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Grassroots initiatives for a bottom-up transition to a circular economy: exploring community repair

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ABSTRACT

The role of grassroots community initiatives remains an underexplored element in the circular economy (CE) literature. Ignoring social considerations and placing focus on economic and nominally environmental goals detracts from alternative approaches to CE transition. We present an empirical case study of a community repair initiative within a deprived community, as an example of a bottom-up grassroots initiative, and an opportunity to shed light on the complex socioeconomic issues at stake within transitional dynamics. Whilst the contradictions and logics of the broader socioeconomic superstructure shape practices of community repair, we emphasise that the situatedness of such initiatives within the material conditions of the local community should not be overlooked. By focusing on the role of community, CE practices can be repoliticised, fostering collective meaning-making amongst individuals, reshaping their relationship with capitalist modes of production, and facilitating a socially just transition.

1. Introduction

Dominant framings of Circular Economy (CE) are rooted in ecomodernist, technocratic, and economic growth-oriented narratives, with a particular focus on the role of private profit-seeking actors, and capital (Genovese and Pansera 2021; Hobson and Lynch 2016; Ortega Alvarado, Pettersen, and Berker 2022). Besides top-down governmental policy, the role of community-based initiatives has been under-explored in fomenting transition at the grassroots level (Purvis, Celebi, and Pansera 2023; Spekkink, Rödl, and Charter 2022). Grassroots CE practices include community composting (Morrow and Davies 2022), waste collection within the social and solidarity economy (Gutberlet et al. 2017), open-source plastic recycling (Spekkink, Rödl, and Charter 2022), and community repair activities.

This paper presents an inductive empirical case study of a community repair enterprise within a deprived area of Sheffield, in the north of England. This contrasts with previous studies which observe a middle-class community dimension (Deflorian 2021; Madon 2022). We considered a broad range of marginalised viewpoints, with a focus on labour, gender and class issues evolving throughout the research process. An exploratory investigation of the enterprise's operation enables critical reflection on the role of bottom-up, grassroots, and community activities in the CE transition. Section 2 begins by problematising mainstream CE approaches, introducing repair and outlining literature contestations. Following our methodology, Section 4 presents empirical

results, focusing on the case's situatedness both within a broad socioeconomic superstructure, and within a specific local community. Finally, our discussion situates our findings within the literature, considers how actors construct narratives of change in relation to community repair, and how such spaces might be up-scaled to realise broader societal change, ultimately considering the place for grassroots initiatives in a CE transition.

2. Circular economy and community repair

While recognising a vibrant debate about different forms of framing circularity, a hegemonic euro-centric discourse based on technocratic and productivist approaches can be identified which is sanitised from social and political implications (Genovese and Pansera 2021; Hobson and Lynch 2016). Such an approach has also been critiqued as "top-down", driven by institutional actors, legislation, and policy goals, at the expense of wider stakeholder engagement and consideration of lives and practices on the ground (Millar, McLaughlin, and Börger 2019). As an alternative, critics have called for a participatory framing of CE that takes into account power, normativity, and global environmental justice (Berry et al. 2022; Clube and Tennant 2023; Mah 2021; Purvis, Celebi, and Pansera 2023; Schroeder and Barrie 2022). The social component of CE is crucial, both to ensure an equitable transition, and change in consumption patterns which are not only behavioural but structural (Bauwens, Hekkert, and Kirchherr 2020; Harris, Martin, and Diener 2021). Framing should be alert to potential rebound effects, likely under reductionist thinking (Zink and Geyer 2017), as well as global dynamics and cost-shifting (Schroeder et al. 2018).

Repair has an important role to play in CE. Zakharova, Glazkova, and Suvorova (2023) link increasing globalisation, overconsumption, and post-scarcity to a sharp decline in the popularity of repair. Within a landscape of hyperconsumption, fast fashion, assetisation, and planned obsolescence, overseen by powerful corporate lobbies, repair is often not straightforward or accessible (Diddi and Yan 2019; Godfrey, Price, and Lusch 2022; McCollough 2009). Rooted in a profit maximisation logic (Montello 2020), structural barriers to repair include limits on authorised commercial repair, lack of clear manuals, design that inhibits repair, and unavailability of replacement parts (Fillman 2023; Roskladka, Jaegler, and Miragliotta 2023).

Scholars have explained the emergence of repair barriers as a consequence of planned obsolescence strategies (e.g. Perzanowski 2022), aimed at intentionally shortening commodity lifespans to encourage replacement purchases by consumers. This is consistent with overproduction crises observed in affluent consumer societies, where Original Equipment Manufacturers (OEMs) release new models at shorter intervals to capture market shares at the expense of competitors. Easy-to-repair products run counter to these dynamics as they encourage longevity of use and longer-term ownership. Such products can be more costly to manufacture and less attractive, in terms of appearance, design and performance (Cooper 2005). In advanced capitalist economies, further barriers to repair can be found in the assetisation process (Birch and Muniesa 2020), where OEMs often market product–services bundles, including maintenance, warranties, and "add-on" services, overcoming the concept of product ownership and tying consumers to post-sales offerings (Hoofnagle, Kesari, and Perzanowski 2019). Such a process allows OEMs to overcome planned obsolescence strategies, focusing on new revenue streams emerging from services bundled with their devices. As such, Lloveras, Pansera, and Smith (2024) argue that barriers are deliberately constructed by powerful OEMs who establish monopolies with tight control over repair resources and services.

