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# Sharing Economy vs Sharing Cultures? Designing for social, economic and environmental good

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**Abstract.** This paper explores the story behind a crowdfunding service as an example of sharing technology. Research in a small neighborhood of London showed how locally-developed initiatives can differ in tone, scale, ambition and practice to those getting attention in the so-called *sharing economy*. In local accounts, we see an emphasis on organizing together to create shared spaces for collaborative use of resources and joint ownership of projects and places. Whereas, many global business models feature significant elements of renting, leasing and hiring and focus only on resource management, sometimes at the expense of community growth. The service we discuss is based in the area we studied and has a collective model of sharing, but hopes to be part of the new global movement. We use this hybridity to problematize issues of culture, place and scalability in developing sharing resources and addressing sustainability concerns. We relate this to the motivation, rhetoric and design choices of other local sharing enterprises and other global *sharing economy* initiatives, arguing, in conclusion, that there is no *sharing economy*, but a variety of new cultures being fostered.

**Keywords:** sharing, design, place, sustainability, exploitation, collaborative consumption.

## 1 Introduction

The *sharing economy* has been called disruptive: ‘a shift toward a more sustainable consumption pattern’ [1] and a case of ‘sharewashing’, where the language of sharing is used to promote new modes of selling [2]. We explore this tension, contrasting it with the idea of *sharing culture* and examining the approach of one digital service, launched among many local community initiatives which regard sharing as both environmentally and socially sustaining. To do so, this paper looks at definitions of sharing and explores the positioning of a crowd-funding service that is being run from a shop in the South London neighborhood of Brockley, before reflecting on whether grouping services as part of the *sharing economy* is meaningful in terms of practices and commitments. We conclude by asking what it is to design technology for sharing if we take environmental, social and economic aspects seriously in a way that reflects lessons from work on the ground, as well as from the mediated realm of new peer-facilitated, networked applications.

## 2 Background

Belk [3] defines sharing as ‘alternative to the private ownership that is emphasized in both marketplace exchange and gift giving’ (p127). In sharing, two or more people may enjoy the benefits (or costs) that flow from possessing a thing and this may be organized as 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. He points to things that one can share without losing them, such as web sites or digital music files (p132), but makes the case that, whereas much economic activity avoids feelings of commitment, sharing promotes it, with the potential for lingering indebtedness and residual feelings of friendship (p127). This suggests something intrinsically social to sharing that differs from other forms of exchange. Benkler [4] concurs, contrasting social exchange, which relies on ‘tacit, learned, and culturally reproduced capacities to read and interpret social settings, communicating information with great subtlety and nuance’ (p315) with the precision, formalization and impersonal nature of markets. Benkler makes a clear distinction between 1) the mechanisms of secondary markets and 2) 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. Thus, eminent scholars from marketing and economics converge when they stress the difference between market exchange and the processes that happen less formally in the practices of mutual aiding and support (e.g. [5]). If sharing belongs to an economy, it is the ‘core’ economy, of which Cahn speaks [6], which resists monetary value. In fact, Benkler (ibid) warns that optimizing our institutional systems for price-based production undermines sharing at a time when technological changes that improve the efficiency of social sharing mean it should be the engine of our societies (p281).

It is interesting to contrast this view with *sharing economy* commentators. Botsman defines 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’ [7]. In these peer-to-peer marketplaces, Bellotti et al. note, ‘Commercial peer-to-peer service exchange businesses, such as AirBnB, Lyft and TaskRabbit, are expanding rapidly, but their non-profit counterparts are lagging behind’ [8]. However, the very talk of marketplaces runs contrary to definitions of sharing held previously, such as those above, which highlight why sharing is not part of the market, even if it involves the management of resources, i.e. economics. What has happened to the idea of sharing in these new services? How do commercial and digital features relate to the social side of sharing? Can there be a *sharing economy*?

## 3 Method

To begin to answer these questions, we looked at two sources of material. The first was gathered by interviewing change-makers in a small neighborhood; the second, by examining the websites of some *sharing economy* digital services. Our case study in

the next section involves a fascinating cross-over, where a digital service was being launched in this local area, and where a collaborative sharing of resources meets a commercially-ambitious global website.

