Charity Commission, staff, and you're in for lots of money.'

Digital technology

The time bank has been introducing a digital platform called *Time and Talents*, allowing its users to assemble groups based on location and link to bigger networks. Members can then post requests for help and these can be shown on a map. The map can show exactly where members live, with full address, or it can give a general impression of where someone is based – a subtlety of design that Philippe welcomes for data protection and safeguarding members.

However, Philippe sees a drawback with using a digital tool that cannot be easily surmounted. 'Say that "Julie" needs some help on Saturday and it's not pleasant - the job's not pleasant. It's not, you know, do some shopping on Saturday. You put it on the digital thing. Okay, I'm there on my little phone, right, and I'm looking; there's a whole list. There's Julie, but there's also another job. Someone needs to go to Ikea. So, what I do? I turn off Julie and I select Ikea: click, done. I haven't even seen it, okay? Whereas, at the time bank here, we've heard about Julie... You're coming in the time bank and we say "Julie on the 7th floor, could you help her?" You're on the spot now. And the compassion and stuff starts to work. Because you're unable to switch off. You could well say "I can't do it" but in telling us "no" you're going to have to manage your body language...and actually that's a massive, massive difference.'

Sharing

'The value of sharing in the community? I think it is a trust thing. I don't think you share because you get something back out of it. When I first lend my drill, it's an act of kindness, I don't think it will come back broken. If it is broken, it means I have to make some decisions.' But Philippe sees the demands that individualised sharing can make: 'If you spend all your time sharing: ...you're sharing great ideas, you know, transition towns, green stuff, things like that, but you're neglecting your children or partner, something is wrong. And I think that we need to talk about that. The way society is today, it's more work, less money available, so we definitely need to rethink our lifestyle and prepare the next generation to think about sharing or doing things differently - so I think there's going to be a resurgence of sharings: sharing the washing machine downstairs in a block of flats, sharing the central heating, like it used to be.'

Scale and rhythm

Philippe talks about economies of scale, but also the scale at which timebanking is meaningful: 'There was one person; I think it was in Ladywell… "I've got a car", she says. I say to her "It's too far". "I've got a car; I can come over here in my car." I was thinking: well, you can't park around here and people, here, they haven't got a car to go over to your place or to your area. If they want to reciprocate, it's not going to work. So she joined, but we never saw her. I knew this would happen. You've got to be very local in such a way that you bump into each other in the shops; where there's an event you can be there; when you need help it's around the corner - that's how it works. It has to be very local: you know more about what's going on in people's lives; you see them more often, stuff like that.'

As well as the dynamic this creates, he points to another factor that keeps the service at personal level: 'If you say "Oh it's great, I'm a new timebanker, I can get plumbing done for free or cheap" it

starts to put a value, because the other plumber is £60 an hour. The angle we're looking for is not the cheap plumber; we're looking for the relationships people are building through the exchange. Part of the reason why time banks are tax exempt here is because there's an agreement that it is a tool; it has no cash value.

'We don't have plumbers; we have people who have skills and time to share and it's between them if they share between themselves. Where it doesn't work is when people ring us and say they want a service. As a member, even though you may be a driver, you may say "Can't do it next week". It's not a regular volunteer service where the volunteer turns up every Wednesday. So even if you are available on Wednesday with your car, you can say "no" because you're a member, you're not a volunteer. You say "Actually, I don't feel like doing it today." That's why we use "dip in dip out": you get involved when you want to and with who you want to.'
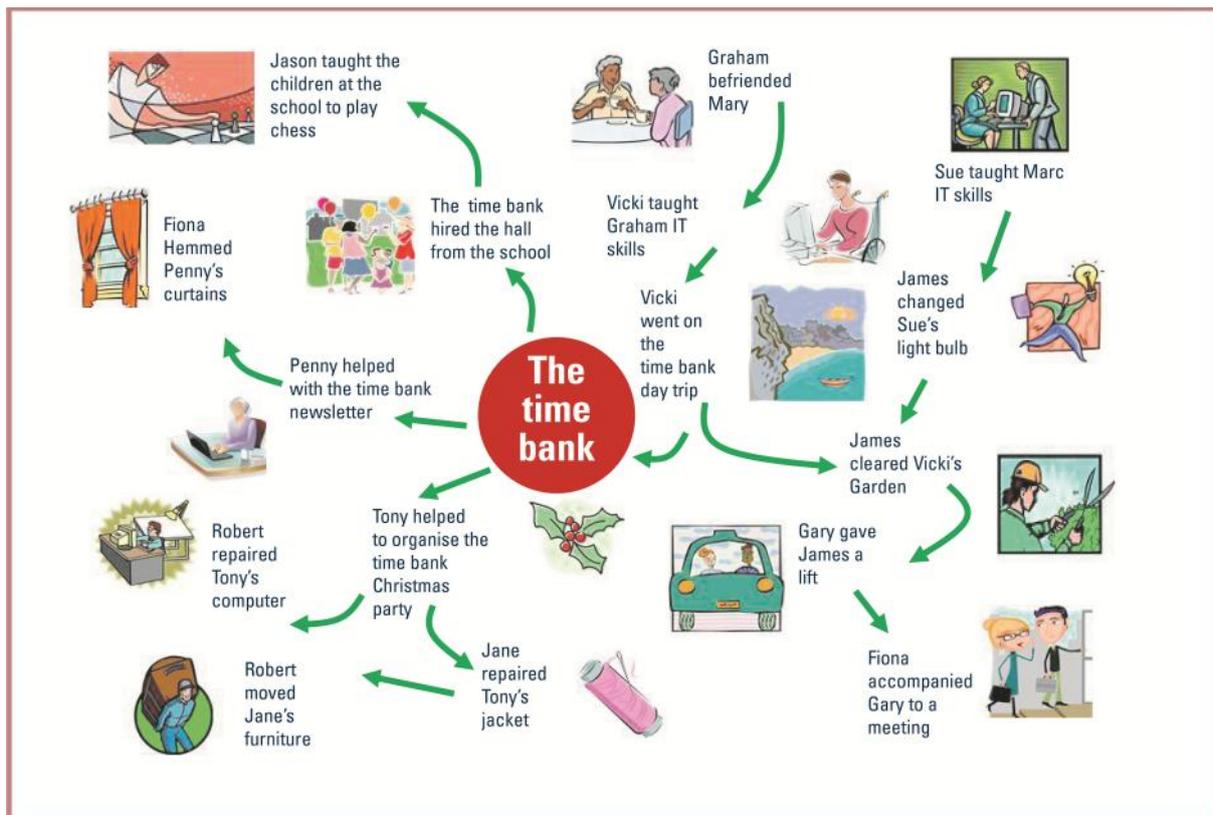

Figure 1: Illustration showing how the time bank works, courtesy of Rushey Green Time Bank

Stepping into the Weave – Brockley Society

Brockley Society is chaired by Clare, who took on the role in 2010. Its popular printed newsletter is delivered three times a year, free, to 4,000 houses in the conservation area. It has run a Midsummer Fayre since its inception in 1974 and supports other local ventures, such as the community garden in Breakspears Mews, the co-ordinated front garden sale in early autumn and a group of tree wardens. It was set up to represent the interests of people living in the Brockley Conservation Area and to monitor planning issues and now includes the surrounding areas.

Set-up

'We stand on the shoulders of people who started Brockley Society as the Conservation Society. It's what makes living in this area worthwhile, if you've got all this, you know.' Clare has lived in the area for nearly two decades and has helped with the society since 2004, as it evolved into the backbone of community-building in the area. She gives an example of how the society grows: 'We've got tree wardens, who suddenly appeared 3 years ago: one appeared at our AGM and said "I'd like to look at trees in Brockley" and that's taken off somehow.'

Organisation

The society runs the annual fair on Hilly Fields, the park central to the area. Along with planning issues and the newsletter, this is Clare's core work as chair. However, there were 116 stalls in 2013 and Clare sees a need to make changes. 'In a way the fair is becoming too big. There's a question which faces quite a lot of voluntary organisations: what happens when you get too big and you have to reorganise? At the moment, it's far too dependent on me and it's been dependent on the chair for a long time.' She points to the fact that she is also personal signatory on the lease for the community garden, with four others. The only area she has little responsibility for is the work of the tree wardens who are very active, but self-organising. Nonetheless, change is beginning. A new member with conference organisation experience helped plan the fair last time and produced outlines for team roles and made a pack up for each group of volunteers on the day, such as stewards, which can now be used annually to give each group a bit more independence.

Financial model

Brockley Society does not apply for funds. 'You can make money on a fair. And that's what we do. It tops up our income every year so that we can spend money.' The fair contributes about £6000 to the society's finances annually and the newsletter is self-financing through regular adverts.

Digital technology

In response to requests from the fair organisers of the time, the website now hosts the forms to sign up to it but not much else. Clare notes that the society has a complex website with nothing on it except the forms, but this is an effect of understaffing. 'I'm aware that we can appeal for things on there and we can put information on there. I do not want a Twitter account and I don't want a Facebook account myself, personally, because I have too many people contacting me. I get something like, dozens of emails every day and I've got 1200 people on my circular. So I don't want it, but I perfectly understand why it's a good thing. Somebody is doing the Twitter stuff – she's actually doing it from New York. She's gone to New York for 2 years. And Facebook…if somebody was going to do it, fine, and if somebody wants to do a map for next year's front garden sale, fine, but only if somebody volunteers, otherwise we'll just stick with a list.

'You can't let the technology determine what you do, but you do have to use it. There are lots of people, and certainly young people, who aren't very predominant in anything that we organise around here but if we ever want to reach them, of course, those things are really important.'

She notes that the Brockley Central blog is efficiently run and compensates for the limits of the society website.

And in the last year, the society has instituted a new free online accounting system. 'The fair bookings can be entered on this programme and you press the button and the invoice goes straight off to the people. It's automated the fair applications much more than we had done up till then and it means that next year, if the same person applies for a stall, their account is already there on the thing, you can just re-enter it and press the button, then off it goes.'

Sharing

Clare gives an example of what she means by sharing. The main tree warden observed to Clare that, in his road, there are people who have really good relations with their friends and family, but do not want to know when it comes to anything to do with the community: they don't care if there is a tree broken down in the street outside their door. 'I think that's true of quite a lot of people…they're friendly to you on the street when you meet them but their lives have got that sort of enclosure, whereas sharing is really saying that, even if you're just one new person moving into another area, you would like to know other people.'

Stepping into the weave

Brockley Society sits between many other organisations which work in the area. 'You try and keep an open link with all of them, even when you think they're doing things that are stupid or when some of the people around you think that.'

She cites many instances of cooperation. The society has shared gazebos with the Friends of Hilly Fields and borrowed a shed from Blackheath Conservatoire. She works closely with Brockley Cross Action Group, which campaigns around the Brockley Station area, looking at planning applications together. She is talking to the newly re-established St John's Society and sharing advice. Brockley Market is another local organisation with links. There is the Brockley Social Club that the society is working to help revive. And there are connections to St Andrew's Church, which is busy in the community and runs two clubs for old people. The local housing association has worked with the society on recent street parties. Voluntary Action Lewisham, which coordinates volunteering, sends out society notices with their newsletter, as does the Pensioners Forum in Lewisham. 'We have an old people's party in the social club in February called the "mid-winter warmer" and we try and get that promoted.'

Transition Towns works closely with the tree wardens. The wardens have developed a good relationship with the people in the council, Greenscene, who do the planting of street trees, and the tree officer in the planning department. 'There was quite a lot of tension there because there seemed to be too many trees being allowed to be cut down and we arranged a meeting to talk about what the constraints are and what they can do and can't do and our tree officers were there as well and that has really established good relationships with all of them.

'There's a general feeling that everything the council does is wrong … you can never get the council to do anything. But you find, when you get underneath the surface, that there are people who care about the job that they're doing …these are people who love the buildings, they know the buildings, they do their best, they're working under pressure, they're being cut like everybody else and you're not going to get any further by telling them they're wrong all the time. You're only going to get further by trying to make a relationship with them and then try and tease that out. The existence of Brockley Society, I think, is quite important because it's a long-standing fairly solid organisation.'

Nothing happens in isolation…

Evident in Clare's account of the Brockley Society's work are the interrelationships in the area, which is something she fosters as society chair. But they appear through all the interviews: sometimes taken for granted; sometimes given to explain why it is that Brockley is a place that the person speaking could take the action they describe.

It is not an effect of how the research was conducted that we see this web of association, as might happen if Clodagh (the principal researcher) had chosen to mix exclusively in a set of friends. Although there was an element of snowballing (asking for referrals from a current set of interviewees to widen the pool), it is clearly more endemic than that; the character of the place and the tendencies of its inhabitants reinforce each other. This richness is, thus, a reason for exploring the particular locale and the initiatives taken there. So, while it is not surprising that we should find this strong weave, this does not lessen the value in asking how it operates and what it provides.