In response to such obstacles, a movement for the *Right to Repair* has emerged among both consumer activists, and independent repairers, arguing for legislation that would combat barriers to repair created by manufacturers (Fillman 2023; Grinvald and Tur-Sinai 2020; Montello 2020; Perzanowski 2021). Developments in policy spheres such as the 2024 European Directive on Repair (European Commission 2024), and various state-level legislation in the US (Calboli 2023), signal top-down interest here, despite criticism of the ineffectiveness of some of these policies, and the involvement of corporate lobbying (López Bermúdez and Vence 2024). Lloveras, Pansera, and Smith (2024)

position the right to repair movement as a coalition of heterogeneous actors who offer counter narratives for challenging the hegemony of OEMs, as well as the potential for broader political struggle beyond that of repair. Like the discourse on CE more broadly, it is pertinent to highlight the constellation of politics that can be in danger of being erased here, from repair as an explicit counter-hegemonic threat to capitalist accumulation, to the deliberate monopolisation of repair as an additional revenue stream for OEMs.

Aside from small independent repair businesses, and the repair activities of large OEMs, repair activities often sit outside the formal accounting frameworks of capitalist productivity (Kedir, Williams, and Altinay 2018). This includes often gendered repair activities that take place in the home, recognised as unpaid socially reproductive labour (Martínez Álvarez and Barca 2023), as well as community repair activities. The latter form a distinct mode of volunteer-led and not-for-profit repair that has flourished across Europe and North America in the last decade (Svensson-Hoglund, Russell, and Richter 2023). Alongside small independent repair initiatives, these community activities offer clear potential for a grassroots mode of CE in resistance to monopolisation by OEMs. Such a bottom-up and socially contextual approach implicitly or explicitly challenges the dominant politico-economic order of accumulation and profit (Deflorian 2021; Graziano and Trogal 2017), coherent with a CE which emphasises the active participation of social actors and local communities (Purvis, Celebi, and Pansera 2023).

Distinct waves of "repair cultures" have been documented in Western consumer societies, including the interwar period, DIY movements in the 1960s, and environmental movements from the 1970s (Krebs and Weber 2021). The contemporary movement of "community repair", has been described by Baier et al. (2016) as a "post-capitalist practice", and is distinguished by Graziano and Trogal (2017) in terms of its "collective" ethos. Such activities can be seen as a North American and European phenomenon, arising in the aftermath of the "global financial crisis" (van der Velden 2021). Collective endeavours offer blueprints and guidance for setting up community repair locally, including *The Restart Project*, which launched in London in 2013, campaigns around the Right to Repair, and has developed a data standard for logging individual item repairs. Such platforms engender what Spekkink, Rödl, and Charter (2022) refer to as "translocal" communities, wherein the ingredients of developing transformative potential are gaining critical mass, shared identity, and a political voice capable of influencing institutional superstructures. In this respect, community repair can be seen as an alternative to technocratic and post-political CE discourses which view repair as another route for commodification (McLaren, Niskanen, and Anshelm 2020).

The community repair literature has highlighted drivers and barriers to individuals' engagement in these activities (Cole and Gnanapragasam 2017; Diddi and Yan 2019; Korsunova, Heiskanen, and Vainio 2023; Kurisu et al. 2021; Masclet, Mazudie, and Boujut 2023; Rogers, Deutz, and Ramos 2021). Parajuly et al. (2024) identify a complex web of factors influencing drivers of consumer engagement in repair, grouping factors into three distinct categories relating to individual behaviour, physical infrastructures and economic paradigms, and intervention strategies including education, incentives, and regulations. Niskanen, McLaren, and Anshelm (2021), explore the motivations and meaning making of repairers, suggesting these go beyond material benefits, and include social interaction and community building, and a political dimension that places itself against environmental degradation and commodification. Such findings support authors who seek to explicitly politicise community repair as countercultural or subversive (Graziano and Trogal 2017; McLaren, Niskanen, and Anshelm 2020; Meißner 2021), emphasised by Lloveras, Pansera, and Smith (2024) as a "politics of repair beyond repair", i.e. the coalescing of a broader counter-hegemonic politics beyond the practicalities of repairing material goods.

Moalem and Mosgaard's (2021, 16) argue community repair space offers "strong social function" particularly for pensioners, unemployed, and low-income individuals, alongside environmental, pedagogical, and service goals. Recurrent issues explored in the literature related to labour (Graziano and Trogal 2023), and the socioeconomic status and gender of participants (Rogers, Deutz, and Ramos 2021). Meißner (2021), and Schägg, Becker, and Pradhan (2022) argue that internal power dynamics might discourage the involvement of women and other marginalised groups, suggesting

a disconnect between purported goals and the ability of projects to achieve wider transformational objectives. Such contestation manifests in the reproduction of societal inequities, such as gendered divisions of labour which have been observed within some spaces (McLaren, Niskanen, and Anshelm 2020; Rogers, Deutz, and Ramos 2021). Madon (2022) contends that the working class is underrepresented in terms of usage of repair cafés, perhaps due to unawareness of their existence, cultural barriers, or a lack of engagement time. This is despite arguments that community repair promotes activities that go beyond green consumerism and offer low-cost alternatives to everyday consumption (Bradley and Persson 2022).

Literatures beyond CE also offer various important insights. The relationship between material socioeconomic conditions, and environmental behaviour has received extensive attention in environmental sociology and consumption geographies (Crewe and Gregson 2003; Evans 2019). Various post-materialist hypotheses have characterised sustainable consumption trends as driven by, and appealing to eco-oriented and well-educated, middle-class individuals (Carfagna et al. 2014; Schlosberg 2019). Anantharaman (2022) links these to "performative environmentalism" which obscures everyday "sustainable" practices of those with less socioeconomic capital (MacGregor, Walker, and Katz-Gerro 2019; Smith, Kostelecký, and Jehlička 2015). Martínez-Alier's (2003) "environmentalism of the poor" also presents a lens for considering global communities typically left out of environmental discourses. Critical literature also presents the importance of resisting a framework centred on behavioural change and individual acts in response to the systemic crisis (Fuchs et al. 2016; Shove 2010).