**Local Studies:** 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. These people are ‘everyday’ social designers, described by Light and Miskelly as changing their world out of passion, rather than following formal design approaches [9]. The seven initiatives we considered were a crowdfunding service for presents, microlibrary, community-asset pub, community garden, communal workshop space, timebank and conservation society. This list was drawn up after initial research into community action in a locale well known to the principal researcher. While it was not an exhaustive list of all initiatives, our research was governed by what was lively and relevant at the time and what would give a good overview and spread of issues, relying on the network and judgment of the researcher in role as participant-observer. Further, we defined the area as one that could be reached on foot from a central point within a 30-minute walk, as being about as far as anyone would go to borrow something in their neighborhood. It can be seen that the sample is varied and represents a good range of possible collective activity.

We chose the area in the London Borough of Lewisham known as Brockley for many reasons. Apart from good connections in the area, which facilitate a short intense study, it is a place of 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 incomes, and occupations. There are families of all ages, houses of multiple occupation, couples and lone occupants. The area has a thriving hyperlocal news site (mentioned as a model example), which was useful in finding out about local activity. And there are a range of sharing practices and related activities, both recently initiated and longstanding (see [10]).

The interviews were informal, but each participant was asked about definitions of sharing and use of information and communication technologies (ICT) as closing questions. We quote from interviews with permission from the participants.

**Website Review:** We also conducted a review of digital services for sharing in late 2013. 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, looking at services that came to prominence in the media as examples of the sharing economy (e.g. [11]) and others that self-identified as part of this movement, sampling for a range of approaches and business models. We undertook what we might call an ‘expert review’, 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 *sharing economy* projects and organizations and how different types of sharing affect and are affected by these factors: for example, collaborative consumption, commercialization, loss, trust and maximization of resources to avoid waste.

In both contexts, we examined practice, organization and the types of facilitating tools used – whether these were bespoke digital, ‘every-day’ digital or analogue. We looked at understandings of place and locatedness, purpose, definitions of sharing and founding narratives as part of trying to understand the common points and difference in our two sources of material. Here we present a sample of our findings.

## 4 Case Study of a Digital Sharing Service

Patchwork Present ([www.patchworkpresent.com](http://www.patchworkpresent.com)) is an online business, based in a shop in Brockley, that supports groups of people buying a single collective present. An item, such as a bicycle, or series of elements, like those making up a honeymoon, is divided into small, manageably-priced bundles, shown in a patchwork image on the site, under the slogan: "Get friends and family together to fund one gift that's really wanted – piece by piece". Then each contributor pays for one part and the site levies a fraction of the cost – a form of crowdfunding. We quote extensively from an interview with Olivia, who set it up, to show the ideas behind it.

Olivia launched the service after working in marketing and an environmental charity. It is a business that, she says, she can 'totally believe in' in that it 'doesn't sell people anything. It's a site that enables you to collect money globally and spend it locally.' The idea came in planning her honeymoon, when she created a website to suggest parts of her wedding to friends for them to support: '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: a physical thing like two beers in a bar, or a night in a hotel or a diving trip.'

The business idea emerged when she felt her idea of consolidating present money to buy a single valuable thing would be scalable: '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.' It has the virtue of being an idea familiar already, but not easily executed. 'So this is just another platform that lets people help each other out. 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?"'

Olivia looked for an office in London's Shoreditch – known as Silicon Roundabout – when the business outgrew her kitchen table, but the prospect of renting 'a tiny, ridiculously overpriced warehouse unit for a ton of money' led her to consider other venues more local to her home: 'This shop had been empty for 7 months and I kept walking past and I just thought "Hold on a minute... Why shouldn't we have a shop?" Not only was this less expensive, but Lewisham Council waives business rates for some classes of small business. It made sense. There are now three staff in the shop.'

Without the means to fund the business during start-up, Olivia had to be creative: '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, 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.' The company managed to raise £250,000 in two and a half weeks.

The service levies 3%: 'If a friend contributes £10 towards a bottle of wine in a bar, we take 30p.' Olivia likens it to 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 - 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...'