Lewisham, the municipal area that includes Brockley, is recognised as a poor borough, with a share of emptying local centres and boarded-up shops. But some parts respond differently to others. Olivia compares Brockley to another part of the borough: 'There's the Brockley society and the Brockley transition group and there's lots of grass roots things that pop up…even the fairs and there's just tons of stuff going on and I just think people are quite active. It's a very active community. You can't fake communities, you can't like just *create* them. Like eco-wise, Brockley is probably pretty good. It's not just about people's earnings and people's incomes that make it relevant for Patchwork Present, it's about a sort of level of creativity that a community has.' (Olivia, Patchwork Present)

The interviewees are aware of how this social fabric is constructed, shown most clearly in another extract from Clodagh's interview with Olivia, where the idea of sharing as a pretext for social engagement, as well as precursor to it, is strongly alluded to:

C: I don't know if you've seen it on Brockley Central, but there's three women who are trying to make friends with people locally and they turn up places with a pink umbrella - I am going to email them – and they've been in my local a couple of times. It's just such a cute idea.

O: And that is interesting because they're doing it without anything to share other than their lovely selves, which is great, but not what usually happens. Usually it's: "Anyone interested in knitting?" or "Anyone can contribute some veg?" or "Anyone want to help with this?"

This is not the only conversation about others in the area. Almost all the conversations include some reference to other local projects, because of admiration, because there is a link or because the interview has wandered that way. People are aware of each other; no one is working in isolation. Borrowing goes on between projects and the effort to find materials, support and funds is often shared, even when occasionally the need for further people resources stretches capacity and patience. Not least, as Olivia suggests, the area has developed a character that includes such initiatives, so that no one is surprised when another grass-roots effort takes root locally, such as the farmers' market, new foraging walk, or shop converted to be a gallery and workshop space. But more importantly for those doing the initiating, the willingness of others to support enterprise of this kind, be it lending out Lewisham College sheds or the big barbecue owned by Brockley Society, is part of what makes such experiments possible. Not only are there many communal assets; there is the local *relational* asset of having a rich sharing culture to draw on and to use for support. Oldest of the projects featured here, and decisive in the development of this mood, is Brockley Society, which formed when the council threatened the houses that back onto Breakspears Mews with compulsory purchase of their long gardens to build another row of homes. However, that is not enough to explain why the society flourished and expanded its remit after the immediate threat was over. Sebastian (microlibrary) and Jane (community garden) both pay tribute to Brockley Society's role in helping them achieve their goals.

It is possible to watch cross-fertilisation of projects and ideas in action, as this exchange between researcher Clodagh and Alys (Mensheds) shows. Alys has been talking about what the people using the communal workshops which she is setting up might make and do:

C: I'm smiling because you're talking about repairing tools and all this week I've been trying to find somebody to sharpen gardening tools.
A: Oh really?
C: Yeah. Nobody around here.
A: Oh really? Not around...
C: Yeah, I don't – there's a real kind of...
A: Oh, that's good to know. So we need to get a...
C: Because that's probably near enough to go to. It's actually for [X]. He was asking because he thinks I know these things. All of his gardening tools are blunt…
A: That's not good. Well, if there's nothing around here, then that's...
C: And, yeah, I think there's lots of things like that, actually, that just need to exist.
A: We could do it. Yeah. That's good to know. Yeah, we'll start …once we're set up and running, we'll get a sharpener and we'll… yeah.

In a more formal interview, this might be regarded as a digression. But seen as two local residents considering the way that people help each other out, we can view it instead as an example of the spirit that informs Brockley's change-makers: collaborative solution-seeking. The tentative nature of the exchanges and the gradual forming of the idea reveal the navigations that accompany such serendipitous encounters and something of the tact that accompanies many of them.

What our case studies reveal…

The first thing that strikes us, as researchers, about the activities featured here is the sheer hard work, determination, ingenuity and luck involved. These are design processes of the kind that Light & Miskelly (2008) describe, where contingency and passion play a major part. Only the time bank and the society are long-standing and now in the hands of someone other than their founder, though both Philippe (timebanking p33) and Clare (local conservation society p36) are responsible for considerable initiative of their own in developing their role. From the manual dexterity of Sebastian's microlibrary (p21) to Olivia's inspiration for Patchwork Present (p28), from the persistence that brought Jane to launching the community garden (p26) to the rapid response team saving Tessa's local pub (p23), the people interviewed have all made significant contributions to their community. Their involvement was sometimes almost random, inspired by frustration, a chance glance in a phonebox window, being somewhere at the right time. Their methods were determined as each eventuality showed itself, so there were steep learning curves involved. Some of the outputs were a surprise at times. Alys (sheds p31) gives an almost poignant account of balancing time spent on the red tape needed to open a workshop with keeping several sets of people happy so that there will be members and volunteers when the sheds appear. Uniting all of the endeavours is a desire to build spaces – some virtual, like the crowdfunding service and the time bank; some physical like the garden, library, shed and pub – where people come together and collaborate. This goal of shared space for activity takes emphasis away from what one person can give another - or even reciprocal exchange - and puts the focus on what happens when people gather together to share resources.

Doing things digitally

As part of analysis, we divided the studies to highlight how each initiative started, its organisation, economics, tools and our interviewees' concerns related to each. We now ask how the initiatives have used digital technology at each point and what can we learn from this.

Set-up

The stories of setting up each resource vary. Only one is a digital resource in and of itself. Patchwork Present has required all the usual elements of website design, from a payment mechanism to a striking interface with appropriate functionality. Olivia's account stresses the search for the right arrangement that works for her business in a relationship where, if the site is not adequate or functional, she has no product, so she is tightly involved with the software firm supporting her.

This is the only story of major technology use for set-up, although Philippe is developing his devolved time bank model with support from the *Time and Talents* free software he mentions (see p48 for more detail). In using this, he is using a custom, but highly configurable, application.

If we look at the other four accounts of starting up, there are many references to organising partners and members through email. There is the importance of social media to the Ivy House share launch and we see Sebastian documenting his progress on Facebook so that others can follow his example.

Major challenges include the difference in technology usage patterns between the founders and others. Jane has now delegated emailing so that she can get on with running the garden. Clare is aware that the society's website needs work, but hopes for the right volunteer since her hands are full with the fair. Alys's world includes Twitter and 3D printing, but her target users may not have smart phones or a computer and certainly do not use Facebook, making it laborious to reach them.

Organisation

The library, in its simplicity, may have a digital following, but it does not need one. If locals, in passing, see that it is messy, they pop in and tidy it. Proximity is the determining factor, not use of the right communication mechanism.

The importance of proximity and the integration of tools into existing activities form the backbone of the interviews. Much of the talk is of face-to-face meetings and almost all the software in use is regarded as typical – such as pub management and accounting software – rather than purposed for the collaborative aspects of ongoing management. After requests for easy access to fair booking details, Brockley Society uses its website to host an interactive form and now has a database of stallholders. The Ivy House lists its music events and menu on its websites, as other pubs do. There is nothing truly bespoke about any of this except the time bank software.

Nonetheless, the teams are coping with several management and distribution challenges, not least since they involve bringing together different parties. The sheds and the time bank, particularly, involve coordination of many agencies in ongoing fashion; Alys coping with physical tools and shared rented space, as well as people and care agencies; Philippe running an office at the GP practice. Tessa of the community pub's committee tells the story of several waves of collaboration: first an intense phase to secure the pub involving different statutory bodies, then broad recruitment for a share issue (including customers and suppliers), before the current activity of coordinating a new service, still setting policy and recruiting staff. The tensions of a journey toward a good structure for collaborative activity are caught in Jane's account of the garden's AGMs where land is divided into small individual plots and then returned to a shared model over the first two years of existence.

Parting with something expendable is easier than sharing since it has no trust of care attached to it. And there are informal ways of managing that, such as putting it on the doorstep with a note saying 'Take Me'. By organising a front garden sale, coordinated across the whole ward and promoted on digital media, Brockley Society both sets a deadline on the domestic coordination needed to divest a household of unnecessary things and provides a bigger pool of people hoping to get a bargain.

Only one respondent attended to the potentially serious problems with sharing resources, noting that sharing undertaken on an individual level can have drawbacks, such as the loss of property or damage to valued possessions. He also stressed that most households are already in a sharing system that means *shared* resources and attention are in fact being redistributed to share with others - and that needs local negotiation. Communal systems of sharing, like joint ownership of resources across a block of dwellings, overcome these issues. However, the growing pains of the communal garden reveal that shared ownership can bring its own problems, especially with a maintenance-intensive activity. We can all imagine the situation where someone fills their bags with produce at the end of a growing season having done very little to deserve it. Short of deliberate rationing, this is something that the 'social punishing' of which Benkler talks (2004) has to control, over time, or the gardeners have to endure. There is potential for technological solutions here, but they would have to be very sensitively managed. Instead, we are reminded of Philippe's comments about how easy it is to evade awkward tasks when considering reciprocation mediated by a screen. Mediation changes the dynamics and, even face to face, sharing fairly can already be hard.

Financial Model

Economic sustainability is arrived at in different ways too. Some of the initiatives are not wholly independent of awards and funding. Others, like the microlibrary, need no resources to run except books left by local people, after an initial outlay from Sebastian's own pocket. Patchwork Present seeks to be commercially successful. Alys, setting up sheds, and Philippe, chief executive of Rushey Green Time Bank, are both drawing salaries to support their work, but can only do what they do if part of their time is spent fund-raising. Powering on with local energy, Brockley Society is self-funding, showing that a margin can be made if someone is there to organise it. However, there is a trade-off between raising funds and having time for anything else, especially in a voluntary capacity.

No one had anything to say about how digital technology was making them more sustainable economically except Philippe, who was using *Time and Talents* to help in his devolution plans.

Sharing

Apart from Patchwork Present, which behaves like a sharing economy site and was defined as such by its founder, no one referred to the sharing economy or its bespoke services and software at all. These seem to exist in a parallel universe that only Olivia connects to (though she clearly also relishes the Brockley universe and takes pains to be embedded in it). In fact, if we turn round the question and ask how the sharing economy relates to Brockley, Olivia becomes a very interesting entrepreneur, since she is present in a local shop as well as being global in intention. Her personal journey brings marketing experience and green and localist values together and she has a sensibility for neighbourhood that she shares with other interviewees, despite her more commercial agenda and crowd-funding model. We see something similar in the narratives on other sites (p48).

Digital Technology for supporting these practices

People are not using or aware of the digital developments in sharing sites. Since we interviewed them as change-makers, this is not particularly significant. Nonetheless, none of them were using the likes of Streetbank, Peerby or Ecomodo (for details, see p51) as a side activity or an ally.

As in supporting any activity, a finely-tuned digital tool is not to be dismissed out of hand. But in considering digital practice and tools, we need to look more widely than tools explicitly for sharing to see how sharing happens through general tool use. And we can ask if there are tools that might provide support for the less individualised forms of sharing that involve the set-up, organisation and sustainability of shared spaces, such as we are seeing in Brockley. We are looking at activities that exist at the second and third layer of Janelle Orsi's guide to coordination and infrastructure (2009) and we are seeing many ad-hoc ways of dealing with the responsibilities this brings.

Possibly there is an appetite for more systematic management of people and physical resources to be met with mechanisms for fair distribution. There are also other kinds of software, such as those which seek to interest people in collaborating in the first place (eg Heitlinger's watering can, which recounts stories, recipes and growing advice for herbs in a communal garden, 2014) and are not concerned with efficiency and management. These might support local enterprises in a more entertaining way.

What we need to ask carefully in looking at our interviewees' practices of making do is what will make the technology work for each context, activity and combination of actors? But, yet more importantly, we must ask the higher order question: what makes the sharing work? And technology may be helpful, irrelevant or hindering when we answer that question.

Wider themes in creating sharing systems

Local understandings of what constitutes sharing helped to bound our definition and approach to the study. We can see the extent of concern for the wider community in all the accounts. We can also see how intolerable conditions drove some activities, whereas merely a sense of personal challenge drove others. Almost everyone made some reference to how much they were able to learn about themselves and their neighbourhood as part of intervening and also to the relationships that were initiated – and reminds us the proposed merits of co-production and working in the core economy (see p13). All of this speaks to a different concept from pragmatic sharing of stuff because we are not using it, though a desire to consider both the local environment and the state of global resources is evident in many accounts. Tackling waste and overconsumption is handled through offering a positive alternative and speaks to concepts of civic duty, community spirit and so on, as well as efficiency. A strong theme is negotiating with the other systems in place, be that local authorities, housing associations and/or fellow voluntary groups. The specific drivers of this behaviour included:
- Giving something up in order to be rewarded in other, better ways
- Exchange for things other than cash
- Fixing something for the benefit of everyone

- Giving something back
- Experiencing the sense of having made a contribution
- Pooling time and expertise, skills and resources
- Being part of something bigger.

If we consider services which are specifically about promoting individualised sharing in the context of communal activities in Brockley, we notice something odd about them. Tools for sharing remind us, as a starting point, that we have assets that are lendable. Conversely, in everyday life, this awareness rises in chatting with a friend or neighbour or in spotting a request for help on social media. It is not usual behaviour to promote our assets without a context; the action could look like showing off our good fortune. The time bank asks that people consider assets ahead of their use, but this comes in the context of highly localised group of potential users who have existing contact with the medical services and is being used as a tool to support mental health. The community garden came about through the desire to do something positive with a no-go area… all the initiatives in Brockley can be seen to have an agenda that extends past promoting any simple behaviour; they all have a long-term structure to them. Much of the online activity of the sharing economy is divorced from these contexts that make a collaborative behaviour suddenly relevant and helpful.