3. Methodology

Empirical community repair studies are relatively recent, and qualitative studies in the field are scarce. As such, our research is exploratory and inductive, intended to deepen understanding of community repair along various literature-derived themes. Our case is an atypical example of a community repair initiative, located within a deprived community, this contextual specificity is emphasised.

3.1. Case background

Reyt Repair is a social enterprise in Pitsmoor, Sheffield which opened as a community repair space in October 2022. The building, owned by Sheffield City Council, houses various local initiatives, including a newspaper, environmental charity, and a tool bank. The operations, which run from 10am to 4pm Tuesday through Sunday, are powered by a team of volunteers, who help visitors seeking repair, covering items such as torn clothing, broken furniture, and damaged electrical items. Depending on the expertise of available staff, the item may be looked at immediately with advice offered and repair attempted, otherwise, details are logged, and repair is scheduled. A small fee is charged for each repair, intended to cover running costs.

The organisers and volunteers have strong associations with the local area, and visitors typically come from the local community. Pitsmoor ranks in the lowest decile of the UK Government's Index of Multiple Deprivation, experiencing high unemployment and income deprivation, and with 50% of the population classed as "economically inactive" (Sheffield City Council 2017). The area is ethnically diverse, with 31% of the population identifying as white, with Islam and Christianity representing 50% and 29% of the population respectively (Office for National Statistics 2023).

3.2. Data collection and analysis

Formal data collection was derived from a "community repair open day" which was co-developed, organised, and advertised collaboratively between the research team and Reyt Repair. The schedule consisted of two interactive workshops offering repair skills, as well as free repair activities taking
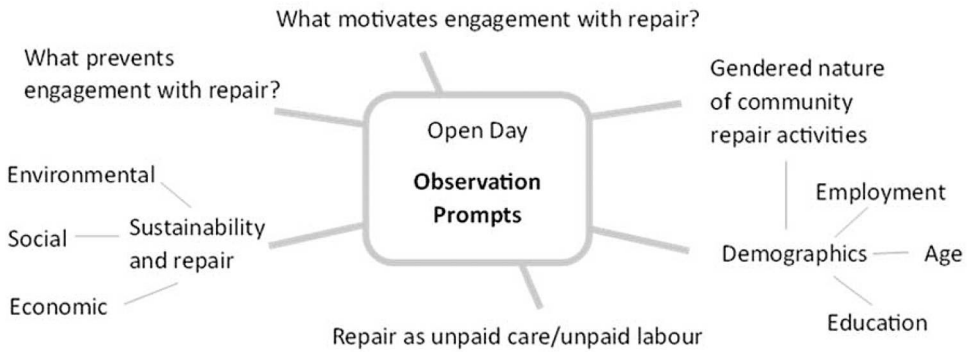
Figure 1. Data collection prompts.

place throughout the day. The research team was all involved in an initial review of the academic literature on community repair prior to the initial field visit. As such, whilst we took an inductive approach, we sketched themes for observation prompts (Figure 1).

Whilst the open day took place, we collected data through observations, unstructured interviews, and surveys. We recorded observations through written notes and photographs, encouraging a wider scope for capturing data, drawing on the different identities of the research team to capture details others might overlook (Jorgensen 1989). Over 15 ad-hoc unstructured interviews were undertaken, and a paper-based survey was distributed to facilitate the collection of viewpoints without direct researcher involvement.

Analysis was inductive and iterative and began whilst data collection was still happening via discussion of emerging themes. Data reduction took place through these conversations and shared notes, survey responses, and interview transcripts, where data was categorised under suggested and emerging themes.

4. Findings

Through iterative analysis, it became clear that the situatedness of Reyt Repair within the material conditions of its local community was important, as well as wider structures, including legislative frameworks and the dominant socioeconomic order. We thus present findings through bi-directional lenses: how participants understand and navigate situatedness within the socioeconomic order; and the importance of local factors and community.

4.1. Situatedness in socioeconomic superstructure (top–down)

Discussion around miniaturisation of electronic components came up when an attendee brought a computer mouse to be repaired. Volunteers used their "trial and error" method to locate the fault. Despite an initial issue being resolved, the mouse still didn't function. The attendee was then advised that repair was futile due to miniaturised circuit board design and availability of spare parts:

> Oh gosh, it seems there is more than one problem. Even if we get into the circuit board and identify where the other problem lies, we may not be able to secure a spare part, and it might be very difficult to fix owing to the design miniaturisation; we have no clue how many items the manufacturer packs into the tiny dot visible to us.

An extended discussion with the volunteer outlined the detrimental effects of increasing complexity as the size of electronic components has shrunk tremendously, impacting repairability: "*I have worked fixing computers for 20 years, I've observed components becoming smaller and smaller; you need microscopes and specialised equipment to repair now; computers are getting so small, so cheap and so ubiquitous that they become disposable*".