But control of the company has allowed her to set a figure based on perceived market, rather than immediate profit. '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 that balance between what's being paid for and the benefit of paying for a service that makes that financial transaction more fun and interesting and real and personal. 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.'

The site allows for customisation, both in choosing images, prices and so on and in then allowing you to send a personal "thank you" to the individuals who bought each piece: 'You can send pictures of you drinking your beer on the beach to all the people who bought the beer.' 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 further. An engaged couple not only made a patchwork themselves, they've staged all the things they want to do and then photographed themselves doing it, uploading this to the patchwork. Olivia points to the joy in this, off-setting the effort of using it.

Of particular interest here is the company's specific presence in the locale in which it operates, including a shop front. Just as it is a curious hybrid of collective sharing activity in a commercial site, so it has more of a physical presence than many digital services. We quote Olivia on this in some detail: '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.

'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 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.'

Brockley may not have been the first choice, but she now sees it as a very good fit. 'There's just tons of stuff going on and 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 level of creativity that a community has.'

#### 4.1 Fitting into the Local Context

As we have noted, Patchwork Present is both a business and part of our study of local activity in Brockley. Among the activities we investigated closely, it was the only one that involved a collective model and a profit motive. We now give a flavour of the characteristics of the other initiatives in Brockley that we drew on.

*The microlibrary* sits on a busy main road in a former BT phone box, full of books. It was adapted over the course of a week by a local resident. 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, used and maintained by the neighborhood.

*Mensheds workshop space*: Mensheds (<http://www.mensheds.org.au>) started in Australia as a forum to address men's 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 to socially isolated older men. Our interviewee was setting up one of the first in Britain, along with a UK Men's Shed Association, funded by the Sainsbury Trusts.

*Rushey Green Timebank* 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. Numbers have grown continuously and the bank is now working towards a distributed model, with five hubs across Lewisham. The practice that it set up saw it as a remedy for issues not easily treatable, such as motivation and esteem. It has won awards for its work in community health and influenced the growth of other banks.

*The Ivy House community-asset pub* is 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 2011, invoked in haste to avoid redevelopment. It is owned by hundreds of local share-holders.

*Breakspears Mews Community Garden* was a run-down fly-tipping area where dodgy car repair businesses plied their trade. Big houses look over it on one side, while, on the other, are council flats. People from both helped in its transition, led by a passionate, tireless local woman.

*Brockley Society* is a conservation society set up to represent the interests of people living in Brockley Conservation Area, monitoring planning issues there and beyond. Its free printed newsletter is delivered three times a year to 4,000 houses. It runs a 'Midsummer Fayre' and supports the community garden, an annual 'front garden' rummage sale and a group of 'tree wardens' who care for local trees.

All these activities take hard work, determination, ingenuity and luck. From the cleverness of Sebastian's microlibrary, to the persistence that led Jane to launching the community garden to the rapid response team saving Tessa's local pub from closure, the people interviewed reveal significant contributions to their community. The management issues involved are daunting. The garden, in its second year, is still organising a system for distributing land and produce. Alys gives a vivid account of keeping several sets of people happy so there will be both members and volunteers when the sheds appear. All these endeavors build spaces – some virtual, like the conservation society and the timebank; some physical like the garden, library, shed and pub – where people come together and collaborate thus enhancing the community. This goal of creating and working together in shared space takes

emphasis away from what one person can give another - or even reciprocal exchange - and puts focus on what happens when people gather to share resources.

Significantly, people are all 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. Every interviewee spoke of other initiatives in reference to their own. Not least, as Olivia says, the area has developed a character that includes such support, so no one is surprised when another initiative takes root locally. Importantly for those doing the initiating, others are willing to help. Not only are there many communal assets; there is the local *relational* asset of having a rich culture to draw on and to use for support. This might be called a 'sharing culture'.

In the words of one study participant: 'The value of sharing is people connecting. It's a social value. It goes beyond "I've got a spare drill, you can use that" [though] there are probably several drills in the street that are barely used. 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 neighborhood. It means that we're not buying into the consumer society.' (Philippe, timebank). This works at multiple levels: while Philippe is applauding the benefits of looking beyond resource management to community-building, he is looking too at the culture created.