Last, we sum up the seven characteristics that we pulled out of the studies:
One small thing - doing something that doesn't overstretch the capacity of the people involved
Mobilisation – taking a broad cross-section of people with you as needs dictate
Growing gains – giving the time it takes to build social systems around new resources
Rootedness – aligning with the place and culture you are operating within
Networks in the making – using existing networks to embed and form partnerships for delivery
Scale and tempo – linking interests at an individual and small group level with the wider scope of the project
Stepping into the weave – offering help to other organisations and so creating a culture of support.

The Facebook inquiry

25 people provided comments on the Facebook page 'Design for Sharing' set up in October 2013. 19 people responded to the original question regarding sharing practice: *'We would really like to know what, why and how you share.'* 8 people of the 19 responders provided answers to the follow up question about tools (Feb 2014) with further people joining at this stage. The second question specifically asked about custom sharing services: '*How do you manage your sharing activities? Do you use any customised software such as websites (ouishare, ecomodo, landshare, etc?), any computer supported sharing systems (like zipcar's booking system), any more standard digital tools (email, Facebook, Twitter, texting) and/or any other communication and management systems (eg phoning, making lists on envelopes)?'*

All respondents are linked to one or both of the two researchers behind this report, but form a tiny subset of our combined 'friends' and their friends, who could also see the page. They are not representative of any group, practice or nation. What they do give is a geographically-broad perspective (Dundee, Manchester, Newcastle, Bristol, Sheffield, London, South Africa, Australia, Netherlands, Denmark), offered by individuals who casually practice sharing and also use Facebook, showing a digital competence and/or interest that we do not assume in our interviews in Brockley.

What was shared and how

The box (Box 1) gives a taste of what people shared. If we look at the examples that follow (Box 2), it is evident that sharing happens in diverse ways, influenced by convenience, efficiency and cost-saving, but also intended as a means to fit in with the lives of others, enjoy others' company and achieve things together. It depends on stage of life (childcare), part of world (mielie plants vs courgettes), relative affluence (petrol vs dog sitting) and a host of cultural and circumstantial variables. It is not taken so much as a deliberate act to share than as a solution to a collective problem or an opportunity that happens to present itself.

We are also reminded of the difference between sharing because it is pleasant and efficient and sharing out of basic need. 'In my village we share anything we have, eg. When there is no sugar in my place I ask from my neighbours. We share just to show humanity.' Being able to borrow a cup of sugar, then, is seemingly a universal emblem of neighbourliness, far more than just a solution to running out of essentials.

Box 1: summary of answers to the 'what' of question 1:

Tools (inc Large ladder, wheelbarrow, chainsaw, bike pump,)	9
Time/Skills/Effort (expertise, design, computers, diy, gardening)	8
Food (often surplus or from shared gardening activities)	6
Gardening (either as a reciprocal arrangement or in a communal space)	4
Child care (ie nanny, babysitting, etc)	4
Child transport (shared school runs/for activities)	3
Pet care	2
Books	2
Unwanted stuff	2
Other [Bike, Washer/drier, Boat, Ocado delivery, Petrol, Lifts]	1

Box 2: Several answers to Question 1 about what people share and why, showing range

Q1: I grow mielies, spinach and tomatoes on my sidewalks for passers-by to take. There are 80+ types of edible and useful plants in my garden, which I share with my gardener and his family, teaching him about their uses. The eggs from my chickens get shared with my tenants, family, friends and staff. I teach people how to transform the waste and rubbish in their environments into craft items for own use and for potentially selling. I host open days at my craft studio for the members of my neighborhood to learn new skills, meet each-other and learn about permaculture. No doubt there are other ways in which to share, thanks for giving us this food for thought. (South Africa)

Q1: In my village we share anything we have, eg. When there is no sugar in my place I ask from my neighbours. We share just to show humanity...we call this''Ubuntu''.......''One in all and all for one'' (South Africa)

DFS 21/2/2014

Q1: I share washer+dryer with the two other flats in the house. We also share the garden and a lot of tools like the drill. (Denmark)

Q1: We mainly share time/skills and produce. The allotment often produces a glut of something, so we share whatever we can't use. This year, a neighbour did the same with courgettes, so Sarah baked courgette and chocolate cakes and gave one to the neighbour in return. We've shared our web/interaction design skills in the past, and I'm often asked by friends to help troubleshoot their computer problems. In return, one of our friends has helped out by providing manual (landscaping) skills. That sounds more like a reciprocal agreement than it is - it's far less formal than that. (Yorkshire)

Q1: Childcare. I have had an after school agreement in the past with a good friend, and also babysit for various friends under an informal reciprocal agreement. Plus - some amazing ideas here that I might try to implement (Yorkshire)

Q1: We share school runs - it saves time and petrol. We share garden stuff, like our apple press because - why not? It makes sense that loads of other people should use it when apples are in season. We share boat and equipment transport at the canoe club; it's part of being a member of a community etc etc. Knowledge, skills and expertise freely given and taken in many ways. (Midlands)

Q1: We share driving kids to a regular weekly activity. Saves on petrol, time and allows you to get to know your children's friends. (Australia)

Q1: I've used Streetbank.com in the past, but sharing seems hard to do when everyone can afford most of what they need, or people don't trust each other to look after their stuff. Re sharing skills/time, it always seems to work out better when I'm doing paid freelance work; arrangements seem to evaporate when it's voluntary.

Q1: A chainsaw, with a friend, why - only occasional use so cost, how- whoever needs it goes and gets it from where it was last!
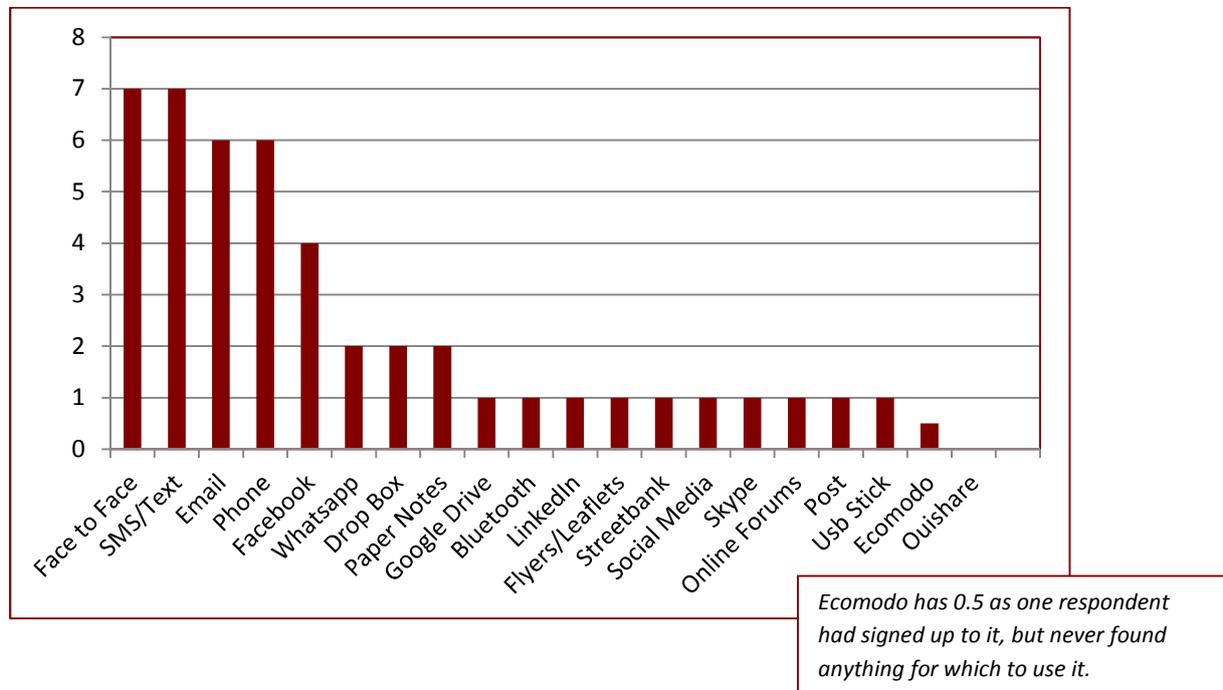
Q1: In the rural village, where i have more material things than others, people give me time and talent such as helping me with the car, looking after the dogs, hand washing when i am in a hurry, explaining, etc., i give things like food, petrol, lifts, busfares etc., Its not easy to answer why - its just the way life proceeds and it would be strange not to. Its done on as needed basis, no one thinks it strange to be asked to lend a hand; though people are very embarrassed indeed if they are in a situation when they have to ask for money, will put it off and ask only in private. (South Africa)

Q1: We share a nanny with some friends. To help her manage both of the kids we jointly bought a double baby buggy. Oh yes, and we share the nanny because it's half the price for each family if we do so! (and easier for her as the kids entertain each other). (London)

Use of Tools

The box below (Box 3) gives an overview of what tools were mentioned in accounts when people were specifically asked about how they share.

Box 3: summary to answers for question 2 - tools mentioned as used

Ecomodo has 0.5 as one respondent had signed up to it, but never found anything for which to use it.

Below we give pairings of answers that include both what is shared and how. It will be immediately obvious that despite the high levels of computer competence that our respondents possess, they do not use them much for social living. Email, face to face and phone feature extensively. Streetbank (unprompted) and Ecomodo (alluded to as an example) are the only cited custom tools and get one mention each.

Some respondents also stress the role of trust in their exchanges. Sharing is not parachuted in to make an area more acceptable to live in; rather it emerges from good relations and a lively interest in things going on locally and happens where networks are already established.

Q1: My neighbourhood [in Sheffield] has a mailing list where we post info of common interest or ask for suggestions/help. We use the list to borrow from each other (e.g. dehumidifier, long ladder etc.). We also share a shredder for garden waste and we buy (good) food as a group so we pay less. We have considered installing solar panels on the roofs of most houses but it is still too expensive even as many. We also share a "walking bus" to school with children trooped in pairs and only 3 parents to walk to school. And we leave plants or other things on the street for others to pick up: I left flowers and got a rosemary!

Q2: The highest technology is a mailing list. Most is done on paper, e.g. leaflets and street chat. However, a tool with an inventory of things (who can share a ladder, a shredder etc.) or suggestions (names of reliable plumbers, roofers etc.) would be good to have. A person in the road started a monthly Food Bank and he started with fliers through the letterbox.

Q1: We share dog care, child care, garden chores/tools/shed, plants, left over food and labour / extra hands / DIY with our neighbours on either side of our terraced house because life's easier and more pleasant when we help each other out. We do this as an when but at least once or twice a week (more in summer when we all live out in the back gardens which are all very similar because we landscaped them together a few years back.

Q2: It's mostly very local so almost always face to face (over the fence, in the street, down the local caff) or the Amii Stewart method (knock on wood ;)), now and again text. Do a fair bit of getting and giving digi resource shares via FB Linkedin etc (abandoned Twitter was a social media too far for me) but that's with my "distributed work network" - non work stuff, it's phone, text and f2f.

Q1: I try and pass stuff on rather than share - because I have a lot of stuff and it is too complicated to organise sharing it, etc. If it is something I don't use, then that's fine. I am loathe to lend stuff that I want to use myself as I forget to get it back. I lent a cordless drill to a friend/neighbour for about a year without realising.

Q2: My sharing is intermittent and I might write it down somewhere then forget where I put the piece of paper. My partner keeps a list of what he's lent out. That would be on paper too. The thing we lend most is probably books. (Bristol)

Q1: Some friends and I work cooperatively together to restore and cultivate a walled garden [in Yorkshire]. When the owner finalises the lease, we will share paying the rent. Meanwhile we have been working there 18 months, restoring it from a bramble covered wilderness to a productive kitchen garden. All the crops are shared in common. The first year was rent free. We do this for enjoyment, food, exercise and fellowship. It is very rewarding, and there is pleasure in sharing everything. Also when we have a surplus of crops we share them with our friends and acquaintances, because we do not want to waste them, and again it gives people pleasure.

Q2: We manage our sharing activities through discussion and trust. It seems to work. We text, phone and email each other.

Q1: We share babysitting - taking turns to look after each other's children. Why? It's free or nearly free (crisps and wine) and it's a person we know and trust, and who the children know and trust. Babysitting is a direct exchange - an evening for an evening, a daytime slot for a daytime slot. Arranged by text message, or in person with a family in our road. We also share Ocado deliveries with my parents, who are around the corner. One delivery charge, and only one delivery to wait in for. It's also useful to add just a few things to someone else's delivery when things run out between big shops.

Q2: Just SMS, email and phone. For babysitting we ask using one of these methods or face to face, plus normally confirm by SMS on the day or day before. For Ocado, if my mum or I book a delivery, we'd text or email the other with day and time. The person adding to the list will email a list of their groceries so it's easier to sort through the bags. No special software. I'm on Ecomodo but have never found what I need - would use it though. (London)

A Review of Networked Tools[4]

In this study, we have already seen *Patchwork Present* as an example of digital sharing – and Olivia identifies the site as part of the 'sharing economy' (p28). We have also been introduced to *Time and Talents* by Philippe at Rushey Green Time Bank, a tool that is neither specifically targeted at individual sharers, nor offers a fixed model of interaction, but allows organisers to customise what is seen by local people (p33). We can call networked tools that are made available to and configurable by organisers *Sharing Support Tools.* We look here at *Time and Talents* as an example, but there are quite a few other software platforms for timebanking, such as host to many Latin American pilots Cylos (http://www.cyclos.org) and Community Forge (http://communityforge.net), support for the Bangla Pesa (http://koru.or.ke/bangla) as well as many European community currency pilots.