A second issue thus comes to light regarding the life expectancy and impacts of planned obsolescence. As one volunteer articulated, "*life expectancy is short, repairability falls away as a need, as replacing is cheap and models get outdated; you don't want an old computer; people like things to last, but also they become obsolete*". If such perspectives presume that technology will continue to improve and become obsolete, this has ramifications for existing technological commodities and their repair, both in terms of the skills and equipment required. Yet, as the volunteer articulated, and corroborated by various empirical studies (Fillman 2023; Roskladka, Jaegler, and Miragliotta 2023): "*people like things to last*". Several participants, at various points, referenced a past when products were designed to last and be repairable, articulating frustration at what one participant referred to as "*the powers that be*": "*a TV used to last 10–20 years, now they are designed to fail and break*". These participants view this as planned obsolescence, an intentional choice from manufacturers, rather than an unfortunate side-effect of technological advancement. The management at Reyt Repair felt that planned obsolescence has been a key driver in "right to repair" activism, and supported calls for laws to force manufacturers to reduce design complexity and make product repairs accessible and transparent. Yet they also recognised the huge power imbalance and corporate lobbying against repair laws. One coordinator also noted the precarious position that the enterprise, and those like it, face as a "community interest company": "*it is difficult for us to be overtly political*", referencing UK law restricting engagement in "political activity", a paradox revisited in Section 5.2.

Design complexity also posed challenges in finding volunteers with the right skill sets. Whilst volunteers were enthusiastic about the challenge of attempting repair of a broad range of items, it was also recognised that repair work can be specialised, and different members of the volunteer pool hold different competencies. Various volunteers possessed skills derived from previous professional experience, yet also several of them found themselves hindered by eyesight or a less steady hand. Coupled with the fact that repairers are primarily offering expertise voluntarily during leisure time, a challenge exists to ensure the enterprise is sufficiently resourced on a given day. "*We don't require super skills, but some things are very specific, and we need diversity; It's also difficult because usually skilled people can find employment, so many volunteers do it in their spare time*". As has been articulated elsewhere (Madon 2022), time was observed as an important enabler and barrier for both attendees and volunteers. Most of the volunteers were out of formal employment for a variety of reasons, with one expressing frustration that their social support limited the number of hours they were allowed to volunteer.

A significant number of attendees cited work commitments as a barrier to engaging in community repair activities, coupled with the convenience, and often low cost, of replacement. Here a tension was observed between a desire to engage in repair, but a reluctance to go out of one's way to do so: repair was not seen as an everyday activity for some attendees. This tracks with uncertainties observed in the literature relating to the likelihood of successful repair, the quality of the resultant product, and safety-related risks (Roskladka, Jaegler, and Miragliotta 2023). In one interaction, an attendee expressed embarrassment about not possessing the skills to repair an item themself, they were reassured by a volunteer: "*it's not silly, because it saves something that would otherwise have been thrown away*". This tension reveals that whilst repair is not an everyday practice for the attendee, they feel the skills involved are something that they should possess. Both attendees and volunteers also expressed confusion over not knowing what constituted a reasonable price for repair, making it difficult to judge whether value for money is being achieved or not: "*If [repair] is too expensive and buying a brand-new product makes more sense, I would not bother*".

Volunteers appeared passionate about multiple political and environmental causes, noticeable through conversations, clothing, posters, and flyers around the building, evidence of Lloveras, Pansera, and Smith's (2024) "politics of repair beyond repair". Frustration at the "*powers that be*", and how manufacturers prevent consumer's "*right to repair*" *was observed*, with participants calling for government intervention. To some volunteers, community repair represented a form of resistance to the powers of profit, manifesting beyond the material act of repair itself, in a desire

to "*save the planet*", as well as the sharing of skills. Whilst not explicitly recognised as a radical act, volunteers suggested the importance of learning repair skills, and passing on knowledge through subaltern modes. One volunteer explained:

> we are witnessing skill loss; many of us are old, it's important to pass our knowledge on; learning woodwork and metal in school isn't always done, there are fewer opportunities for kids that aren't academic; apprenticeships used to be common, the apprentice would eventually be the master and pass on skills to new apprentices; now we have a managerial class that come in and don't know anything about the skills to make stuff.

Having witnessed deindustrialisation first hand, the volunteer suggested skill-sharing as a means of resisting or navigating ongoing impacts. Not only does the volunteer see the material value of these skills in a deindustrialised economy, i.e. for repair, but presents them as a means for empowering and valourising a marginalised working class.

4.2. Situatedness in community (bottom-up)

Participants did not see the enterprise as merely a local service but as a hub for building community, and attempting to tackle some of the area's challenges. Volunteers pointed towards deprivation and high unemployment, as well as local factors pointing towards a lack of institutional support and care, including fly-tipping. The affordability of repair for local residents was frequently emphasised, as an alternative to purchasing new products: "*in a community like ours, with high levels of poverty, it is good to extend the life of things that people are using*". An attendee linked this to the challenges related to the everyday cost of living: "*[repair allows] people to budget better and have their money to spend on things like food and utilities*". It was observed paramount that repair was equitably accessible and affordable to the local population, with management pondering the need to introduce a further "*low-cost option for those on low-income or benefits*".

Recognising high unemployment within the community, one volunteer suggested that community repair "*passes on new skills that could make people more employable*", with repair skills being noted several times as something which can improve people's prospects. Additionally, a number of volunteers were out of work due to health issues and found that the space offered an avenue for social connection. These aspects highlight the tensions relating to the reliance of grassroots initiatives on unpaid labour, despite alternative forms of value in volunteering (Graziano and Trogal 2023). Broad social benefits were identified by participants here in terms of making new friends, speaking to like-minded people, countering isolation, and providing purpose and meaning. One volunteer discussed how community repair is "*one small thing that can improve people's quality of life; it improves the health and wellbeing of volunteers involved, it adds purpose, encourages skill-sharing*". The sense of collectivity and community was articulated by one volunteer: "*I could be fixing stuff alone in my basement, or I could be here with the community making friends*". Volunteering within the space was a motivator in terms of being part of something bigger and meaningful: "*I enjoy coming here once a week; lovely people. I'm learning about fixing things and feel I'm contributing to a great project*". Another volunteer articulated wanting "*to do something that contributes to society*", viewing their work as "*meaningful, but also something that's enjoyable*".