## 5 Sharing in the *Sharing Economy*

In the previous section, we looked at a new digital service *in place*, some other local initiatives and the wider culture, which makes it a supportive location for launching a new service with a collective model of activity. In this section, we look at the broader context of new 'sharing' activity, characterised by the *sharing economy*.

We have noted that the *sharing economy* includes practices not traditionally considered as sharing, having a different social and economic model. Many services are included in this economy because they share resources, despite using a financial model and thereby breaching usual definitions. Zipcar, now a subsidiary of the Avis Budget Group (a global car rental business), sets up car clubs and stations vehicles accessibly in neighborhoods, using new technology to unlock them for booking and to take payment. It is hailed as an early *sharing economy* start-up. Interestingly, a launderette chain shares the business model: providing locally-situated resources for people to use at a small fee and for an allotted amount of time – this service is now on the decline, since more homes have washing machines. Resources are shared in these services, but to use a service like this – or the municipal bike-sharing services that are popular in major cities - does not require anyone to come into contact as part of the rental. Be it a council-run service or business, the renting of transport is actually less social than using a launderette. While most of the services we studied in Brockley bring people into contact with each other, many resource-sharing models do not have a social element. Their infrastructure works at a scale beyond local cooperation and makes no space for it, unlike the common semi-informal arrangements of sharing a car between neighbors/friends and car-ride sharing. Zipcar is designed as a paid-for business that scales up across continents. Nobody need meet, exchange emails or share a vehicle. Patchwork Present falls into this group of services: a way to improve

efficiency of resource use without the need for contact. We can ask what makes this different from public transport (such as trains run by a municipality) or global businesses providing local services. What is new is that people with a common goal can easily find each other and/or the resources they seek and thus meet their needs in new ways, with the possibility of peer-to-peer engagement.

By contrast, and unlike Patchwork Present, there are *sharing economy* tools that bring people together physically as part of the service. For instance, Uber, a media favorite of the sharing economy (e.g. [12]), brings a driver with a private car and a passenger together in a formal transaction, like a taxi. This is set up through the Uber service and Uber's owners levy a percentage, just as a taxi company would. What differs from normal taxi-driving is not that owners use their own cars (which is often true for licensed cab drivers too), but that Uber has a convenient app that is open to the public, unlike the bidding app that many cab companies use to allocate jobs. Uber, at time of writing, was being challenged to conform to regulation on fares or who drives. Currently, it is open to any drivers who can pass the site's vetting and Uber has no responsibility for what happens on the drive (*ibid*). This is an interesting challenge as a social model, since it also outside the scope of neighborhood trust and the social regulation that shames poor behavior in community settings. Abuse of drivers and passengers is high profile (*ibid*). It may be that the business is benefitting from the chance to disrupt, not business models as reported [13], but the 20<sup>th</sup> century social and legal contracts brought in to protect workers and customers.

The media discuss better resource management and a nascent culture that focuses on access, not ownership. This abstracts the *sharing* involved to the aggregation of users and vehicles, much as (the seemingly invisible coordination of) public transport has done through the 20<sup>th</sup> century. (In taking people out of both taxis and *buses* [14], one could argue that Uber is actually sabotaging existing resourcefulness.)

A quality that unites these new types of interaction is that it is possible to do things at a remove, through a network. AirB&B stresses this feature even in its name. People with a spare room can be found by people wanting to stay in their area, at distance, with a quick digital search. Relatedly, no one has to introduce two people to do this; brokering and vetting can be done with a mediating technology. The trust we place in accepting others into our lives no longer revolves round mutual acquaintance (or other personalized introductory mechanisms) but can now be linked to validation tools, through networked financial identification systems. Payment can be made through the same network. Similarly, no one has to find and buy a car to share with neighbors or manage the insurance. Car sharing can be handled by distributed tools, such as remote locks for club cars that answer to a central booking system that apportions time.

All these functions are features, not of sharing *per se*, but of using networks to connect up people and things. We can better exploit resources across distance. More people can get involved. And distribution of these systems across the internet allows them to scale quickly, making for a new class of technology-dependent business.