Time and Talents: https://www.hourworld.org/index.htm

hOurworld, a US cooperative, has been distributing Time and Talents (T&T) web software for several years, based on the development work of timebanking members and using 'open innovation' to customise it for local conditions. It is available free. 'We implement the best ideas of our members and coordinators. This broad based co-production model of networking and development affords us all, the best tools for sustaining our local communities... We believe in supporting local diversity while maintaining a central cooperative organization to provide accessible support, training, and communications. We are documenting and teaching these models.' The result is highly configurable software to manage the particular service delivery model peculiar to each group using it and a support system to make it manageable and ensure learning is recycled. Bellotti et al (2014) analysed the structure of T&T, with other timebanking services, in their research into use of timebanking as a prelude to building a mobile interface with the organisation. They are also contemplating automatically detecting service activities and proactively proposing to smartphone users that they might want to record hours to help the time bank demonstrate its value (Bellotti et al 2013) among other experiments to see what contributes to the success of a timebank.

This tool demonstrates how one might support those promoting local sharing. Most tools receiving attention at the moment have a different ambition. We identify three additional paradigms: *Evangelists*, *Co-ordination Sites* and *Transport Sharing Tools*, exploring what they claim to be doing, how they do it and their understanding and use of place (and locatedness more generally).

Evangelists

Since we are looking at sharing practices, we pay especial attention to the organisations that have sprung up to promote these. We have noted that the terms collaborative consumption, collaborative economy and sharing economy are appearing in the media and also in the world of social and economic policy (eg https://www.gov.uk/government/news/innovation-in-giving-fund-makes-further-awards-to-boost-social-action). The following organisations are prominent in the promotion of a sharing economy. We look at how they present themselves, showing both the differences within the sector and some common tendencies that contrast with what we have seen in Brockley.

Ouishare: http://ouishare.net/en/about/story

Ouishare emerged out of a small group of Paris-based enthusiasts who shared regular pot luck suppers to discuss sharing and collaborative consumption. We use it as a benchmark, since it has been quite successful at mobilisation.

---

[4] Where no specific reference is given for a direct quotation, it comes from the site at time of review (Dec 2013-April 2014) – see p18 for more details of method.

It narrates its beginnings, from the Paris meet-ups onwards, as part of its marketing: 'From this collective energy, one core idea emerged: we wanted to better understand the change underway and accelerate the transition to a more meaningful society by empowering the pioneers of the collaborative economy from across the globe' and thus 'accelerate the shift toward a more collaborative economy'. The network is now international, supporting and promoting online and local activities related to this mission. It includes 'entrepreneurs and social innovators, non-profit and business leaders, grassroots activists and public officials, researchers, designers and more'. There is also a multilingual online magazine, an annual festival, a job board, and Ouikit - an experiment to develop resource-sharing systems within the OuiShare community and beyond. In terms of managing scale[5], Ouishare works through *Connectors* of different types: local (which here is city, region or country, unlike our study), global (communities of interest), knowledge and project.

Ouishare makes no distinction between collaborative consumption and 'the sharing economy', describing 'the seamless circulation of products and services among individuals through sharing, swapping, trading, renting, borrowing or giving, fostering access over ownership and reducing waste.' These activities sit alongside 'Open Knowledge, Open and Horizontal Governance, Crowdfunding and Person-to-Person Banking, Open Design and Manufacturing.' The language used draws on the world of digital development. Terms like 'permanent beta' are presented as concepts and an expressed value is MPRL (Meet People in Real Life) which suggests that the starting point for activity is online and distributed. Throughout, the site talks extensively of online activities and includes little of related practices that are not on digital platforms or involve co-working spaces. Central to this definition is access to and acceptance of rich technologies and flexible working styles. As with Shareable, below, the contributions on the site reflect a wider set of understandings and interests than the blurb for the site itself.

Shareable: www.shareable.net

Shareable describes itself as a 'nonprofit news, action and connection hub for the sharing transformation' with a mission to 'empower everyone to share for a more joyous, resilient, and equitable world'. Its tone differs from Ouishare in that it talks about movements and acknowledges political and social structures, varying widely in the content it features as a hub with many different authors. However, it does have explanatory pages which point to a particular view of the world and how it is changing: supporting 'a movement of movements emerging from the grassroots up to solve today's biggest challenges, which old, top-down institutions are failing to address', a move away from centralisation to distributed power and activity. Like Ouishare, it is international in scale and rallies its readers with strong rhetoric: 'New and resurgent solutions are democratizing how we produce, consume, govern, and solve social problems. The maker movement, collaborative consumption, the solidarity economy, open source software, transition towns, open government, and social enterprise are just a few of the movements showing a way forward based on sharing.' Sharing is at the heart of the project, as the name would suggest, and: 'The sharing transformation shows that it's possible to govern ourselves, build a green economy that serves everyone, and create meaningful lives together. It also shows that we can solve the world's biggest challenges - like poverty and global warming - by unleashing the power of collaboration.'

Collaborative consumption: www.collaborativeconsumption.com

The Collaborative Consumption website places a strong emphasis on network technologies as catalyst and game changer and, like Shareable, an emphasis on transformation on a global scale: 'the comprehensive online resource for collaborative consumption worldwide and network for the global community'. The site builds on the book *What's Mine is Yours* (2010) and other work by Rachel Botsman and offers a mix of curated content, directory features and blogs that draw together

---

[5] The Facebook page for London publicises the occasional event, or posting about free food (though on a London scale so not a very efficient way to deal with surplus) and co-working days which tend to present sharing as something for social entrepreneurs and freelancers.

information from a range of sources about different collaborative consumption endeavours and related issues. Occasionally there is material about the difficulty of definition in this area, such as a restatement of Botsman's thoughts on the overlaps between the collaborative and sharing economies (quoted on p9).

Peers: http://www.peers.org

The Peers network is a lobbying membership organisation which specifically addresses the needs of the sharing economy, intent on growing a new commercial market and solving the problems thrown up in its novelty, such as public liability when private individuals become hoteliers, taxi-drivers and chefs. The site argues that: '[t]he sharing economy is helping us pay the bills, work flexible hours, meet new people or spend more time with our families.'

The Evangelical Tendency

These sites all describe and align with new socio-economic structures. They focus on information sharing and supporting the nascent movements that they identify with, seeing an important transition afoot to new forms of social and economic engagement and speaking of the values associated with them. The Peers network goes further, taking a position on existing frameworks and campaigning for changes to laws and regulations. They have deliberately set their scale of operations as global as part of embracing networked change, though offering more local activities.

The potential of digital, networked and distributed technology is key to the development of the changes they see and to how each understands and promotes sharing and other aspects of a collaborative economy. All use quality of life issues to justify their work, though there is little concession to the different socio-economic and cultural contexts in which people live and seek to operate. Though a need for small-scale and local activities may be recognised, the world here tends to be presented as homogeneous and global.

Beyond these commonalities, we might see the language as heavy on optimistic rhetoric, citing cultures of openness and collaboration that are so far small-scale but attracting considerable interest. The sites themselves do not present critique, contextualise with any form of history or evidence the transitions they are keen to promote, though the content on Shareable goes far further into the philosophy of the new movements in individual contributions.

A further element of these sites is how they construct the anticipated user as a well-resourced and highly flexible individual and do not seem to notice the extent to which ownership predominates still – ownership of the tools which enable this kind of sharing as well as ownership of things to share. We are reminded of Stokes et al (2014)'s comments that the economy's stated traits of 'encouraging meaningful interactions and trust', and 'embracing openness, inclusivity and the commons' are sometimes more aspirational than evident.

The questions these sites raise are general in nature: How is the cultural dimension of people's experience handled in the collaborative economy? What provision is made for people for whom austerity is already a reality? What protections are lost in moving to a more 'open' culture of exchange? What might be learnt by situating these narratives of transformation in wider cultural trends and social movements of the past? How is technology expected to be transformative?

Coordination sites

Another distinct group of sites might be termed *co-ordination sites*, in that they enable peer-to-peer sharing by using computation to handle functions such as matching locations and interests, verifying identities, handling any financial aspects and so potentially connecting up people who live near each other but do not know each other. They mediate in setting up the meeting of people. There are a great many examples of different tools and sites of this kind. Here we focus on some high profile UK-active examples that show the range as well as the similarities in design and function.

Ecomodo: http://ecomodo.com

Ecomodo, 'the marketplace of good returns', is a UK-wide online brokering site that enables people with proximity to share - primarily through lending and borrowing, but also with the possibility of coordinating the sharing or providing of skills and space. It emphasises the research and design that has gone into developing the site and has sophisticated functionality, for instance, offering an insurance option for lenders so that they can reclaim the value of the item if it is damaged or not returned. Users can set up sharing circles to keep their activity within bounds of their existing trust. It allows for the hiring out of items as well as free distribution and this is the business model of the social enterprise behind its construction: a percentage is levied on any financial exchange. There are a range of benefits and motivations on the site: save money, reduce waste, reduce production, reduce debt, build local connection, change public attitudes and eventually shift industrial practices. There is also a statement of ethical position: 'We commit to donate a proportion of our profits to the Ecomodo Foundation which will directly support community and environmental causes. We choose suppliers and partners with strong ethical and environmental policies, For example: RSA (The Royal Sun Alliance) who provides carbon neutral insurance. We use recycled materials and we minimise travel. We consider inclusion and accessibility. We encourage stakeholder involvement. We practice equal opportunities.' In posting this, it presents a congruent message of care for the environment and social causes.

There is attention given to processes to encourage people who are strangers to share willingly, presenting a low-risk service experience. The site reassures users that it is easy to use, with many protections that do not occur in everyday sharing. Specifically, 'Ecomodo make it easy for Lenders and Borrowers to act with confidence' by supporting: a find and browse interface; introduction and negotiation between lender and borrower; simple dispute resolution; registration of a loan agreement; holding of hire fees and deposits and paying out funds on completion; reputation building through feedback; and provision of insurance for higher value items. Ecomodo does not assume people start from a position of trust.

Like any site, a vibrant user group is needed to encourage participation, because without anything to borrow or lend nearby, people can lose interest and revert to other ways of getting what they need.[6] Examples of things to share include tents, awnings and golf clubs, sensible in that they are robust, substantial (so worth going to some effort to locate) and not much used, but also presenting a model of a high-end, leisured user. At time of press, there were 2040 items to borrow on the site.

Streetbank: http://www.streetbank.com

Streetbank, 'share things with your neighbours', has a styling that more completely masks its government funding and a stronger emphasis on forging community links than Ecomodo. It presents its story as a simple journey of discovery: 'Hello. We are Sam, Nic, Tess, Kate and Alex. A while back we got interested in the idea of lending. Sam had had a good experience with his next-door neighbours. They had been lending stuff to him – small stuff mainly (like a cup of sugar), but it got bigger (like a ladder) and in time he found he was actually hanging out with them just for fun. As Sam chatted to friends he started to think it could be more than just lending, like people giving things away and helping each other too.' It also addresses the potential barriers to engaging with others, but handles it differently: 'By joining Streetbank you are saying to your neighbours, I'm interested in my community and I'm happy to lend a few of my things and help out in a few small ways. Knocking on a strangers' door is quite a bold thing to do. Streetbank reduces the barrier.'

It has an offers/requests model, specifying distance: 1 mile, 5 miles, wider for rural areas[7]. Most people do not include profile information; of the few that do, they expressly mention wanting to

---

[6] In the Brockley area, we found 6 users, all of whom were offering one or two objects for hire, and little evidence of interaction.

[7] In Brockley, there were around 200 members with about 100 things offered, at time of study (April 2014), with no interaction - of the 8 requests current, most had no response.

build local connections. Active users were treating the site like Freecycle (p53), divesting themselves of unwanted goods. At time of press, there were 56,598 neighbours sharing 56,064 things, showing a significant rise on the figures for April 2014.

Peerby: https://peerby.com

Peerby is a sharing service that was developed in the Netherlands and has considerable take-up there (Reimerink 2014), now launched in UK: 'Peerby's unique approach lies in its proactive approach: you don't just post the item you're looking for; the site asks your 100 closest Peerby neighbors if they have the item. This way we achieve a higher success rate than any other sharing platform.' Like the other coordination sites mentioned here, it suggests that to participate in this sharing culture is better for you, your pocket and the environment, and offers, through the site, fun, safety, convenience and connection. The site is eloquent about its backing: 'We get funding from the three areas we believe in. Namely the three pillars of the Peerby vision: social cohesion (i.e., funding from Stichting Doen), sustainability (we have won prizes in the United Postcode Lotteries and Clinton Global initiative), and social entrepreneurship (funding from media partner Sanoma Media). In addition, we are also testing several additional user-based revenue models, such as insurance for lenders and voluntary contributions from satisfied members.'