Community outreach is a key mission of the enterprise, beyond material goals: "*Getting the community involved is really important*". In an ethnically diverse area, the (white) organisers were keen to reach the breadth of the community, with volunteers discussing how publicity in languages other than English might increase outreach. Here we witnessed some recognition of the stereotypes of community repair in terms of a middle-class environmentalism bent, and that despite being embedded within a deprived community, perceptions nevertheless pervaded. "*I have felt on occasion that repair seems only for white people*" articulated one attendee. Another was bemused by cultural and societal differences in relation to repair activities: "*in Iran everyone knows how to fix stuff, whether themselves or where to take it to get fixed; there are repair shops everywhere*". The efforts of the organisers to reach out across the community and build broader social cohesion manifested in the

organisation of a repair skills workshop for women. Motivated by the large Muslim population within the local area, it was felt by volunteers that creating such a space might make attendance more attractive, as well as teaching skills (plumbing and electrics) that are typically gendered. Indeed at least one attendee specifically came for the women's workshop: "*I live locally and saw it advertised. I want to get involved in things in the local community*". Throughout the open day, the clear link between gender and repair activities emerged as a method of engagement, as well as the intersection of marginalised positionalities across the community.

The leadership of the enterprise emerged as critical to its success. Volunteers were quick to praise the organisers, describing them as "*great, friendly, community minded, and very well motivated*". These individuals played a pivotal role in establishing the enterprise by pooling together resources, requesting volunteers' equipment, and leveraging existing networks to keep start-up costs low. This success appeared contingent on situatedness within the local community, as well as connections established through previous employment, activism, and engagement with other local initiatives. Volunteers were variously engaged in other community projects and organisations, leveraging this networked community for growth, outreach, and publicity. The shared nature of the space with other local community groups is worth noting, with political leaflets displayed on a noticeboard.

The contingent nature of the enterprise's history and the contextual specificity of its operations belie underlying precarity. One organiser noted that financial stability was reliant on the Council renting the space at low-cost: "*but they could easily evict us*". Alongside financial precarity, an organiser revealed: "*we are afraid to advertise too much because of capacity; we need to maintain the right balance of volunteers to participants*". Coupled with the distribution of expertise across volunteers, broadening access to the space is as contingent on recruiting more volunteers as it is publicising to attendees. "*We do struggle to recruit volunteers*", despite searching for volunteers locally and engaging repeat attendees. Broadening publicity is thus seen to be a double-edged sword, necessary for the success of the enterprise but with the danger that over-subscription would lead to pressure on already constrained resources. Such a resource-constrained environment, where non-standardised labour-intensive repairs do not foster economies of scale, ultimately creates instability around the enterprise's future, a tension noted within the literature with respect to social enterprises more generally (Mazzei, Montgomery, and Dey 2021).

5. Discussion

Our core findings support many of the observations described in the community repair literature. We observed drivers and barriers (Korsunova, Heiskanen, and Vainio 2023; Kurisu et al. 2021; Rogers, Deutz, and Ramos 2021), social interaction, and community building (Niskanen, McLaren, and Anshelm 2021). These findings align with Parajuly et al.'s (2024) framework, which categorises motivators into individual behaviour, techno-economic paradigms, and interventions. However, we suggest a further category related to community or collective action (Graziano and Trogal 2017). Participants articulated frustrations around miniaturisation and planned obsolescence (Fillman 2023; Roskladka, Jaegler, and Miragliotta 2023), referenced the right to repair (Perzanowski 2021), and power inequities against large corporations (Montello 2020). Here, we observed community repair as a site of resistance (Colombijn and Egboko 2023; McLaren, Niskanen, and Anshelm 2020), sitting outside a capitalist logic (Baier et al. 2016), and inhabiting some of the hallmarks of a post-work practice (Bradley and Persson 2022; Graziano and Trogal 2017). These aspects, alongside observation of other intersecting political and community activities, offer evidence of Lloveras, Pansera, and Smith's (2024) "politics of repair beyond repair", despite tensions, paradoxes, and precarity relating to the organisation's status as a social enterprise (Mazzei, Montgomery, and Dey 2021). The importance of learning was observed across dimensions of material, communal, and environmental learning (Durrani 2018). We also witnessed contestation surrounding gender (Meißner 2021; Rogers, Deutz, and Ramos 2021; Schägg, Becker, and Pradhan 2022), labour (Graziano and Trogal 2023), intersections of marginalisation (Bradley and Persson 2022), as well as action to confront these.

Yet our case remains unusual in its local contextuality, embedded within a deprived community, unlike middle-class repair communities observed and problematised by studies such as Deflorian (2021) and Madon (2022). Participants seemed acutely aware of these factors, perceptions around middle-class environmentalism (Rogers, Deutz, and Ramos 2021), and the diversity of their outreach. We thus contend that the material conditions of community repair are an important factor that should not be overlooked. With this materiality in mind, we seek to draw out a number of themes, examining them with respect to the literature on community repair, CE practices, and beyond. The first of these seeks to draw out narratives of change, covering how participants understand community repair as transformative both within the context of the socioeconomic superstructure and the local community. Secondly, we discuss the contingency of the case in relation to its success and potential limitations to upscaling. Finally, we circle back and contextualise these factors with respect to the broader role of grassroots community initiatives within the CE.