What happens to sharing? If machines remove the need for personal negotiations – vetting for creditworthiness, agreeing sums, arranging a neighborhood schedule for use – people are spared a lot of awkwardness. We are left with (at least) the vision of a smooth encounter, which is more socially desirable. In the short-term, this lessens the barrier to use. However, people do not have to practice many of the cooperative tasks that were formerly essential to community life. Taking the personal element out

of negotiations can have stark implications. We mentioned that people transacting through Uber have few legal or socially-derived protections. They are not alone. Taskrabbit, another success of the *sharing economy*, is a marketplace for small jobs. The website rhetoric is of helping one's neighbor, but the business model involves people in need of work bidding against each other to complete menial tasks [15]. Tasks are distributed by the site, so the client need never know how much they have paid per hour for someone's time. The "neighbors" may meet in the handover of the task and even build a social relationship, but weakly regulated market economics means there is no sharing; instead it is made painless for people to exploit someone more economically vulnerable. This seems the very opposite of sharing.

Are all new initiatives associated with the rhetoric of the *sharing economy* this impersonal and even exploitative? No. There are groups that exist to advocate sharing and communicate opportunities to do so, such as Ouishare, The People who Share and Peers, also using networks to reach audiences. They speak of the joy that people find in using new means to link up and share services with others. But new uses of the language of sharing obfuscate what sharing has meant to date, the work involved and its social value. And advocacy sites contribute to this blurring. None of these sites look overtly at how private and/or corporate ownership predominates. For instance, the Ouishare website makes no distinction between types of exchange, describing 'seamless circulation of products and services among individuals through sharing, swapping, trading, renting, borrowing or giving, fostering access over ownership and reducing waste.'

It is only when we look to networked services like Freecycle (an email service which helps people give away unneeded things) and Couchsurfing (which allows travelers to find *free* spare rooms to borrow in exchange for some skill or entertainment) that we see an emphasis on the *alternative* economies of sharing, giving and reciprocating. These earlier tools are disappearing from public awareness, superseded by the arrival of glossier, for-profit rivals that use advertising to promote their offerings and invest in taking the risk out of the ensuing interactions.

## 6 Between Local and Global

We have considered some local initiatives - and the sharing culture that has arisen - and some dominant *sharing economy* trends. We now we return to Patchwork Present (PP) and it is immediately possible to see that, as a service charging for managing money over distance (a crowdfunding mechanism for presents) deliberately embedded in an environment that plays up its sharing character, it has interesting social features.

Olivia expresses her business vision in environmental and social terms: avoiding the purchase of unwanted presents. This pattern is repeated on many commercial sites - the social is invoked. However, PP brings together people who wish *collectively* to do something for someone else. Many will be known to each other as friends of the recipient. They respond to a patchwork of suggested support by buying into the whole. The outcome is an aggregation of resources that collectively helps an individual. This is a genuinely social model. So, while PP does not need to bring people into contact - either physically or virtually - it does involve them in an activity

that could not happen without a sense of collective connection and a loyalty to the gift's recipient. This is different from the collective convenience of, say, Zipcar, Uber and Taskrabbit, though sharing its networked features. The diagram (fig 1) shows a range of dimensions we can use to assess activities and how services measure.

PP deals with money, but resists the disembodiment that can arise in dealing with virtual goods. Money, the shared commodity, is rendered material through design that uses images to present a patchwork of items; offers a 'thank you' mechanism that reinforces the idea of actual goods; and equates the cost of the service to the wrapping paper round a present. Olivia talks of the opportunity to "collect money globally and spend it locally". For her, it comes down to specific items acquired in a particular locale and this ties the service to location. We see this same personal attachment to place in her rationale for setting up a shop in her local community. It was not part of the business model and there does not need to be a local base to her project, but she has embraced it as meaningful to her and the business' values. In this relation to place, it contrasts with other Brockley initiatives; the garden, timebank and shed projects are culturally- and physically-located in particular places. But Brockley has become an influential part of PP's identity as the service starts out and needs to imagine a client group. Despite its ingenious funding, PP is not a company backed by the kind of serious money that has propelled the likes of Taskrabbit and Uber into highly publicized global reach. Its success will depend on attracting a large following to make it commercially viable, but, while it builds a base, it starts out personally, with staff on hand to explain the idea locally, and the promise to continue similarly.