At time of study, the service was considering how to deal with disputes, asking people to trust rather than starting with regulation, resolution and feedback, in contrast to Ecomodo, where prevention of risk is a central premise. It offers its own understanding of responsibility: 'we are developing a feedback feature, which will allow Peerby members to rate each other after a (successful) transaction. The goal of this is to ensure that people who do not treat the belongings of others with the respect and care that they should will not be able to rent something in the future. … In the meantime we trust in the integrity of our Peerby members and we will do anything we can to help you, if you do happen to run into a black sheep that managed to sneak into our lovely community.'

Casserole club: http://www.casseroleclub.com

Casserole Club is included here as a more focused product than the generic sharing sites above, with a service that is closer to gifting than sharing: 'Casserole is a project that connects people who like to cook and are happy to share an extra portion of a delicious home cooked meal, with older neighbours living close by who could really benefit from a hot cooked meal.'

Rather like the Mensheds example in Lewisham (p31), the service relies on cross-sectoral support and collaboration, taking referrals for "Diners" through local funders where it is active: 'We've learnt that to rollout the Casserole Club in a new area we need to work closely with local organisations like councils, housing associations and charities to sign-up Diners and Cooks. It's also really important that we provide excellent customer service to our Cooks and Diners, and so we need access to funding to grow in new areas.' Meeting existing need, it provides a different model of feeding older people to councils' meals-on-wheels services. Indeed, behind the appeal for volunteers, is a *software as a service model* for helping local authorities to fulfil their commitments: it is built by FutureGov and licenced to councils for about £50K a year. "Cooks" are required to sign up on the site and undertake a short safeguarding process before they can search and contact local "Diners". Although it presents a friendly neighbourhood service, it offers a different kind of engagement from noticing that a neighbour might need support or sharing when you have left-overs. Although the initial commitment is to share one meal, thereby making the barrier to entry low; there is a specific hope on the site that the relationship will develop and endure.

Meanwhile, the service recognises that both donors and recipients are not necessarily the high-tech users of Ouishare, etc. 'As much as possible we encourage Cooks to sign up to Casserole using the website, as this makes our safeguarding process much simpler. The website also gives Cooks the ability to search for local Diners and to see who else is cooking in their area, and so is a really useful tool to help you get cooking quickly.' but 'We understand that not everyone has access to the

internet, and this shouldn't stop you from being able to take part, if you can't access this internet but do want to Cook - please get in touch at hello@casseroleclub.com or 020 3475 3444.'

Taskrabbit https://www.taskrabbit.com

Task Rabbit is one of the more prominent services in the world of collaborative consumption, noted as being a success in terms of business model and scale (see Wiggin 2014, Yu 2012, Singer 2014). Again, the description on the site starts with a story of personal experience that led to a revelation: 'It was a cold night in Boston in 2008 when Leah Busque realized she was out of dog food and didn't have time to buy it herself before a dinner date with her husband, Kevin. Leah thought to herself, "Wouldn't it be nice if one of my neighbors - perhaps one who was already at the store at that very moment - could help me out?'. Again the rhetoric is of neighbourliness and care: 'From this everyday experience, TaskRabbit, an online and mobile marketplace that connects neighbors to get things done, was born. Fully-vetted, skilled professionals contribute their time and expertise, while busy people find a little extra time in their day to do the things they love. Neighbours helping neighbours — it's an old school concept reimagined for today.'

The site enables someone seeking domestic help to find a local person looking for the work and to employ them with confidence that they have been vetted, rather like a casual employment agency. This service also involves insurance. Trust is dealt with through regulation. Taskrabbit conducts identity checks, criminal record checks, an in-person interview and training session. This is clearly no longer coordinating tasks with your neighbours to help each other – despite the rhetoric of the founding narrative. This shift carries with it a similar message to that of Ecomodo: that mediation, online payment facilities and regulation make us safe.

Freecycle: https://www.freecycle.org

Last in this section, we point to the under-designed, organically-grown precursors that grew out of need, imagination, opportunity and effort in the digital realm, which includes services such as craigslist (http://london.craigslist.co.uk/) and, particularly, the international Freecycle. Botsman & Rogers (2010) discuss how services such as Freecycle paved the way for other more business-oriented activity. Freecycle is a series of email lists based on neighbourhood, co-ordinated centrally through a website and locally by list moderators, amounting to 5,000+ groups worldwide with 7 million members, grown over 10 years. Individuals sign up for the list and see everything offered or wanted in the membership – very busy in some areas, quieter in others. The website describes it as a: 'worldwide gifting movement that reduces waste, saves precious resources and eases the burden on our landfills.' Most notifications are from people with something to get rid of that might be of value to someone else. There is no mediation – you contact the most appropriate respondent to make an arrangement; then post again when the item has gone.

The Coordination Opportunity

It is apparent from the descriptions above that there are many contrasting kinds of activity being coordinated by these different sites, despite a relatively consistent positioning across each within the new social and environmental practices of the evangelists' world. We look at the differences and use them to pull out questions for use by designers and policy-makers thinking about positioning.

Ecomodo was picked as a starting point here because it straddles the social, environmental and economic concerns expressed across the whole group and seeks to facilitate a very wide range of sharing-related tasks and practices. It is possible to share skills, space and items and also to rent them out, for gain or for charity. It is designed to work at a neighbourhood level and build circles of trust through existing relations and developing new ones. Streetbank concerns itself additionally with the social elements of sharing space and helping out and Peerby with alerting potential sharers. Notably, in Ecomodo, there seems an assumption that people operate in a community where trust must be scaffolded on formal mechanisms and so control, fees, deposits, insurance, feedback and dispute mechanisms are all part of the design. By contrast, Streetbank and Peerby are more optimistic in their structures and expect to contribute to existing informal cohesion strategies and

grow trust organically. At the far end of this spectrum is Freecycle, which leaves all the work to email list members.

Questions we might ask, then, are: How is the risk of loss, harm or embarrassment handled? Does the service encourage us to trust each other or trust the site and its procedures (and the wider legal and economic frameworks of society)? What model of social relations does it embrace and embed in trying to win a critical mass of users? What understandings of trust appeal in different contexts?

When we look at Casserole Club, we see another form of sharing proposed; one with a wider network of agencies implicated in the brokering function of finding and matching people. The service is integrated into existing provision for people's vulnerability and many referrals come from old-style infrastructures for assessing need for care. The language is of individual help and the relations may be transitory between donor and recipient, but the work of volunteer cooking can be used to replace and/or supplement support provided by municipal teams, where, instead of 'meals on wheels' produced at cost to the council, the local arrangement puts the costs and effort of food purchase, cooking and delivery in the hands of the donor. In its relations with other agencies, this service reminds us of the initiative of the time bank and the Mensheds project, though both of these are offering supplementary forms of interaction in the area and neither is based on an individual to individual mapping.

The site is, of course, concerned with promoting take-up of the service and offers Cooks a FAQ section to reassure them. There is little information about what Diners might expect, which indicates something about how the service understands its relation with Diners: they are not the site users. Nonetheless, we might ask if the new economy means greater choice and flexibility for recipients of traditional support? Do they have to eat broccoli? Is there a stigma or a social stress to having different people bringing meals? Being beholden to individuals is very different to being provided with supplies by the state, which is anyway a matter of concern to some. (As Philippe notes in talking about timebanking, reciprocation has a positive effect- p33.) Casserole Club is, perhaps most clearly of all these sites, the intersection of choice and need.

Questions, here, might include: How are relations with other agencies established and signalled? Is there dependency on existing infrastructure for success? Does the service augment local capacity or replace it? What opportunities and challenges come with a change in service provider and shape of provision? How is the transition to more personal services managed?

If we now look at Taskrabbit, we notice something of an inconsistency. Dubbed repeatedly part of the sharing economy (see Wiggin 2014, Yu 2012, Singer 2014), it is difficult to see in what way Taskrabbit is a sharing service. Instead, it creates a micro-market for tasks, based on availability relative to location. Unlike Amazon Mechanical Turk (https://www.mturk.com/mturk), it does not crowd-source execution of virtual tasks, but physical ones. It has come in for some scathing reviews for its 'gig economy' work ethic: 'all I found was hard work, low pay, and a system that puts workers at a disadvantage' (Kessler 2014). We note that a similar ambiguity appears in descriptions of sites like AirBnB, which rents out spare space in homes and empty flats, and has been criticised for undermining sharing (Tsur & Belsky2014) and doing too little to ensure people do not evade tax and health and safety responsibilities, as B&B marketing and trading opportunities are improved by the ease of use of an online trading space.

We can now ask: How is the sharing economy related to deregulated trading? Are these global-local economies putting financial value on former gifting activity?

If we take a moment to consider the marketing further, not only are we struck by the disparity between talking about sharing while actually selling, but also by tensions in the founding narratives that support the positioning of the services. In trying to sound open and accessible, both Taskrabbit and Streetbank imply that the projects were conceived after a revelation in adult life by, it would

seem, people who had minimal previous experience or expertise in building local networks and strengthening communities through sharing action and responsibility. In contrast, Ecomodo stresses the research and design professionalism that has gone into developing the site, offers a commitment to ethical behaviour and uses links with commercial and media partners to show its credibility. Its use of links to reputable (insurance) companies and old-style press testimonials is a position far closer to that of Casserole Club, targeting its audience with stories based in different expectations from the other two. Meanwhile, Tonkinwise points out that: 'transparency about the intentions of a sharing system's administrators must be part of their brand, irrespective of whether it is associated with the fields of sustainability or sociality, etc.' (2012).

If we look back to the hOurworld site, we see the language of historically situated and embedded community organisation: 'As individuals we each participate in the community currency movement and we honor all the good people who have contributed to this system of service to others. We pay special tribute to the seven women that originally founded time banking in the United States.' The cooperative site has no need to claim originality and appeals instead to a long tradition.

Patchwork Present's Olivia also tells a personal story of arriving at her business idea, in the case study (p28) and on her site. We see similarity to the founding narratives that appear above. In her case, it is based on her understanding of how people come together to share buying gifts. We note that in the sharing economy it is in vogue to bring stories back to the personal in the narrative of innovation, and it is one of the markers that identify a service as entrepreneurial and not part of business-as-usual.

New questions, then, include: How does the rhetoric of the site position the service? Is it consistent with aims and target users' interests? How is it inventing the world it wants to see?

Last, we can see that take-up varies (with Freecycle showing what a system can do over time with little design or styling and no intervention) and we can relate this to design, marketing, target audience and other factors that will affect the success of any new product. We note that in our (limited) study of Facebook friends (p44), most people were managing their exchanges through existing media, such as social network sites, email, texting and phone. They were not turning to specialist sites to run their affairs, but were integrating their sharing needs into their everyday lives and, with that, their everyday uses of technology.

Challenges

In summary, we can ask what might prevent digital sites that facilitate local sharing from becoming popular. Without sufficient activity to reach critical mass *for any particular location*, take-up will continue to be low or patchy - there needs to be both some point in connecting and a local cohort to connect with. Apart from social awkwardness, lack of trust and absence of things to share, which are all on the user side, other more generic obstacles might include:
- new layers of effort are required to lend something for those who are already predisposed to do so, thus overcomplicating what could be simple;
- the site requires people to use digital tools in a context with no direct digital element;
- the ideas would work better if presented in groups' social network of choice rather than a custom service;
- the service appeals to people without much connection in the community so it does not plug into existing social structures;
- the service is too disconnected from what is going on in the local area to inspire interest.

Transport sharing tools: cars and bikes

Informal sharing of transport is a major existing cooperative endeavour, seen in casual ride-sharing, regular car-pooling, joint ownership of a car or shared car bills between neighbours. Brereton & Ghelawat (2010), in their study of the use of a ride-matching tool, describe how what may start out

as a relationship based on getting to work efficiently often becomes friendship over time, leading to people walking as well as driving together.

To these many local sharing arrangements, we can add the more formal processes of transport systems such as Uber, Zipcar and the many city bike schemes that are now available to subscribers. These use technology, principally GPS location sensors and Internet of Things connectors, to provide a joined-up service across large areas, supported by mapping, coordinating and payment infrastructure on a large scale.

Uber (https://www.uber.com/) is like Airbnb in that it allows private individuals to use spare capacity: it brings together the drivers of private cars with time on their hands with those needing a ride, through a service that coordinates this pairing, handles payment and registers/vets. It is a paid taxi service, not a ride-sharing scheme. The service is highly mobile in that it has been designed for the phone and it has sufficiently dented London's regulated taxi services with its more 'open economy' model to have given rise to mass demonstrations by cab-drivers.

Zipcar (www.zipcar.co.uk) is, since 2013, owned by car rental giant Avis Budget Group. It is essentially a localised car rental subscription service that uses digital technology to organise short hires, releasing cars remotely to subscribers, unlocking doors, monitoring use and calculating and subtracting fees so that drivers can book a car based in a street nearby and return it without having to travel. It too makes big claims about changing attitudes and behaviour: 'we are redefining the way people think about transportation' and presents a mission with values beyond the immediate service delivery to enable 'simple and responsible urban living'. It is selling a lifestyle: 'We envision a future where car club members outnumber car owners in major cities around the globe. …Zipcar will be an integral part of these vibrant communities of well-informed, connected people who enjoy urban life and transportation options.' Zipcar is mentioned because its use of technology, distributed nature and support for shared use of resources speaks to the 'access not ownership' philosophy of service delivery in the collaborative economy, as does its rhetoric, but it is based on an updated model of a privately-owned fleet made available to people on an as-needed basis, by booking, which has long been with us.