5.1. Transition to a sustainable future

Motivated by Schägg, Becker, and Pradhan's (2022) study, one of our core questions was to explore how participants conceive the role of community repair within a sustainable transition. It transpired however that broad environmental concerns were a lot less relevant to participants than we anticipated. Most discussions relating explicitly to sustainability or environmental issues came directly from our own prompts. These findings align with Zakharova, Glazkova, and Suvorova's (2023) analysis of online repair communities, where it is noted that environmental discourses are almost non-existent, with pedagogical, social, and economic motivations dominating. Similarly, "environmental concerns" is only referenced as a small part of broader socio-cultural factors in Svensson-Hoglund, Russell, and Richter's (2023) framework of factors influencing repair decisions. It is tempting to lean into a post-materialist analysis here and suggest the material conditions of the community mean that environmentalism is not a primary concern, yet this belies the fact that social relations and community building were witnessed as key motivators.

Discussion around environmental sustainability that was solicited from participants almost exclusively centred around waste and resource usage, whilst exhibiting much more nuance and complexity than an explicitly environmental problem (Crewe and Gregson 2003; Smith, Kostelecký, and Jehlička 2015). These normative constructions in relation to waste relate to narratives of change at the superstructural level: a volunteer's exclamation of "*let's try to stop the throw away society*" can be interpreted as a desire for a radical transformation of material social relations, whether the volunteer sees it that way or not. This echoes Meißner's (2021, 2) description of collaborative repair as "a complex social phenomenon that can transform the order and meaning of socio-technical systems". The discussions on miniaturisation, planned obsolescence, and subsumption to the profit motive serve as both a learning opportunity about the socioeconomic superstructure and a critical envisioning of a better future. This future includes provisions for infrastructure, skills, and ultimately, social significance for repair activities (Zakharova, Glazkova, and Suvorova 2023). Bradley and Persson (2022, 1334) observe this "vision of a society built around repair, reuse and sharing, with empowered citizens who increasingly self-organise and live well with lower wages". Lloveras, Pansera, and Smith's (2024) "politics of repair beyond repair" is highly relevant with repair discourses leading to engagement in counter-hegemonic narratives of how society could be more equitably structured. The superstructural change was also articulated in terms of desire for "right to repair" legislation. We can pick out two modes of politics here, politics as often tacit counter-hegemonic challenge, and Politics, formally, as the business of government.

Schägg, Becker, and Pradhan (2022) distinguish two narratives of societal change of their community repair actors; the first views community repair as niche activity that can be replicated, building momentum, and leading to legislative change, the latter taking a more pessimistic outlook. Whilst we did not explicitly investigate these distinctions, elements of both were seen, challenging a binary view, and there is evidence of community activism offering an alternative mode of political

engagement in the face of a pessimistic outlook on global change (Malin and Kallman 2022). It was clear that addressing grassroots challenges present within the community formed a core motivator for volunteers and organisers, heavily embedded in narratives of change "beyond repair" (Lloveras, Pansera, and Smith 2024). These recognised the bottom-up sociomaterial conditions of low income, high unemployment, community diversity, and crime. The material need for repair was clearly understood, but also expressed through the lens of supporting the local community, including considering lower prices for those with acute material needs. The learning element of community repair, highlighted in the literature (Durrani 2018), was also reflected in the sociomaterial context: a key driver was the fostering of community through the enterprise itself, manifesting in creating purpose and meaning for those out of work, encouraging socialisation within a friendly environment, and building cohesion by engaging diverse groups.

Whilst the learning element of community repair activities can be conceptualised in terms of individual behaviour change (Parajuly et al. 2024), it can also hark to Freire's (1970) "education as freedom". As Durrani (2018) notes, the material "how to fix things" is only one component of learning; a political education is taking place too. The participant whose mouse could not be repaired felt their time had not been wasted because they'd learned about miniaturisation and reflected on the challenges of being a "conscientious consumer". Bradley and Persson (2022, 1328) describe this as moving beyond being a "passive consumer" to "collective empowerment". Further, we can conceptualise community "skilling" as resistance to an individualising capitalist logic, through reshaping participants' everyday practices, narratives, and societal views. To Barca (2023), and Graziano and Trogal (2017), this relates to a materialist feminist perspective of reorienting and revaluing the socially reproductive labour embedded in repair activities; community repair spaces provide opportunity for de-alienating labour. Nevertheless, Deflorian's (2021) study emphasises the need to remain cautious of the contradictory subjectivities of realising change whilst embedded within all-permeating capitalist modernity, calling for more empirical research on fluidity in participation. As the participant with the mouse articulated when asked if this experience would inform their consumption habits: "*yes … but also I'm not sure … it's hard to know looking at an item if it can be repaired, just because it is more expensive doesn't mean it is more repairable, it feels impossible to know*".

5.2. Upscaling

Given these contestations, and our emphasis on the contingent and embedded materiality of our case, to what extent are we able to conceive of reproducing or upscaling Reyt Repair? Schägg, Becker, and Pradhan (2022) point towards Geels's (2011) Multi-Level Perspective, under which community repair can be considered a niche with the potential to upscale and institutionalise itself in a challenge to the dominant socio-technical regime. Spekkink, Rödl, and Charter's (2022) "translocal communities" demonstrate similar initiatives supporting each other by sharing resources and practices. Indeed, organisers expressed a desire for other initiatives to copy their model, and understood this as an indicator of success, some participants expressed interest in seeing more community repair venues. However, given the material context of Reyt Repair, it's unclear how adaptable these initiatives need to be, especially considering Deflorian's (2021) point that engagement in such activities can be fleeting and fluid.