This uncharacteristic choice, partly compensation for lack of advertising budget, helps us consider issues of place and culture, critical mass and scale. In Brockley, we see initiatives that deal with the specifics of place and culture in different ways. The micro library cannot scale, but it is being replicated, aided by Sebastian's blow-by-blow account of building it, posted on social media. The community garden is a well-known urban feature, but the blend of inhabitants in the Mews is distinct to Brockley while other factors, such as growing conditions and the space in use, are also a feature of the place and all gardens handle perishable goods with time-sensitive demands. The sheds are an international idea finding expression in new parts. How the shed shapes up in Lewisham will be highly contingent – a meeting of cheap, accessible tools (what local businesses are throwing away) and what the members of the shed decide they need. Only PP is offering a scalable service, networked and intended to grow, as distinct from a scalable idea. Only PP needs to worry about a global uptake.

On the other hand, PP does not rely on local clusters to make it effective, as the timebank, Uber and Taskrabbit do: sharing money can be done remotely; swapping labor cannot. Without members within walking distance, one cannot motivate use of a timebank. Uber drivers need to be in the same vicinity as their fares. Any service that depends on bringing people together physically for activities needs to consider time and distance with this in mind - true of all services that broker situated resources.

So, we can see that local initiatives in Brockley have different constraints and commonalities, as do global, commercial initiatives. Across local accounts, there is an emphasis on organizing together to create shared virtual and physical spaces for collaborative use, with joint ownership. In *sharing economy* accounts, stress has been on transformation of resource use – and, across the whole gamut, the term "sharing" may be understood in this respect only. Networked, distributed, individualizing tools

are doing something different in terms of scale as well as uptake; of geography and cultural relevance as well as location; of neighborhood relations as well as sociality. The variations appear in Fig 1, where no two services are the same.

	collective (vs individualized) actions	physically located exchange	based in collective space	joint ownership of shared resources	for profit (vs community)	currency-based	paid-for service	paid-for access to service	reciprocating (vs gifting/renting)	need for clusters (vs distributed participation)	finite resources (vs infinite)	perishable/time critical	critical mass needed	scalable core (vs replicable)	digital network dependent
Patchwork Present	y	n	n	y	y	y	n	y	n	n	y	m	y	y	y
bike rental	n	y	y	m	m	y	y	n	n	y	y	n	y	n	y
Freecycle	n	y	n	n	n	n	n	n	n	y	y	m	m	y	y
file sharing	m	n	n	n	n	n	n	n	m	n	n	n	n	y	y
AirBnB	n	y	n	n	y	y	y	y	n	y	y	n	y	y	y
Taskrabbit	n	y	n	n	y	y	y	y	n	y	y	n	y	y	y
community garden	y	y	y	y	n	n	n	n	y	y	y	y	y	n	n
timebank	n	y	m	y	n	y	n	n	y	y	y	m	y	n	n
M <sup>2</sup> library	y	y	y	y	n	n	n	n	m	y	y	n	n	n	n

**Fig 1: Characteristics of ‘sharing’ activities: yes (y), no (n) and maybe (m).**

We can see that PP is one of many hybrids: part of the networked economy, but with an approach that is unusually grounded and a collective model of engagement. What we cannot see, in studying its features, is that Olivia is knowingly benefitting from the local relational asset of mutual care and ad-hoc exchange of infrastructural resources, both of which play a locally-acknowledged part in the growth of services.

This asset – being part of a culture of sharing – cannot be rendered alongside other qualities in a simple graphic. It is an invisible part of a single service, only discernible if viewed as part of the mesh that shared infrastructures of sharing can create.

We make this point with awareness that cultures are influential, whether they stress sharing as an activity for those owning property, with financial costs attached and social awkwardness extracted, or whether they bring people face-to-face to negotiate life together, emphasize collective models of engagement and bring new resources into the lives of others. Cultures where accountability has been offset into digital networks will be different in texture from those where accountability resides in neighborhood interactions. Cultures that emphasize shared resources – and shared making and supporting of shared resources - will be qualitatively different from those where the infrastructure is beyond reach of participants. Cultures inform expectations about behavior, so we can expect them to inform the meaning of sharing in the future.