By contrast, the provision of timeshare bikes as a city service in London is closer to the provision of buses, with a hop-on-and-off quality that cannot be booked, though also with digital technology as enabler. This is used similarly, to register, unlock, record duration and redock, but also to monitor clumping and trigger vans to transport bikes between locations, so that docking points are neither full nor empty as peak flows move bikes unequally round the city (see Cocozza 2014). As we have noted, when distribution of resources is in municipal control, it is largely invisible as sharing *per se*, though here it is the provision, not the distribution, that Transport for London oversees. Orsi comments in her analysis of sharing and coordination (2009), that this level of sharing requires formal infrastructure: 'Whether this is publicly or privately managed, … [t]aking sharing to the fourth degree can require getting government buy-in, mobilizing multiple players (legislators, investors, banks, developers, planners, etc.), or even restructuring our communities.' It is, of course, much harder to move car gluts around than bikes, and generally you return the car to where you found it. Again, the emphasis is on access as needed, replacing ownership of dormant resources.

Uber and Zipcar are global in ambition, and bike schemes are appearing in more cities each year. All respond to the need for access to be hyperlocal as a genuine challenge to ownership, but only the bikes are wholly reliant on the infrastructure of individual cities to support them. The different economic models imply different flexibility to local conditions, though all must be able to provide a service *as needed* or their value to subscribers will fast diminish.

What is notable about these activities is that only the resource is shared. No one has to meet anyone else, even virtually, to make this work. And as long as co-ordination of slots is managed successfully by the remote network, there need be no awareness of others in the system. By contrast, a car club where people allow other people to use their cars shows the contextual complexity that Benkler

(2004) says comes when you move away from the market. Decision-making about who can book when is done in an automated, anonymised way at Zipcar; whoever books first is able to use the car at the time of their choice. This process can be more subtle when people have to meet and interact to borrow or lease a neighbour's car. Decisions might be made on the owner's perception of merit, need or how well they think someone will treat the car. This has advantages and disadvantages.

Questions arise, such as: Is public transport sharing? How is sharing resources without encountering other users different from schemes which bring people together?

Discussion: Conspicuous Collaboration

In this report, we have described brokering, verifying, organising, scheduling, communicating, aggregating, scaling, sub-dividing, managing, paying and distributing, to mention a few activities that sharing can entail and digital tools can support. **We have looked at these in terms of innovation: first, what people will set up locally and why; and, second, the high-profile services of the sharing economy. The kinds of sharing seen in our local examples are quite different in tone, scale, ambition and practice to those that are most widely discussed in regard to the idea of a sharing economy.** In looking at the former, we notice the emphasis on organising together to create shared spaces for collaborative use of resources. In looking at the latter, we notice that they start from a position of sharer-to-sharer individualised activity and some have a tendency to monetise value, rather than encourage sharing as a social exchange mechanism. The sharing economy refers to a range of practices and business models which also feature significant elements of renting, leasing and hiring. While these digital initiatives may be a stepping stone to a more embedded use of technology, with connected devices and internets of things, they are also acting as powerful agents in our understanding of what it is to share and how we do it, so distinctions in interpretation matter.

Coming at a point when digital technology is increasingly able to offer a convergence of mobile and real-time cloud-based big data processing, sensors and social media, to sense, connect and control, we might speculate on a number of new types of engagement. We can make tools and things that know where they are and who is using them, when and for how long. We can imagine items that share themselves out and see prototypes in the car services that are centrally booked, but locally unlocked and returned. We can envisage time and space more evenly apportioned and sharing protocols managed autonomously by smart systems in our community resources. But inventiveness is best tempered by an understanding of contexts of use, group goals and personal interests. So our section here looks at what we have learnt about how, why, when and what people share in our studies.

Tool Use

Well-connected people, whether locally or more broadly, turn first to their networks and use existing tools to structure activities, communicate and mobilise. They rely on existing trust relations, sometimes extended over social media. This does not mean that they do not sign up to sharing economy sites (and may use rental services such as AirBnB or Zipcar for travel or crowdfunding sites such as Kickstarter to see their friend's movie made). However, to augment a neighbourhood with sharing facilities, it takes a critical mass *locally* and some added value in using a dedicated tool to make the overhead of take-up worth the trouble for people with a good network. Further, many people interested in the social and environmental wellbeing of their neighbourhood have little interest in using new technologies and are not aware of developments in digital sharing. Our research suggests that what exists does not match up closely to what they need, seen in responses from both the Brockley and Facebook sharer studies. This leaves open the question as to whether these sites increase the numbers of people who make connections in and across their communities by digital means. It also leaves plenty of opportunity for a new wave of sharing technologies that work with communities to support them, such as Heitlinger's watering can (2014).

We have not looked extensively at sharing support tools, but the structures of Time & Talents and its configurability are strengths when supporting enablers, such as the Rushey Green Time Bank team. People identified other management needs and it would be possible to develop tools that help support sharing in a collectivist or communitarian way, especially if accessible through existing interfaces and devices. Some of these might be one-off or limited-use custom pieces, which is likely to put their development in the same arena as their deployment: a product of the core economy and a labour of love, not money. Unsurprisingly, that is where Time & Talents sits, developed by timebankers, organised in a cooperative and distributed free.

So, in considering the digital, we need to look wider than tools explicitly for sharing to how sharing works with broader digital tools, and wider than the individual to the neighbourhood and the 'embedding' of the sharing. The study shows that individual enablers are a rich stimulus for local sharing and a move towards a culture of sharing (eg the acceptance and use of the microlibrary, p21), whereas becoming another enabler is not necessarily well-supported by sharer-to-sharer sites.

Place and Locatedness

Relation to place varies widely across the study. Some services attempt to scale across multiple areas; some can only be reproduced discretely in each, such as the microlibrary or garden. Whereas sites sharing virtual resources have no need of local moorings (Patchwork Present, which brings together money, can broker joint present-buying across the world), other services, which deal in physical resources, might be considered more accurately as thousands of local clusters within a global frame. This poses problems for all brokering sites promoting material exchanges, as they have to establish themselves with a sufficient number of people sharing sufficient material in each locality. Peerby's model of sending out notifications to all members local to a possible exchange could thus be a key factor in its success.

One way of embedding locally is to work with local partners, seen in Brockley (eg Mensheds) and more UK-wide (eg Casserole Club). This can provide a direct connection to potential service users, but, especially when the partner is a local authority or health service, may only target people already in the care system.

Granularity – and, with it, critical mass at the most local level - affects what will take off. For instance, the time bank has five clusters across Lewisham, the local council area. To further its work, it could develop more clusters and/or become denser in membership in each area and grow this way, but not usefully expand the width of its catchment areas, as Philippe notes (p33).

Even the positioning of a service as global can be problematic, as hyperlocal news sites manage to engender greater trust among and between users than services focused on a function (rather than a locale). More effective is to grow one or multiple local contexts at outset, a bit as Patchwork Present and Streetbank are seeking to do, since later these can be aggregated, whereas the absence of context, personal effort and a local element in global sites works against take-up. And, as we have observed, there is a tendency to produce sites with homogenising messages, interfaces and back-end mechanisms even when it is appreciated that local culture will impact take-up.

Further, if we look at the factors that have influenced the area on which we focused (the 30 minute walking radius from the researcher's home), we see the importance of mutual support (or *relational* assets) across organisations and from well-established sources, with 40-year-old Brockley Society functioning as incubator for other enterprises, such as the microlibrary and community garden.

Timeliness

In thinking about the initiating of sharing, we can see an intrinsic difference between what normally happens in trust networks and what happens on sites aimed at better utilisation of resources. Posts on Facebook ask to borrow something as needed; they are not random offers to lend. It is often easy to source something through a local network as people like to help out. But there is no reason to hawk about personal resources in case someone happens to want to borrow them. A courgette glut might be mentioned on social media with an invitation to collect; a power drill would not, unless you were, similarly, seeking to give it away. Even if posting news of resources is efficient in terms of promoting sharing (offset against travel time and fuel use if the person is not truly local), we still contend with lack of timeliness (Grice 1975). Without an angle that makes something worthy of mention, such as perishability, posting up resources can look like showing off your assets. So, it is hard to learn of possible community assets in the abstract (Philippe, p6). Ecomodo and its kin suggest that we show what we have tucked away so that others can make use of it. But, if there is no immediate issue to solve, we may not be disposed to list our items or skills; we may not even think of

them. And at the point we receive micropayments for their use, we may now have an incentive, but it is no longer sharing as we know it. This is the tension in models that ask us to list assets out of context. The moment of need for mobilisation at the Ivy House pub revealed a range of skills people had not shared before. Use of Freecycle to dispose of unwanted goods is timely in this sense too; sharing sites are not (though Streetbank's use in Brockley showed similarities to Freecycle: disposing of unwanted goods, not reciprocal sharing).

Financing and economic models

The financial model for initiatives varies according to activity: building transaction mass and levying a percentage for brokering services (Patchwork Present, Ecomodo, etc), hourly rental (Zipcar, bike schemes), independent fund-raising (fair/advertising for Brockley Society), grants (Mensheds at startup), share issue (community pub), local authority fee (Casserole Club), awards from charity, etc. Much of the sharing economy is supported by venture capital - which dictates that profits must be made - and not co-operative models of finance. There was more potential for public subscription than we saw, ie the model that first supported public libraries and other membership-based or public facilities financed by the more affluent in a locale. This, in a more contemporary form, is what crowdfunding enables. The community pub's share issue (p23) comes close.

Overall, socio-economic structures embodied in the local resources in Brockley and those of the sharing economy digital services differed widely in terms of individualism, the trust motivators they assume and the degree to which they see sharing as a social or economic practice, although there is also a mismatch between the rhetoric and the functionality on some sharing sites, obscuring this to some extent. With digital platforms, back-end functionality, interaction at the interface and the message in the text of the site are all more or less deliberately designed to support a particular understanding of social engagement, but they do not all have to point in the same direction.

Accessibility and inclusivity

Accessibility issues affect both tools and services. The former includes using popular models of device, not assuming that everyone can or will access your services digitally and making the service easy to use for people regardless of circumstances. The latter includes ensuring that people who are not already in the network will find out about opportunities and feel comfortable taking them up. We might also call this inclusivity.

When we consider take-up across different groups, sharing supported by digital tools has the advantage, as well as social drawbacks, in circumstances when it does not require encounters between sharers. The digital system can be less personal, choosing dispassionately on the basis of first-come, first-served, rather than weighing up all the factors that personal lending might involve, which could include judgements on grounds such as need, but may privilege those known to the lender, then those who are similar in outlook, class, ethnicity, etc.

This is illustrated in the transport examples (p55). As noted, there need be little social involvement in using a car club: the technology can serve a rental service, car-pooling or a mesh of self-organising drivers. As further technologies come in, such as the remote on/off lock/unlock mechanisms of Verizon's Auto Share (see Hambleden 2014), access becomes manageable through a smart phone for a range of devices. We can look past whether money is involved or even if someone makes some profit somewhere, but consider this in terms of efficiency of service provision and maximising take-up across the whole community as budget allows. The advantage of these impersonal exchange systems is that no one has to work alongside anyone (or even take their first brave step into the community garden).

However, with remote monitoring comes the opportunity of remote control and penalising those who do not manage their resources. Rental cars are already being switched off when drivers run behind on payment, sometimes mid-drive (see Corkery & Silver-Greenberg 2014). For people without resources, the move to monetising everything would be the most exclusive condition of all.

Making Stuff; Choosing Our World

This report is written as part of contributing to the Sustainable Society Network+ and so we conclude by asking what kind of sustainability we are considering in thinking about our societies and our sharing practices. The next section looks at alternative visions for a collective approach.

In doing this, the politics of economic structures are critical: they underpin our understanding of resources and assets, their distribution and our day-to-day access to and management of them. Sharing is one filter for thinking about economics, who has what, who needs what and who gets it. It is also a series of existing practices, as evidenced by our study of a small area in South London (p20 to p39) and our widely distributed circles on Facebook (p44 to p47). It is also the engine driving the sharing economy in some form or another, which we have critiqued in looking at evangelists, coordination sites, transport sharing tools and sharing support tools (p48 to p57). Design for sharing creates the social and technical infrastructures for more participation and new relational assets, as the connections between people become as important as the things people possess. But with the question of what we design comes the question of what values it introduces into society and what we have embraced. And technology may be helpful, irrelevant or hindering when we answer that question.

The political challenges, as we face the future, are complex. They include how we negotiate the distribution of fewer overall resources, while keeping an emphasis on social justice. We have to do this in a careful balance between individualist and collectivist cultures holding very different interests and priorities, but competing in an increasingly global context with an increasingly unstable climate. This difficult work needs more than the rhetoric of sharing; it needs policies and clear sightlines about how to take decisions and what actions lead to which impacts.

Resources which were available in the UK through the 20th century mechanisms of a supportive state are being redistributed and distributed through new mechanisms. Thus, we ask how sharing can be made more sustainable in ways that replace or enhance services, not out of a reluctance to use a safety net, but because it is apparent that the safety net is no longer meshed finely enough to protect some of the most vulnerable amongst us.