Other literature illustrates the variegated nature of community repair in terms of operational setup, goals, financial/organisational structure, and the communities it finds itself embedded in. Here, we also see tensions between community and commercial repair, (Graziano and Trogal 2023). Despite the distinction in terms of profit, the need to remain financially sustainable can lead to a service model and a reinforcement of commercial logics. For Bradley and Persson (2022), supporting the spread of community activities necessitates the creation of an extensive infrastructure of accessible local spaces. Certainly, it seems these spaces are typically reliant, like Reyt Repair, on top-down public sector support to maintain their functioning and not-for-profit ethos. Yet, as Schägg, Becker, and Pradhan observe, community-based initiatives can be sites of

contestation "where different ideas, directions and practicalities clash […] influenced both by the narratives of change of the members, which is influenced by who participates in the initiative" (2022, 2). Such contingency creates challenges for top-down or centralised initiatives which attempt to drive the creation of such spaces without being attentive to local contextuality.

Community repair does not align with typical business models that aspire to growth. Levies charged by Reyt Repair support operating costs, and it faces capacity constraints with little scope to scale up its operations in situ. This divergence, whilst allowing for greater attunement to the needs of the community, and potentially allowing for a more nurturing social environment of joy, friendship, meaning, and learning, comes with the precarity of operating in the context of state-imposed austerity. This speaks to wider "social enterprise" tensions where a nominally co-operative and community-oriented model finds itself caught between the state, policy interests, and the market itself (Teasdale 2012). The neoliberal regime valourises the social enterprise as a means of privatising services and devolving to market logics, turning volunteers into production workers and visitors into customers (Garrow and Hasenfeld 2014). Mazzei, Montgomery, and Dey (2021) argue that the superstructural context (state-imposed austerity) under which the enterprise operates is crucial, pointing to scarce resources seriously impeding their utopian promise, particularly in communities disproportionately impacted by the erosion of social safety nets. When financial resources are scarce, it is natural for financial considerations to take precedence over other aspects, recalling Graziano and Trogal's (2023) problematisation of volunteer labour.

Despite its apparent success in contribution to the community, Reyt Repair is thus exemplified by a clear precarity, as well as contingent on a specific set of contextual conditions. Its initial opening entailed a significant pooling of resources; with organisers leveraging their connections to acquire equipment at low or no cost. Such initial capital investment is contingent, and not necessarily replicable in other cases. The financial sustainability of the operation sits in an uneasy relationship with the question of enterprise growth. Madon (2022, 541) observes growth precipitating mission-drift away from a political space of learning, towards efficiency-based service-oriented models, with visitor expectations shifting in parallel. Such a model becomes akin to conventional valued-economy activity, at odds with a set-up where expertise is recognised as fluid and distributed between participants and volunteers. This "*let's see what we can do*" model of exploration and co-learning is lost in formalisation into repair as a service. Indeed, volunteers and organisers expressed uncertainty around charging a nominal fee to those seeking repair, despite recognising it as necessary to keep the space running. It was paradoxically clear that a market logic was somewhat inescapable: "*we want to deliver a level of service that is worthy of payment*".

Zakharova, Glazkova, and Suvorova (2023) suggest the most important conditions for scaling up repair are willingness to participate in repair activities, and the perception of repairs as a significant social practice. As backed up by the literature (see e.g. Fillman 2023; Madon 2022; Roskladka, Jaegler, and Miragliotta 2023), attendees variously expressed that they were unable to engage in community repair regularly, as well as being uncertain about repair as an individual everyday practice. Engagement with activities held at Reyt Repair was observed to impact individual perceptions; multiple attendees suggested that they were more likely to engage having witnessed what can be done, and those who had expressed embarrassment felt reassured by friendly volunteer engagement. Madon (2022, 546) suggests that "making repair visible in the public space helps to transform the social norms around this practice, gradually making it acceptable and standardized". Durrani (2018, 17) goes further to suggest that collectivity creates "feelings of connectedness" where participants learn to care not only for items being fixed "but also their communities". This resonates with Lloveras, Pansera, and Smith's (2024) potential for repair as counter-hegemonic practice, challenging narratives of OEMs that seek to delegitimise alternative repair practices. Thus, it is important to differentiate between isolated repair activities as everyday practice, and community repair as Collective Alternative Everyday Practices (Deflorian 2021), despite the transformative potential of both.

5.3. Grassroots initiatives for a bottom-up transition to a circular economy

The Reyt Repair case demonstrates the positive community-level change that can be sought by grassroots enterprises under the CE umbrella. Through continuous community engagement, Reyt Repair has evolved alongside the needs of the local population, addressing critical social issues such as high levels of unemployment, deprivation, and fly-tipping. Such engagement aligns with the view that socially just transitions towards a CE should encourage the active participation of local communities and other relevant social actors (Purvis, Celebi, and Pansera 2023). The social and political implications of CE are often omitted from CE discourse (Genovese and Pansera 2021; Hobson and Lynch 2016), as well as in repair research specifically (Lloveras, Pansera, and Smith 2024; McLaren, Niskanen, and Anshelm 2020). We observed the "politics" of repair, both through participants calling for government support in addressing the social issues faced by the local community, as well as transformative visions of dethroning capitalist logic. In considering grassroots approaches to repair and CE, the need to consider the power dynamics that help frame the CE transition is acute.