## 7 Sharing Culture vs Sharing Economy?

What happens if we question the validity of calling this trend in networked service provision a 'sharing economy?' This paper has done a lot to debunk the idea. We can pick apart types of benefit to come from sharing: environmentally astute resource management; social bonds strengthened by the work of collaborating; and economic value in making goods go further. We can add a further, more intriguing outcome of certain trends, which is a culture attuned to people's needs and opportunities, where the density of collaborative activity makes it safe to experiment with new models. We have looked at how far these are represented in the initiatives we have discussed here.

Resource management is, of course, vitally important as the world faces finite and diminishing natural materials. 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' [16]. Payment facilitates the growth of these services and this model makes space for services of the kind we are seeing, where use of spare capacity is creating secondary and new markets drawn by ideas of access rather than ownership. These markets are highly technologized. For instance, for free-floating car sharing, GPS receivers in the vehicles and an app that shows all available cars on a map are needed to engage users [17].

These mechanisms require centralized organization, but no local intervention (although this can be built in). This weakens them as a social model, especially where exploitation of resources can include other people. Morozov offers a networked sharing dystopia: 'This sharing imperative dictates that everything that we own, from tangible assets to intangible thoughts, be categorized 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.' [18]. As for its usefulness in staving off environmental catastrophe, this is 'overstated and often risible', instead, big business and power generation companies should rethink their processes (ibid).

Elsewhere, it is argued that community cohesion is a prerequisite for action to create environmental resilience and that we need social infrastructure and associated skills not as a platform but as core to handle crises from other directions (e.g. [19]). If so, bringing things down to the very local, so that large numbers of people become involved, sets this direction in contrast to an explicitly resource-oriented strategy. The two visions are not incompatible, but we notice that scale is important - with smaller infrastructure and organizational platforms favoring social learning and development.

Tools can promote this kind of social wellbeing. They can carefully help manage – not seek to replace – negotiating trust with others; transcend lines of ownership to share more equally and bring people together gracefully, building a culture that goes beyond *place* to an active investment in the institutions that constitute it. All of the initiatives in Brockley have this aim, as well as interest in sustainability. Digital tools are used to help structure and maintain collaborative spaces, and make others aware

of them and the opportunities they present. Systems are informally or locally organized, thus not out of the hands of the local communities that use them. Further creative measures could support contributing to community and love of sharing, without a direct emphasis on management or efficiency (e.g. [20]). Promoting this vitality involves challenging the tendency for only those that have resources, skills and confidence to take up opportunities and for those already disadvantaged to find themselves outside the circle of benefit. This brings in issues of access to resources, including access to digital tools such as Patchwork Present.

Another point is that tools can support entrepreneurs developing new forms of infrastructure and exchange, as well as the practices enabled by them. They can promote trade in imagination, enthusiasm and time. Though none of these are financial currencies, they are connected to sustainability. The initiatives in Brockley run on little money, making use of in-kind support. This includes Patchwork Present, despite its aim to be profitable. As noted, it benefits from the local have-a-go ethos and a culture of sharing across institutional boundaries (not just garden fences). This relational asset is hard to measure, but its presence makes risk-taking safer. It points to the value of social engagement at a structural as well as inter-personal level.

Do the tasks of Taskrabbit, the car-sharing of Zipcar and the taxi-ing of Uber have much in common with these local pursuits? Not really. Do they promote this culture? No. We have argued that there is a huge, hybridized space appearing at the moment, which includes networked services that are dis-intermediated (or re-intermediated with new broker-owners), thus allowing for new peer-to-peer provision. But there is no *sharing economy* and a belief in one is potentially detrimental to community activity. An understanding of sharing as collective – on some level – brings different kinds of interaction into scope. These promote the social case but have limited immediate economic scalability. Nonetheless, replicating the ideas and values evident in this rich soup and enhancing them with digital tools that support further growth could provide a *sharing culture* that is, we argue, more sustainable of life generally. And the interrelationship between environmental, social and economic wellbeing suggests that sharing, while no panacea, offers most when it speaks to all three.

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