Sharing at its more informal - of swapping goods and talents as needed - will continue because of and despite the network tools that can broker it. Trust is the currency here and trust may prove increasingly tractable to being extended to strangers, as the generation reared on social media engages with these issues. Tonkinwise takes a sceptical view: 'Just as the word 'friend,' now a verb, does not really correlate with what the word means in a flesh-based world, so the word trust appears to be stretched thin when digitized.' (2012). Nonetheless, informal patterns of exchange that cross existing networks to link communities and circles have an important social cohesion role.

But this is only working at the first degree of Orsi's four-part analysis (2009). At the next degree, the Mensheds and timebanking examples show how some of the vulnerabilities of ageing, infirmity, isolation and depression can be tackled in ways that are novel and come in addition to the standard forms of support available through the state. This layer of care can be supported by digital tools and a sensitivity to the challenges of building shared spaces where collaboration can happen. More types of space can be created that serve communal social needs as well as using resources efficiently.

Does sharing efficiently reduce the need for current scales of production? Innovation in social practices and technological support for them suggests new industries, while threatening older ones. Car manufacturing may shrink as it is hit by better utilisation of vehicles. Service management and related ICT development will grow. Replacing consumption with reuse models would ideally require a move away from upgrade cycles and built-in obsolescence, but this would be a significant change in conventional trading practices.

Sterling (2014) describes the rise of global superpowers that are commercial, not territorial, in their reach. He puts a powerful case that five US technology companies already have the means to manage our lives, determining what interaction is possible with things and media. Such strong commercialising forces could insist on monetising every transaction, furnishing the technology and providing the blend of surveillance and data gathering to send some social practices underground. Those with the wealth to shore themselves up against riot, rebellion and rising water levels do not have to be part of the societies created this way; the rest of us do. Sharing, in this context, is for the other 99%. Sharing, then, is beyond just a practice or rhetoric, it goes right to the heart of who is able to claim a place in the world.

So our question is not only how to design sharing, but in what direction. Stokes et al (2014) point to four complementary drivers of the collaborative economy:
• Creating value of out of idle assets
• Rebuilding social capital
• Creating new economic relationships
• Environmental sustainability

This diversity is entirely understandable when defining a sector, but to design for this sector requires either a way of integrating or prioritising these goals. Design is always to a particular end. We might have to separate our vision of sustainable futures before we reassemble them. When we design for sharing, do we:
- design for optimal resource management?
- design for improved societal relations?
- design for economic (global, national, local, communal) vitality?

Strategy One: Design for optimal resource management
Efficiency of resource use supports the environmental case and to some extent the economic one. As designers, we can use the power that computer networks give us to connect things up and 'design to manage and sustain limited sources of materials, time and enthusiasm' (Light 2011). The principle functions to support, then, are distributing, scheduling, unlocking and docking/returning, with guarantees at every stage. Payment systems would facilitate the growth of these services and this model makes the space for innovative and disruptive services of the kind we are seeing in the sharing economy, where use of spare capacity is creating secondary and new markets.

Just as local government services facilitate co-existence without requiring individuals to meet and work together (to dispose of waste or lay roads), so digital platforms can offer an infrastructure that takes the direct collaboration out of sharing. This corresponds to the fourth degree of sharing proposed by Orsi: 'You reserve a car using your cell phone, punch in a code on the car door, get in, and go! Whether this is publicly or privately managed, launching such a program involves significant investment of time and resources and a rather complex system of administration.' (2009). Both business and not-for-profit systems are appearing, and we note that this is made possible by digital platforms at each stage. In fact, Kiessling suggests, in writing about the Internet of Things (IoT) and sharing, that 'For free-floating car sharing the users must, for example, know where to find available cars. GPS receivers in the vehicles and an app that shows all available cars on a map assist them.' (2013). In each case, the introduction of the fourth degree of organisation goes hand-in-hand with providing a service that requires major resourcing and centralised management and, thus, little local coordination, allowing people to access resources without having to encounter each other. Just as the ATM removed the need to discuss money with a bank clerk, so mediated sharing manages the availability of resources while allowing people to ignore each other if they choose to. This weakens it as a social model, since it promotes exploitation of resources (including other people at times), may lead to disparities of access and requires no one to practice gainful co-existence as part of using resources wisely. And Sennett (2013) has warned us that cooperation is a craft to learn and practice.

Meanwhile, Kiessling's IoT-enabled sharing utopia (2013) is countered by Morozov, who links together the sharing economy, networked technology and micropayments in a way that fills him with dismay: 'This sharing imperative dictates that everything that we own, from tangible assets to intangible thoughts, be categorised and assigned some kind of a unique identifier like the QR code. When somebody somewhere – it could be our neighbour or an advertising company across the ocean – expresses an interest in "borrowing" an item that matches the description of what we own, our phone would notify us of their offer, pitting us against all the other "micro-entrepreneurs" with similar ownership profiles. Once we accept, the rest is logistics: a drone or a self-driving car would stop by to fetch the item … and the payment would safely arrive on our smartphones.' (Morozov 2014). As for a circulating stream of more fully utilised goods, he dismisses its usefulness in staving off environmental catastrophe as 'overstated and often risible', pointing instead to the need for big business and power generation companies to rethink their processes.

Strategy Two: Design for improved societal relations

To promote social wellbeing, systems need to help manage trust, access, connection, the breaking of social boundaries and social inclusion, while leaving intact a sense of culture and place. All of the initiatives seen in Brockley have this goal at their core, as well as interest in environmental and economic sustainability. Key digital functions might be recruiting, matching, minimising the work of building trust, voting, helping to structure and maintain collaborative spaces and make others aware of them and the opportunities they present. They need to support Ostrom's (1990) principles seen in managing the commons. (The questions peppered through p50 to p57 address these kinds of concern.) Further digital functions might especially target perceptions and realities of inequality, since inequality causes resentment and division. These functions might include mechanisms for distributing transparently and, even, collaboratively gearing contributions and distributions according to capacity and need.

Much of the design work that promotes social relations is at the second or third degree in Orsi's system (2009), where systems are informally or highly organised, but not out of the hands of the local communities that use them. So, for instance, we cannot conceive of Mensheds (p31) or the community garden (p26) as software, but we can anticipate digital tools to help run the spaces well. Would a door that opened upon being scanned with a phone, or a system that showed which plants were currently too dry and needed water be assets or complications in running a community garden? At what point, as the resource develops, could such interventions be usefully offered and how do we prevent the technical dictating the social system, rather than the other way round?

We might ask how to take forward Rushey Green's time bank with its brief to improve mental wellbeing? Bellotti et al (2014) raise opportunities that applying further new technology could bring for mobile timebanking applications: '[O]ur vision is to add 'smart' and context aware capabilities, to enable our system to direct service and resource recommendations to those best placed to perform or provide them most efficiently.' (Bellotti et al 2014: p2983). In working with mental health, how might such a system 1) keep members from ignoring jobs because they are awkward (p34), without telling timebankers what to do and violating the basic principle of 'dipping in, dipping out'; 2) keep in sight that the role of the facilitator is to employ subtle criteria in matching members and their (best) interests, and that context-aware systems are better able to judge a more market-style (ie formalised) set of options, like proximity or stated skills; and 3) keep configurability and self-determination for the group, so it can promote effectiveness for health rather than efficiency, ie not dictating the culture of timebanking with the application.

Creative measures could support a love of sharing and contributing to the community without a direct emphasis on management or efficiency. One example is the Community Hacking project on the edges of Glasgow (http://www.communityhacking.org/), which uses IoT tools to support a local sense of belonging. It shares stories, rather than tangible goods, but, in doing so, promotes conditions for other forms of support. This latest embedding of technical innovation joins a history

of community broadband, meshes and other technical infrastructure that promotes access in alternative ways and acts as enabling community assets, and many devices for storytelling.

It is argued that community cohesion is a necessary prerequisite for action on environmental and economic resilience (eg JRF 2014) and that we need social infrastructure not as a platform, but as a core to handle crises from other directions. If so, bringing things down to the very local, so that large numbers of people become involved, sets this direction in contrast to Strategy One. The two visions are not incompatible, but we notice that scale is important - with smaller infrastructures and organisational platforms favouring social development.

Strategy Three: Design for economic (global, national, local, communal) vitality

While neither designing for efficiency or sociality is at all clear cut, designing for economic vitality is the most controversial strategy of the three, since there are so many ways that this vitality can be understood. Scale matters here too: do we want a global scene in which wealth is generated to the maximum, or thousands of localities where people are gainfully employed in activities that produce rich and sustaining outcomes? Can both or either be achieved by working at the level of the state?

On the one hand, we have Sterling's vision of a world run by what Cawson calls 'corporatocracies' (Cawson 2013), super-power companies that know more about our actions than we do and use this knowledge to generate more and greater data-led businesses. On the other, we have the argument for increasing local co-production and encouraging participation in the areas that the *Digital Social Innovation* report identifies: new ways of making; participatory mechanisms and open democracy; awareness networks; open access and information commons, mesh networks projects, etc. (Bria 2014 pii). Coote & Goodwin (2010) argue that our aim should be to 'devolve power and encourage local action wherever possible. … opening up opportunities for people to take control over what happens in their own localities and providing access to resources that will make local action feasible and effective' and that 'everyone, including those who are disadvantaged and disempowered, has assets and resources, not just problems to be fixed by others.' (p4-6). Of course, these views are only incompatible if the goal is any real self-determination at local level. Otherwise, initiatives produced at grassroots level may be exactly what global technology companies need to maintain their position as superpowers, outbidding each other for scalable innovations, and using this relation with the cutting edge of creativity to guarantee their competitive position and their chance to determine how people connect to the objects around them and the financial systems on which we all depend.

So, encouraging a culture of collective innovation can work both at a macro and micro level, despite different end-goals. And innovation can involve a new way of organising a shared garden as much as a software tool, even if the former cannot be taken up and scaled to make a profit. However, neither layer is necessarily supported at the level of nations, which are more concerned with balancing market provision and expenditure in answering to voters asking about the pension deficit.

To support economic vitality through sharing, the sharing tools of the digital commons are an obvious starting point, though we have not discussed them in this report. However, physical resources are increasingly relevant, as innovations include digitally-enhanced objects and smart homes and cities. A key point is that the tools relevant in generating vitality are those that support entrepreneurs developing new forms of infrastructure and exchange as well as supporting the practices enabled by them. Conceiving tools to inspire and support collaborative initiative takes us out of Orsi's categorisation system into a consideration of how any or all of the four degrees of sharing are supported. The functions for this include crowdfunding, networking, designing, finding ways of inspiring serendipitous encounters between people, and between people and things, easing red tape and mobilising communities. The story of the Ivy House pub and its move to community asset is a tale of luck and enterprise. But outstanding in it is the need they had to mobilise fast and effectively, adapting to changes in the original intentions for the pub, the law and the statutory regime at local level and communicating appropriately to drinkers, suppliers and well-wishers. We are reminded of Ostrom's point, in looking at the mechanisms of co-production (1996), that to do

things together, one needs to ensure that a critical mass of people know what is going on and are available to decide on options together.

Thus, vitality can also be understood in units of time and enthusiasm. Although neither is financial, both are connected in ways that relate to sustainability. The initiatives in Brockley run on very little money, making use of in-kind support, currencies of time and so on, but they still need resourcing and they still have to operate within a value system that expects money for land, materials and work. What can support responsiveness is to pay attention to the particular ad-hoc qualities of this informal designing, such as the collaboration, context, interaction and learning that are often ignored (Dorst 2008).

Last, promoting vitality in its most beneficent form involves challenging the tendency for those that already have resources, confidence and skills to be able to take advantage of opportunities and for those that are already disadvantaged to find themselves even further outside the locus of benefit. This brings in issues of access to resources, including even access to (and confidence with) the digital tools we are discussing, such as smart phones and ubiquitous wifi.

We need people with initiative and imagination and the resourcefulness to use these qualities if we want to promote long-term societal sustainability and this has to be bred by creating opportunities to do so. Digital tools can be an important part of that, but targeting secondary markets is only a small part of that potential. The economy of sharing (saving, managing, growing) is wider than the sharing *economy* and more useful in environmental and social terms.

Having it all?

The strategies above highlight different alternatives but do not wholly preclude development on all fronts. They are artificially constructed to show emphasis and clearly social cohesion is improved by adequate resourcing and a buoyant economy, and vice versa. We can have most of it if we plan carefully, though Benkler warns that you have to protect sharing-based modalities of production if you want to keep them in a price-based, hierarchy-based world (2004). The only argument for choosing one strategy over others is to ensure that no facet of societal development is neglected at the expense of other, more dominant, ones.