Moving beyond a technocratic perspective and advocating for grassroots and bottom-up practices in the transition to a CE is central to our findings. Nevertheless, tensions exist between grassroots initiatives and established structural, institutional environments, and the hegemonic "*powers that be*". Recognising these is imperative for realistically evaluating conditions under which such initiatives may flourish (Graziano and Trogal 2023; Lloveras, Pansera, and Smith 2024). The contradictory symbiosis between top-down and bottom-up approaches is exemplified by Bradley and Persson (2022), who highlight the conflict local governments can face between reducing consumption and promoting regional growth. Barriers also exist within a techno-economic landscape shaped by powerful OEMs, observed here as a design against repairability. Thus, there is arguably a role for the state, as a top-down actor, in removing barriers to community repair as a "right to repair", the provision of infrastructure, education and skills, and fostering social meaning for repair activities (Zakharova, Glazkova, and Suvorova 2023). The social meaning of activities, beyond their materiality, is central to a bottom-up CE transition. Grassroots community initiatives like Reyt Repair can play a key role here, with their embeddedness in local contexts, allowing them to be adaptive to the needs of the community, resisting fragmentation through the revitalisation of public spaces (Barca 2023).

Any repair enterprise, however, embedded in the community, runs the risk of reproducing social problems if they are not consciously acknowledged. Such inequalities span the gendered division of labour, as well as the exclusion of lower social classes and other minority groups (McLaren, Niskanen, and Anshelm 2020; Meißner 2021; Schägg, Becker, and Pradhan 2022). Reyt Repair has demonstrated methods in which such issues can be addressed, (i.e. running a repair workshop for women, and considering alternative pricing for economically-disadvantaged visitors). Addressing structural inequalities remains essential for an equitable CE transition. Despite the possibility of a post-work and postcapitalist ethos, the superstructural conditions under which community repair operates place it at risk of creating a new stream of unpaid domestic and reproductive labour (Graziano and Trogal 2023). Such practices are not voluntary for everyone but can exist through real material need (McLaren, Niskanen, and Anshelm 2020), particularly in the wake of state-enforced austerity. This results in learning taking place in community repair spaces that are not only practical and skills based, but crucially political. Grassroots CE practices like community repair could be a means of moving away from the political status-quo, serving as a postcapitalist practice that prioritises degrowth and social considerations (Baier et al. 2016), and fostering change that is rooted firmly in the interests of the local population. Doing so requires conscious reaffirmation of these projects as a political practice of resistance, operating against a market logic, and resisting co-optation.

6. Conclusions

Through an empirical case study, analysing the specificity of a community-embedded repair enterprise, we examined the contested role of community initiatives in the transition to a circular society.

Our findings present community repair, and similar collective grassroots initiatives as an underexplored avenue to realising transformative change. As a political act, community repair holds the potential for challenging narratives around production, consumption, and power; reshaping everyday practices, and participants' relation to "stuff". Yet this potential is contested and contingent, dependent on navigating a "capitalist abstinence" (Colombijn and Egboko 2023) or "post-capitalist practice" (Baier et al. 2016), heavily embedded within a superstructure of capitalist modernity and an austerity-withered public sector.

Our "atypical" case uncovered data that challenges community repair as an environmentally motivated practice, instead reflecting a complex landscape of material conditions, alternative everyday practices, knowledge sharing, and community building. The situatedness of our case within a particular community was central to its operation and ethos, seeking to reflect specific local diversity and material challenges, and connect and empower individuals within. A desire for superstructural change and radical transformation, thus sat alongside real efforts to nurture social relations and address material concerns within the community.

Our emphasis on the contextual specificity of Reyt Repair raises questions about upscaling locally adaptive strategies. We argue against top-down initiatives that homogenise CE practices without recognising the complex diversity of needs, motivations, and dynamics of specific communities. The material conditions of community repair remain an important factor. Nevertheless, translocal communities of practice (Spekkink, Rödl, and Charter 2022), including the sharing of resources, models, and best practices are core to the reproduction and diversification of grassroots initiatives. The necessity of maintaining financial viability and physical space presents an unfortunate reliance on institutional support for long-term sustainability. This, and the contested nature of the social enterprise, present a frictious relation to market logics, where initiatives are coerced to prioritise financial sustainability, and charge fees to support operating costs. Alongside material consequences, there exists here a danger of mission creep, and corruption of social relations in the space towards conventional service provision.

Our emergent findings could benefit from further case studies of similar initiatives, across different geographical contexts, as well as longitudinal analysis. In-depth interviews with actors involved in these projects could shed light on outlined contestations, and how these are navigated through the everyday. There is also a need to better understand how members of the community, particularly those from marginalised groups, engage or not with these grassroots practices. Finally, broadening repair research beyond a North American and European focus is imperative, as per observations in the CE and degrowth literature, there is much to be learned from everyday practices beyond those of the global north.

Grassroots initiatives, such as community repair enterprises, offer alternative models towards a CE which prioritise the social needs of the communities from which they emerge. They lie in opposition to, but also alongside, top-down practices, offering tentative resistance to universalising market logics. Despite clear contestations, these practices present fertile ground for exploring the socio-politics of transitional dynamics, including dimensions of power, labour, gender, pedagogy, materiality, and the everyday. Dethroning ecomodernist narratives in favour of socio-political ones requires being deeply attentive to the role of communities in shaping the future.

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Disclosure statement

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Ethical approval

The data collected within the study was done so in accordance with the ethical guidelines from the University of Sheffield as part of the JUST2CE project. This project, and its data collection and handling processes, have been ethically approved by the Information School's ethics review procedure.

Informed consent

Information sheets and consent forms were distributed to participants prior to data collection and an opportunity was given for participants to ask questions or discuss the research before agreeing to sign the consent form, as well as opportunity to opt out of the data collection.

Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so supporting data is not available. Please contact the corresponding author with any queries.

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