Researchers are careful in approaching judgments that affect the validity of the data during collection and analysis, then form opinions based on the evidence they find. Here we advocate design that supports social cohesion, local community development and, with it, the modelling of initiative-taking that makes places to live both pleasant and resilient. Brockley's culture of initiative and support seems to be locally infectious, if still limited to certain groups, and it is no coincidence that one of the team chooses to live there. We advocate this strategy for several reasons. First, some of the narratives of the sharing economy are conflating resource management activities with social cohesion goals, sometimes deliberately as a sweetener to market what is essentially a new form of business that monetises spare capacity; sometimes out of enthusiasm; and, in the media, seemingly because it makes for a better story. This shows the attractiveness of the end state, but does little to create or promote it. Second, the market has been designed to take care of its own and social mechanisms need boosting in an economy where global enterprises are able to map and exploit every possible source of revenue and development opportunity by using the new monitoring potential that comes with service provision. And, third, because in the narratives we tell ourselves about life in the future, only those where we address issues of inclusion and access to resources in a fundamental way seem sufficient to mobilise the human elements of a world facing the extinction of a majority of life forms, the destruction of key natural materials, likely inundation, and so on, to find a way of life worth living.

References

Aigreen, S. (2011) Sharing: Culture and the Economy in the Internet Age, Amsterdam University Press

Asher-Schapiro, A. (2014) Against Sharing, 19 Sept 2014, Jacobin Magazine: https://www.jacobinmag.com/2014/09/against-sharing/

Agyeman, J., McLaren, D. and Schaefer-Borrego, A. Sharing Cities, Friends of the Earth: http://www.foe.co.uk/sites/default/files/downloads/agyeman_sharing_cities.pdf

Belk, R. (2007) Why not share rather than own? The Annals of the American Academy of Political & Social Science 2007, 611-126

Bellotti, V., Carroll, J.M., and Han, K. (2013) Random Acts of Kindness: The Intelligent and Context-Aware Future of Reciprocal Altruism and Community Collaboration. *Proc. CTS 2013,* IEEE (2013), 1-12

Bellotti, V., Cambridge, S., Hoy, K. et al (2014) Towards community-centered support for peer-to-peer service exchange: rethinking the timebanking metaphor, ACM CHI'14, 2975-2984

Benkler, Y. (2004) Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production, Yale Law Journal, 114 (November), 273-358.

Botsman, R. (2013) The Sharing Economy Lacks a Shared Definition: giving meaning to the terms, Collaborative Lab, online presentation: http://www.slideshare.net/CollabLab/shared-def-pptf

Botsman, R. and Rogers, R. (2010) What's Mine is Yours : The rise of collaborative consumption, Harper Business

Boyle, D., Coote, A., Sherwood, C. and Slay, J. (2010). Right Here Right Now: Taking co-production into the mainstream, NESTA

Bramall, R. (2013) The Cultural Politics of Austerity: Past and Present in Austere Times, Palgrave Macmillan

Brereton, M. and Ghelawat, S. (2010) Designing for participation in local social ridesharing networks: grass roots prototyping of IT systems. PDC'10, 199-202

Bria, F., Almirall, E., Baeck, P., Halpin, H., Kingsbury, J., Kresin, F., van Tongeren, S. and Tait, J. (2014) The Digital Social Innovation report, 2014, European Union, D4 Second Interim Study Report

Brynjolfsson, E. and McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies, New York, W. W. Norton & Co.

Cahn, E. (2009) It's the Core Economy stupid: An Open Letter to the Non-Profit Community: http://timebanks.org/wp-content/uploads/2014/01/CoreEconomyOp-Ed_001.pdf

Cawson, A. (2013) The End of Neoliberalism: A public lecture by Professor Alan Cawson, given to the Political Science Department at the University of Crete on 22 October 2013: https://www.youtube.com/watch?v=VzgT6suUopQ

Cocozza, P. (2014) A day in the life of a London Boris bike, The Guardian, 26 July 2014: http://www.theguardian.com/lifeandstyle/2014/jul/26/day-in-life-boris-bike

Coote, A. and Goodwin, N. (2010). The Great Transition: Social justice and the Core Economy, London, New Economics Foundation

Corkery, M. and Silver-Greenberg, J. (2014) Miss a Payment? Good Luck Moving That Car, New York Times. 24 Sept 2014: http://dealbook.nytimes.com/2014/09/24/miss-a-payment-good-luck-moving-that-car/

Crompton, T. (2010) Common Cause: The Case for Working with our Cultural Values, WWF-UK

Dorst, K. (2008). Design research: a revolution-waiting-to-happen, Design Studies 29, 4-11

Edelman, B. and Luca, M. (2014) Digital Discrimination: The Case of Airbnb.com, Working Paper 14-054, Harvard Business School: http://www.hbs.edu/faculty/Publication%20Files/14-054_e3c04a43-c0cf-4ed8-91bf-cb0ea4ba59c6.pdf

Evans, P. (1996) Government Action, Social Capital and Development: Reviewing the Evidence on Synergy, World Development 24(6), 1119-1132

Gauntlett, D. (2011) Making is Connecting, Polity Press

Grice, H. P. (1975) Logic and conversation, in (eds Cole, P and Morgan, J.L.) Syntax and semantics: Speech acts, New York, Academic Press, 41–58

Hamblen, M. (2014) Verizon Auto Share service to launch later this year, Computerworld, 8 Sept 2014: http://www.computerworld.com/article/2602872/verizon-auto-share-service-to-launch-later-this-year.html

Heise, U. (2008) Sense of Place and Sense of Planet: The Environmental Imagination of the Global, Oxford University Press

Heitlinger, S., Bryan-Kinns, N. and Jefferies, J. (2014) The Talking Plants: An Interactive System for Grassroots Urban Food-Growing Communities, Proc. ACM CHI'14

Hester, R. (1984) Labours of love: a model for community design, in (eds Langdon & Cross, N.) Design and Society, Design Council, 138-142

Hipp, J. R. and Perrin, A. (2006) Nested Loyalties: Local Networks' Effects on Neighbourhood and Community Cohesion, Urban Studies, Vol. 43, No. 13, 2503–2523

Hollis L., (2014) The Heart of Urban Resilience is Trust, Not Technology, Shareable.net blog 2 April 2014: http://www.shareable.net/blog/the-heart-of-urban-resilience-is-trust-not-technology

JRF (2014) Practical action to build community resilience, Joseph Rowntree Foundation, March 2014: http://www.york.ac.uk/media/sei/documents/publications/community-sustainability-environment-summary.pdf

Kessler S., (2014) Pixel and Dimed on Not getting by in the gig economy. Fastcompany.com: http://www.fastcompany.com/3027355/pixel-and-dimed-on-not-getting-by-in-the-gig-economy

Kiessling, T. (2013) Culture of Sharing to Expand the Internet of Things, Wired Innovation Insights, October 23, 2013: http://insights.wired.com/profiles/blogs/connect-and-share-the-network-of-things-is-expanding

Light, A. and Miskelly, C. (2008) Brokering between Heads and Hearts: an analysis of designing for social change, in Proc. DRS 2008, Sheffield, July 2008

Light, A., Miskelly, C. and Thompson, S. (2008) An analysis of building habitat with networked tools, Proc. ACM OzCHI'08, 180-187

Light, A. (2011) Digital interdependence and how to design for it, interactions, 18 (2), March + April 2011, ACM, New York, NY

Light, A. and Akama, Y. (2104) Structuring Future Social Relations: The Politics of Care in Participatory Practice, Proc. ACM PDC 2014

Louridas, P. (1999) Design as Bricolage: Anthropology Meets Design Thinking, Design Studies 20 (6), 517-535

Makwana R. (2013) Values and the Sharing Economy, Shareable.net blog, 28 February 2013: http://www.shareable.net/blog/values-and-the-sharing-economy

Morozov, E. (2014) Don't believe the hype, the 'sharing economy' masks a failing economy, The Observer, 28 September 2014: http://www.theguardian.com/commentisfree/2014/sep/28/sharing-economy-internet-hype-benefits-overstated-evgeny-morozov

Mortberg, C. and Stuedahl, D. (2010) Why Do The Orders Go Wrong All The Time? Exploring sustainability in an e-commerce application in Swedish public school kitchens, Information, Communication & Society, 13 (1), 2010, 68–87

Orsi J. (2009) Four Degrees of Sharing. Shareable, 16 Sept 2009: http://www.shareable.net/blog/four-degrees-of-sharing

Orsi, J., Eskandari-Qajar, Y., Weissman, E. et al (2013) Policies for Shareable Cities: A Sharing Economy Policy Primer for Urban Leaders, Shareable and the Sustainable Economies Law Center

Ostrom, E. (1990) Governing the Commons: The Evolution of Institutions for Collective Action, Cambridge University Press

Ostrom, E. (1996) Crossing the Great Divide: Coproduction, Synergy, and Development, World Development 24(6), 1073-1087

Ostrom, E., Parks, R. B., Whitaker, G. P. and Percy, S. L. (1978) The Public Service Production Process: A Framework for Analyzing Police Services, Policy Studies Journal 7(s1), 381.

Phills, J.A ., Deiglmeier, K. and Miller, D.T. (2008). Social Innovation: Rediscovering Social Innovation, Stanford Social Innovation Review: http://www.ssireview.org/articles/entry/rediscovering_social_innovation

Reimerink, L. (2014) What Happens When an Entire Neighborhood Starts Using an App for Borrowing Housewares, Citylab.com, 4 Sept 2014: http://www.citylab.com/tech/2014/09/need-to-borrow-a-cup-of-sugar-theres-an-app-for-that/379655/

Rowe, J. (2013) Our Common Wealth: The Hidden Economy That Makes Everything Else Work, Berrett-Koehler

Rowland, C., Goodman, E., Charlier, M., Light, A. and Lui, A. (2015) Designing Connected Products: UX for the Consumer Internet of Things, O'Reilly Media

Sennett, R. (2013) Together: The Rituals, Pleasures and Politics of Cooperation, Allen Lane

Singer, N. (2014) In the Sharing Economy, Workers Find Both Freedom and Uncertainty. New York Times, 16 August 2014: http://www.nytimes.com/2014/08/17/technology/in-the-sharing-economy-workers-find-both-freedom-and-uncertainty.html?_r=0

Simms, A. (2012) The New Materialism: better not more, NEF Blog, 26 November 2012 http://www.neweconomics.org/blog/entry/the-new-materialism-better-not-more

Simms, A. and Potts, R. (2012) The New Materialism: How our relationship with the material world can change for the better, bread, print & roses, Schumacher College and The Real Press

Slay, J. and Penny, J. (2013) Surviving Austerity, New Economics Foundation: http://www.neweconomics.org/publications/entry/surviving-austerity

Steed, S. (2013) Money and Giving: Do financial incentives deter or encourage co-operative behaviour? , New Economics, Foundation: http://www.neweconomics.org/publications/entry/money-and-giving

Sterling, B. (2014) The Epic Struggle of the Internet of Things, Strelka Press

Stephens, L., Ryan-Collins, J. and Boyle, D. (2008) Co-production: a Manifesto for growing the core economy, London, New Economics Foundation

Stokes, K., Clarence, E., Anderson, L. and Rinne, A. (2014) Making Sense of the Collaborative Economy, NESTA and Collaborative Lab, Sept 2014

Tonkinwise, C. (2012) Sharing Trust: Tasteful Designs of Social Systems, Trust Design Publication 4: Public Trust, Premsela Foundation

Troncoso, S. (2014) Is Sharewashing the new Greenwashing?, 23 May 2014, P2P Foundation blog: http://blog.p2pfoundation.net/is-sharewashing-the-new-greenwashing/2014/05/23

Tsur, M. and Belsky, L. (2014) Why the sharing economy is bad for friendship, 16 March 2014, Forbes http://www.forbes.com/sites/deborahljacobs/2014/03/17/why-the-sharing-economy-is-bad-for-friendship/

Warneken, F. and Tomasello, M. (2008) Extrinsic Rewards Undermine Altruistic Tendencies in 20-Month-Olds, Developmental Psychology 44 (6), 1785–1788

White, R.J. (2009) Explaining why the non-commodified sphere of mutual aid is so pervasive in the advanced economies: Some case study evidence from an English city, Int. J. Sociology and Social Policy 29(9/10) 457-472

Wiggin, T. (2014) Taskrabbit, symbol of sharing economy, pivots focus on home services, inman.com, July 2014 http://www.inman.com/2014/07/10/taskrabbit-symbol-of-sharing-economy-pivots-to-focus-on-home-services/

Yglesias, M. (2013) There Is No "Sharing Economy", Slate.com, 26 December 2013: http://www.slate.com/blogs/moneybox/2013/12/26/myth_of_the_sharing_economy_there_s_no_such_thing.html

Yu, R. (2012) America's new business model: Sharing, USA Today, 16 July 2012 http://usatoday30.usatoday.com/tech/news/story/2012-07-15/social-sharing-economy/56243142/1

"If we want to understand design for sharing, we must balance a study of technological opportunity with analysis of the practice of people enabling sharing and building infrastructure on the ground. These are the people who are taking sharing from the level of serendipitous encounters to a more organised and mobilising series of engagements."

"The value of sharing means that you have access to new resources and they are people resources as well as material resources - so that, for me, sustainability is linked to the combination and you can start being creative. But you have to trust people and break down the barriers."

"You're making yourself a bit worse off because you're giving away some of your possessions, but the overall cumulative thing is that everyone becomes enriched by it: lots of people making a very small sacrifice."

"We've built a site that we hope to be global, but you can only ever build a site for an audience that you know and understand. … you make a connection and you all feel the better for it. There's the practical thing, but I think the emotional connection for community is really important."

Design for Sharing, by Ann Light and Clodagh Miskelly, is the summary report of the eponymous project, 2014